

GRADE 2 GEOGRAPHY: OUR COUNTRY, COAST TO COAST

A year of true stories about the land of the United States, from the fifty states on the map and the little stream at Lake Itasca that grows into the Mississippi to the Rocky Mountains, the deserts and the harbors, the longhouses, pueblos and cedar canoes of the first peoples, the wagons of the Oregon Trail and the riders of the Pony Express, and at last the telegraph and the golden spike that shrank the trip west from months to days, each one drawn in a map notebook and built in miniature at the kitchen table.

First edition

"And hath made of one blood all nations of men for to dwell on all the face of the earth, and hath determined the times before appointed, and the bounds of their habitation;" (Acts 17:26, KJV)

COURSE GUIDE

This course crosses the United States in one school year. The student learns the map of the fifty states and their capitals, travels through the great regions, follows the Mississippi from a small stream at Lake Itasca to the Gulf of Mexico, climbs the Appalachians and the Rockies, crosses the Great Plains, the deserts, the forests and the coasts, and visits the first peoples who lived on the land: the longhouse farmers of the Eastern Woodlands, the bison hunters of the Plains, the pueblo builders of the Southwest and the canoe makers of the Northwest Coast. The year ends with the travelers: Lewis and Clark, the wagons of the Oregon Trail, the Pony Express, Samuel Morse's telegraph and the golden spike at Promontory Summit on May 10, 1869.

Every lesson follows the same path. First comes **the story**: a real person, a real place, a real day. Then **the land**: what the river, mountain, desert or coast is like, and how it helped or blocked the people who lived there. Then **the big idea**, told simply for a second grader: a border, a region, a confluence, a mountain pass, a harbor. Last, the student **does something with his or her hands**: a puzzle map, a river in a rain gutter, a salt-dough mountain range, a desert in a box, a model pueblo, a board game or a tin-can telephone, and draws a page in the map notebook.

A thread runs through the whole year: **technology overcoming geography**. Rivers, mountains and wide plains made the trip across the country hard and slow. A wagon on the Oregon Trail took about five months. The Pony Express carried a letter across the West in about ten days. Then the telegraph sent a message in minutes, and the railroad carried a family from coast to coast in about a week. Lessons that carry this thread are marked with ⚙️, and Units 7 and 8 tell it from beginning to end.

The course teaches that God made the land and gave each place its gifts: rivers for travel, plains for grain, forests for timber, harbors for ships. The series verse for School Launch Geography is Acts 17:26: "And hath made of one blood all nations of men for to dwell on all the face of the earth, and hath determined the times before appointed, and the bounds of their habitation;" The Pilgrims and the settlers who came after them thanked God for a good land, as Moses told Israel to do: "When thou hast eaten and art full, then thou shalt bless the LORD thy God for the good land which he hath given thee" (Deuteronomy 8:10).

WHO IT IS FOR

Written for students in grade 2 (about ages 7–8) who are beginning to read on their own. A parent or teacher reads the lessons aloud, looks at the pictures with the student, and helps with the projects. The student should know left and right and be able to count to 100; everything else is taught along the way. Nothing needs to be bought beyond ordinary household things: paper, pencils, crayons, a printed map of the United States, flour and salt for dough, boxes, foil and string.

HOW TO USE THIS COURSE

The weekly rhythm. The year has 32 lessons in 8 units, one lesson a week, plus an optional bonus unit, the Map Lab, with four map games. Session 1 (30 to 40 minutes) is the warm-up, the story read aloud, the video and the picture study. Session 2 (30 to 40 minutes) is the project, the worked example, the practice and the map notebook page. In the last week of each unit, add a short third session for the unit review and the unit project. Unit 6, on the first peoples, can be moved to November to sit near Thanksgiving if your family likes.

The ★ and ⚙ marks. Ten lessons are marked ★. Together they make a quarter path for families who want a shorter, one-quarter version of the course: the fifty states, the regions, the Mississippi, the mountains, the deserts, the first peoples, Lewis and Clark, the Oregon Trail, the telegraph and the railroad. Lessons marked ⚙ carry the technology thread, the story of how people found faster ways across a big country.

The map notebook. Use one plain or graph-paper composition book for the whole year. Each lesson ends with one map page: a state and its neighbors, the regions colored in, a river system, a mountain cross-section, a trail with its landmarks. Date every page and write one sentence, or tell it while the parent writes, about what the map shows. Neat is good; true is better.

Worked examples and practice. Each lesson has one very simple worked example, such as finding north, counting squares on a map grid or telling which state is bigger, worked out step by step. Then come five practice items, mostly done aloud or by pointing, drawing, matching and counting. The answers are printed with the lesson so the parent can check them quickly.

Unit reviews and unit projects. Each unit ends with a short review of 6 to 8 questions (20 points) that a parent asks aloud, and a unit project that pulls the unit together, such as a puzzle map of the states, a region flip-book, a river model, a salt-dough cross-section of the country or an Oregon Trail board game. Keep the unit project pages in one folder for the year.

Part of a series. This is the Grade 2 course in the School Launch Geography series, which runs from kindergarten through high school. Grade 1 teaches map symbols, directions and landforms; Grade 3 goes around the world; Grade 4 returns to the United States for canals, steamboats, railroads and national parks. The course fits well beside the School Launch Engineering and Business courses: the steamboat, the telegraph and the railroad are also stories of builders and inventors, and the rivers and harbors are where trade begins.

SCOPE AND SEQUENCE

Unit 1: The Map of the United States (1-4)

The fifty states, with Alaska and Hawaii set apart on the map; Washington, D.C., and the state capitals; borders made by rivers and by straight lines; and our own state with its neighbors, rivers and cities.

Unit 2: The Regions (5–8)

The rocky coasts and old towns of the Northeast and Plymouth Rock; the warm coasts and the Everglades of the Southeast; the farms, Great Lakes and Chicago of the Midwest; and the deserts, mountains and Pacific coast of the Southwest and the West.

Unit 3: Great Rivers (9–12)

The Mississippi from Lake Itasca to the Gulf of Mexico; the Missouri and the Ohio and where rivers meet; steamboats and Mark Twain's river pilots; and the Colorado River and the Grand Canyon it carved.

Unit 4: Mountains and Plains (13–16)

The old, rounded Appalachians and Daniel Boone's Cumberland Gap; the grass and the bison of the Great Plains; the Rocky Mountains and the Continental Divide; and South Pass, where travelers found a way through.

Unit 5: Deserts, Forests and Coasts (17–20)

The Mojave and Sonoran deserts and Death Valley; the giant sequoias and the North Woods; sheltered harbors such as Boston and San Francisco; and the volcano islands of Hawaii and the coral islands of the Florida Keys.

Unit 6: The First Peoples and the Land (21–24)

How the land shaped the homes and work of the first peoples: the longhouses and farms of the Haudenosaunee, life following the bison on the Plains, the adobe pueblos and the cliff dwellings of Mesa Verde, and the cedar canoes, salmon and totem poles of the Northwest Coast.

Unit 7: Trails and Travelers (25–28)

William Clark's map of the West; two thousand miles by wagon on the Oregon Trail; the Pony Express riders of 1860–1861; and why the stops along the trail were at rivers, springs and forts.

Unit 8: The Country Grows Closer (29–32)

Samuel Morse's telegraph and "What hath God wrought" (1844); the golden spike at Promontory Summit (May 10, 1869); a trip west by wagon, train and plane compared; and a coast-to-coast review journey on the map.

Unit 9: Map Lab (optional bonus) (Optional)

Four map games to play after the year, over the summer or alongside the lessons: states bingo, a road trip with three stops, a postcard from a state you "visited" and a map of license plates seen on cars.

MATERIALS

- **Map notebook (a plain or graph-paper composition book):** One for the whole year: a map page for every lesson.
- **Printed outline maps of the United States and of your own state:** Free outline maps are easy to find and print. Print several; they are used in nearly every unit.
- **A wall map or children's atlas of the United States:** For finding states, rivers, mountains and cities during the lessons and the Map Lab games.
- **Crayons or colored pencils, a ruler, scissors, glue and tape:** For coloring regions, cutting puzzle maps and making the flip-book and board game.
- **Flour, salt and water for salt dough:** For the cross-section of the country from east to west in Unit 4. Clay or play dough works too.
- **Cardboard boxes, shoeboxes and cereal boxes:** For the puzzle map backing, the desert-in-a-box and forest-in-a-box, and the model pueblo.
- **Aluminum foil or a short length of rain gutter, a pitcher of water and a tray or towel:** For the river model in Unit 3. Do it outdoors or in the bathtub.
- **Two clean tin cans (or paper cups) and string:** For the tin-can telephone in Unit 8. Cover any sharp can edges with tape.
- **Household things for small projects:** Sand, small stones, twigs, cotton balls, dried beans, index cards and a die for the Oregon Trail board game.
- **Optional: a picture book or resource listed in a unit:** Never required. See the list in each unit.

GRADING

Grades come mostly from the projects and the map notebook, because a young child learns geography by looking, making and drawing. A map that is a little crooked but labeled truly and explained well earns full credit.

- Projects (effort, care and telling back what was made): 35%
- Map notebook (dated pages, labels, a sentence about each map): 25%
- Unit reviews: 15%
- Unit projects: 25%

A 90–100, B 80–89, C 70–79, D 60–69. Below 60: redo the project or review together.

- Grade the effort and the understanding, not the art. Can the student point to the place, name it and tell why it matters?
- A map notebook page earns full marks when it has a date, a title, the right places labeled, a north arrow when needed and one sentence about what the map shows.
- Unit reviews are meant to be done aloud. The parent asks the questions and writes down the answers.
- Keep the unit projects in one folder or box. At the end of the year, let the student lead the family on a coast-to-coast tour of everything made.

A NOTE TO PARENTS

You do not need to be a geographer to teach this course. Read the story aloud, look at the picture together, and then get out the map. Ask “Where is it?”, “What is the land like there?” and “How did people get across it?” Those three questions are most of what a good geography teacher does, and your child will soon ask them before you do.

The course tells history honestly and simply. The first peoples are shown with respect, as families who knew their land well and built homes and lives that fit it. The explorers and settlers are shown with their courage and their hardships. Nothing in the course asks you or your child to take a side in present-day public debates.

A word about time. This course is written from a Christian view of creation (Genesis 1:1) and the Flood (Genesis 6-9). Young children do not need ages in the millions of years, and the lessons give none. When your child meets one on a museum sign, in a library book or in a video, you can use the simple habit the later grades call “Thinking About Time”: some things we can watch and measure today, such as how fast a river carries sand or how much a beach changes after a storm, and the very large ages come from assuming things always went at today’s speed. Names such as “Ice Age” are taught as museum words, so your child can read any sign and still know that “in the beginning God created the heaven and the earth” (Genesis 1:1).

Above all, the course hopes to give your child a love for the land God made and a habit of thanking Him for it. Take the maps outside when you can: find north from your own front door, follow a creek to where it joins a river, and look at license plates on a long drive. The country on the page is the country out the window.

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★ quarter path · ⚙ technology overcoming geography

THE MAP OF THE UNITED STATES

This year your child crosses our whole country, coast to coast. We begin with the map itself. In 1959 Alaska and Hawaii became the 49th and 50th states, and on July 4, 1960, the flag got its fiftieth star. Your child learns the lower 48, finds out why Alaska and Hawaii so often sit in little boxes at the bottom of the map, and builds a **puzzle map of the states** to use all year. We look at a hand-colored map by Samuel Augustus Mitchell from the 1850s, when the country had only about 31 states.

Next we visit Washington, D.C., where John Adams prayed a blessing on the new President's House in 1800, and learn that each state has a capital of its own. We follow Charles Mason and Jeremiah Dixon as they read the stars and set stones every mile to mark a border no one could see, and we compare those straight lines with river borders like the Mississippi. Last, like young Thomas Jefferson writing about Virginia, your child studies our own state on the map: its **neighbor states**, its rivers, its capital and its big cities. "The earth is the LORD'S, and the fulness thereof" (Psalm 24:1), and every state has its own gifts from Him.

BEFORE YOU BEGIN

- Knows that a map is a picture of a place seen from above
- Knows the four directions and that north is usually at the top of a map
- Can read a simple map key
- Can count to 50

MASTERY CHECKLIST

- I can tell that our country has 50 states and show the lower 48, Alaska and Hawaii.
- I can tell why Alaska and Hawaii are often drawn in boxes.
- I can name the capital of our country and the capital of our state, and find a capital by its star.
- I can show a border I can see (a river) and a border I can't see (a straight line), and find the Four Corners.
- I can name and count my state's neighbor states and label them on a map.

OPTIONAL BOOKS AND RESOURCES

- **Library of Congress, Geography and Map Division** (<https://www.loc.gov/maps/>): Free. Search for "Mitchell United States" to see old maps from Lesson 1.1, "Mason and Dixon" for the boundary map in Lesson 1.3, or "Fry Jefferson Virginia" for the map in Lesson 1.4. Zoom in together on the rivers, borders and little pictures.
- **David Rumsey Map Collection** (<https://www.davidrumsey.com/>): Free. A huge online collection of old maps, including many by Samuel Augustus Mitchell. A parent can search and choose a map to look at together.

1.1 FIFTY STATES ★

OBJECTIVES

- Say that the United States has 50 states, and find the lower 48, Alaska and Hawaii on a map.
- Tell why Alaska and Hawaii are often drawn in little boxes away from the other states.
- Put together a puzzle map of the states.

Warm-up. Find an American flag: a real one, a picture in a book, or a sticker. Count the stripes together. Then try counting the stars, touching each one with a finger. Did you get 50? There is one star for every state. Now count out 50 beans or buttons in five piles of 10 to see how big 50 is.

Video. Coming soon. A kid-friendly video under 8 minutes on the 50 states, the lower 48, Alaska and Hawaii, or a read-aloud of a picture book such as Laurie Keller’s *The Scrambled States of America*: search Homeschool Pop (Alternate), Smithsonian and Library of Congress; candidates needing vetting: National Geographic Kids, Brightly Storytime-style read-alouds.

KEY TERMS

country

A big land with one government and one flag. Our country is the United States of America.

state

One of the 50 parts that make up our country. Each state has its own name, its own borders and its own leaders.

the lower 48

The 48 states that touch each other in one big piece, from the Atlantic Ocean to the Pacific Ocean.

island

Land with water all around it. Hawaii is made of islands.

CORE IDEAS

The story. On January 3, 1959, a cold, snowy land far in the north became the 49th state. Its name was **Alaska**. That same summer, on August 21, 1959, a chain of warm, green islands in the Pacific Ocean became the 50th state. Its name was **Hawaii**. The flag had to change! On July 4, 1960, a new flag with 50 stars was raised for the first time. It is the same flag we fly today.

On the map. Most of our states fit together like puzzle pieces. They stretch from the Atlantic Ocean in the east to the Pacific Ocean in the west. We call them **the lower 48**. But Alaska and Hawaii do not touch any other state. Alaska is far to the northwest, with the

country of Canada in between. Hawaii is out in the middle of the Pacific Ocean, more than 2,000 miles from California. If a mapmaker drew them where they really are, most of the map would be empty ocean. So mapmakers often cut them out and set them in little boxes near the bottom of the map. That saves room, but it can fool you. Alaska is the biggest state of all, more than twice as big as Texas, yet in its little box it often looks small!

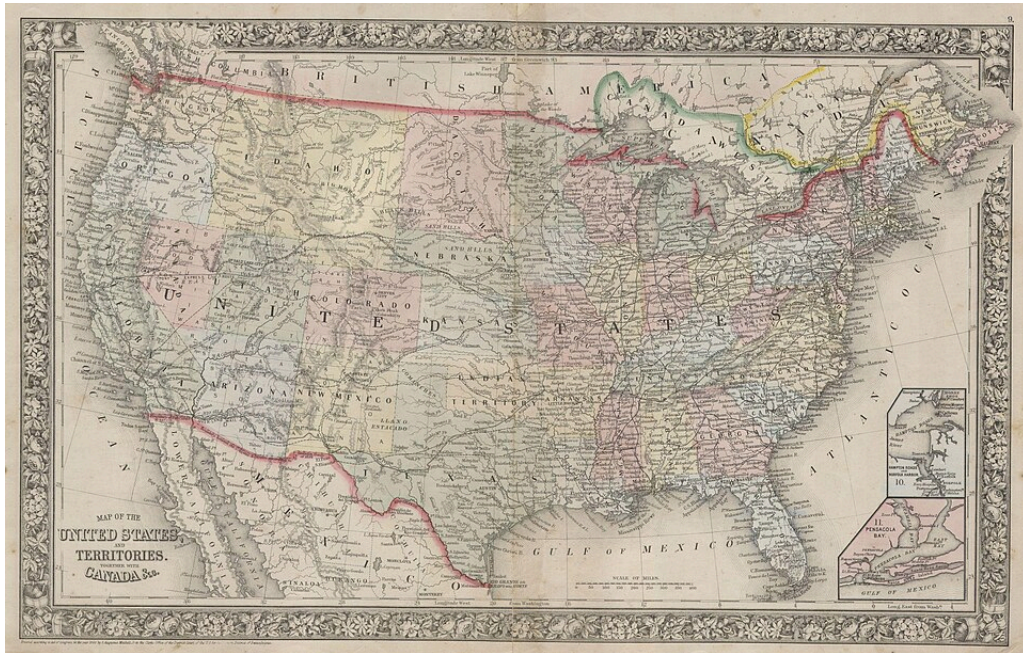
The big idea. Fifty states make one country. Each state has its own name, its own borders and its own leaders. But all fifty belong together, the way fifty stars share one flag. That is why our country is called the **United** States. The smallest state is Rhode Island. The biggest is Alaska. Some are hot and some are cold. Some have mountains and some have beaches. God made every one of these lands, and they all belong to Him.

Then and now. Our country did not always have 50 states. It began with 13. In the 1850s a mapmaker named Samuel Augustus Mitchell drew the United States when it had only about 31 states. Out west there were huge lands that were not states yet. Alaska and Hawaii were not part of the country at all! Little by little, new states were added, until the 50th star went on the flag.



Where Alaska and Hawaii really are. Most of this map is ocean, so mapmakers often move them into little boxes.

PICTURE STUDY



A Map of the United States (from Mitchell's atlases), Samuel Augustus Mitchell, 1860 (this copy printed in 1864) · Hand-colored printed map · Copies are kept at the Library of Congress and in the David Rumsey Map Collection at Stanford University

Samuel Augustus Mitchell was a mapmaker in Philadelphia. In the 1800s he and his son made atlases and school geography books, and many American children learned their states from their maps. Each copy was colored by hand, one state at a time, with a soft brush.

This map was first made in 1860, and this copy was printed in 1864, during the Civil War. The United States then had about 35 states. The West was mostly huge lands called territories, which later were cut into new states. Alaska and Hawaii are not on the map at all, because they were not yet part of our country.

Look closely

- Find the Atlantic Ocean and the Pacific Ocean. Our country stretches from one to the other.
- Look at the states in the East. Are they big or small? Now look at the lands in the West. Are they bigger or smaller?
- Look for Alaska and Hawaii. Can you find them? Why not?
- Find a river drawn as a thin wiggly line. Follow it with your finger.

Talk about it

1. How is this old map different from a map of the United States today?
2. Why do you think Mitchell colored each state a different color?

PROJECT: MY PUZZLE MAP OF THE STATES

You will color a map of the United States, glue it to cardboard and cut it into a puzzle. Then you will put the country back together, piece by piece, and set Alaska and Hawaii where they really belong.

You will need

- A printed outline map of the United States with the state lines drawn in (a parent can print a free one or trace one from an atlas)
- Crayons or colored pencils
- A large piece of thin cardboard, such as the side of a cereal box
- Glue stick
- Scissors (a parent does the cutting)
- A zipper bag to keep the pieces
- A blue towel or blanket (for the ocean game)

Steps

1. Color the states. Try to give states that touch each other different colors, just like Mitchell did.
2. Find your own state and draw a small heart or star on it.
3. Rub glue all over the back of the map and press it flat onto the cardboard. Let it dry.
4. A parent cuts the map apart along the state lines. Very small states, like the ones in the far northeast, can stay together in one piece.
5. Put the puzzle back together. Start with the big states on the edges, then fill in the middle.
6. Spread out the blue towel as the ocean. Lay the lower 48 in the middle. Now put Alaska up at the far top left corner and Hawaii far out on the left side, where they really are.
7. Keep the pieces in the bag. You will use your puzzle again in later lessons.

Tips

- Glue the map down well at the edges so the pieces do not peel.
- If 50 pieces is too many at first, a parent can cut the map into 8 or 10 bigger chunks and cut them smaller later.

Check your work

- I can put my puzzle map back together.
- I can show where Alaska and Hawaii really are.
- I can find my own state.

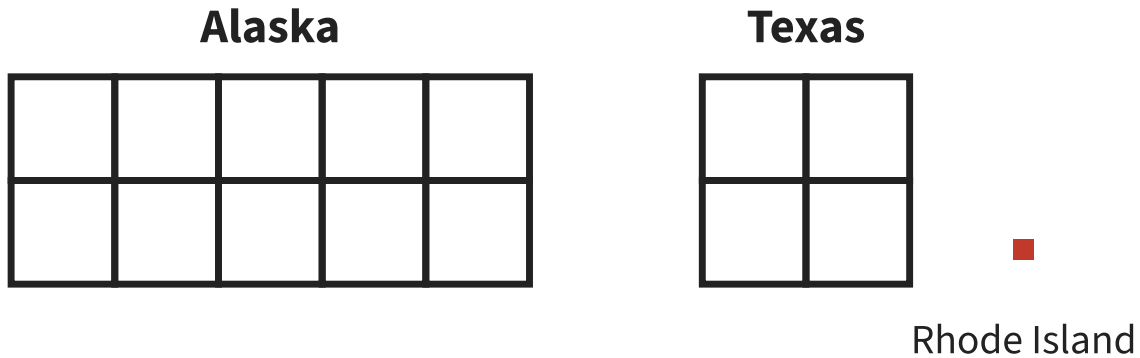
MAP NOTEBOOK

1. Draw a flag with 13 stripes. Put a blue box in the corner and draw as many stars as you can. Write "50 states" under it.
2. Draw Hawaii as a chain of small islands in a big blue ocean. Add a fish or a boat.
3. Draw two squares, one small and one big. Label the small one Rhode Island and the big one Alaska.

From history. Alaska once belonged to Russia. In 1867 the United States bought it for about 7 million dollars. The man who arranged the deal was William Seward, the Secretary of State, and some people laughed and called Alaska "Seward's Icebox." They stopped laughing when gold was found there many years later, and Alaska turned out to be full of fish, forests and oil. Hawaii was once a kingdom with its own kings and queens before it became part of the United States.

WORKED EXAMPLES

Example 1. This picture map uses squares to show how big two states are. Every square is the same size. Count the squares. Which state is bigger, Alaska or Texas?



Picture map: every square is the same size.

A picture map, not real shapes. Count the squares to see which state is bigger.

1. Count the squares for Alaska: 5 on top and 5 on the bottom. $5 + 5 = 10$.
2. Count the squares for Texas: 2 on top and 2 on the bottom. $2 + 2 = 4$.
3. 10 is more than 4, so Alaska is bigger. It is even more than twice as big, because two Texases would be only 8 squares.

Answer: Alaska is bigger: 10 squares to 4 squares.

PRACTICE

1. **EASY** How many states are in the United States?
2. **EASY** Point to Alaska and to Hawaii on the map. Which one is made of islands?
(Use the map or drawing "Point to Alaska and Hawaii." shown earlier in this lesson.)
3. **EASY** Count the stripes on the American flag. How many are there?
4. **MEDIUM** On the picture map, Alaska takes 10 squares and Texas takes 4. How many more squares does Alaska take?
5. **MEDIUM** Tell your parent: why do many maps put Alaska and Hawaii in little boxes at the bottom?

COMMON MISTAKES

- Thinking Alaska is a small state next to Mexico, because a map shows it in a little box near the bottom. Alaska is the biggest state, and it is far to the northwest.
- Thinking Hawaii is close to California. It is more than 2,000 miles away, out in the Pacific Ocean.
- Mixing up a state and a country. A state is one part of our country; the United States is the whole country.

Make it a game • Puzzle Map Race. Dump out your puzzle map pieces. A parent sets a timer while you put the lower 48 together. Then add Alaska and Hawaii in their true places on the blue towel ocean. Play again another day and try to beat your time. For a harder round, a parent holds up one piece and you must name the state or tell which ocean it is near before you place it.

Scripture. “The earth is the LORD'S, and the fulness thereof; the world, and they that dwell therein.” (Psalm 24:1, KJV)

Cold Alaska, warm Hawaii and all the states in between belong to the Lord who made them. Every state has its own gifts, and all of them are His.

Practice answers

1. 50.
2. Hawaii is made of islands. (Alaska is far to the northwest; Hawaii is out in the Pacific Ocean.)
3. 13 (7 red and 6 white).
4. 6 more squares ($10 - 4 = 6$).
5. Because they are very far from the other states. If they were drawn where they really are, most of the map would be empty ocean, so mapmakers move them into boxes to save room.

1.2 THE CAPITAL AND THE CAPITALS

OBJECTIVES

- Tell that Washington, D.C., is the capital of our country and name one thing that happens there.
- Tell that each state has its own capital city, and name the capital of our state.
- Find a capital on a map by looking for a star in the map key.

Warm-up. Ask your child, “Where does our family sit down to make big plans, like a trip or a birthday party?” Maybe it is the kitchen table. Sit there together for a minute. A country needs a special place where its leaders meet to make plans and rules too. That place is called a capital.

Video. Coming soon. A kid-friendly video under 8 minutes touring Washington, D.C. (the Capitol, the White House, the monuments), or a picture-book read-aloud about the capital and state capitals: search Smithsonian, Library of Congress and Homeschool Pop (Alternate); candidates needing vetting: National Park Service, National Geographic Kids, Brightly Storytime-style read-alouds.

KEY TERMS

capital

The city where the leaders of a country or a state meet to make laws.

capitol

The building where lawmakers meet. Spelled with an *o*, like the round dome on top.

Washington, D.C.

The capital of the United States. D.C. stands for District of Columbia. It is not part of any state.

map key

A little box on a map that tells what each picture or symbol means.

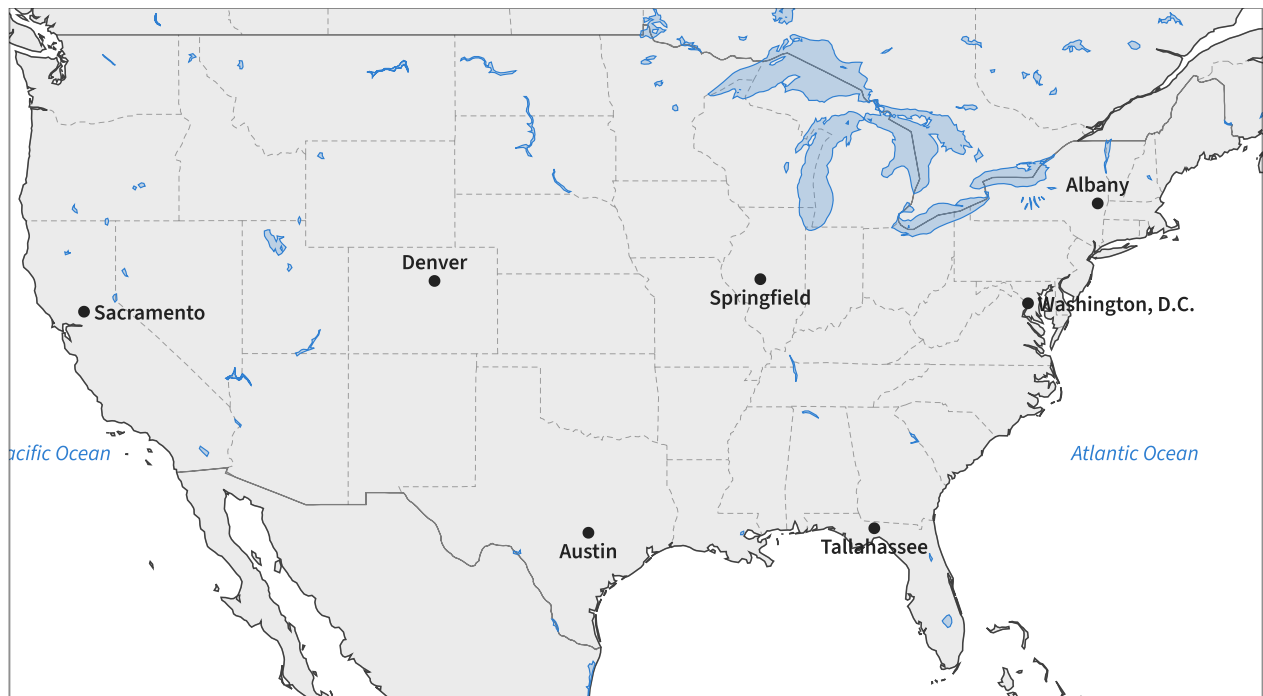
CORE IDEAS

The story. On November 1, 1800, President John Adams rode up to a brand-new house in a brand-new city. The house was not even finished. The city was so new that it had muddy roads and only a few buildings. The next day Adams wrote a letter to his wife, Abigail, with a prayer in it: “I pray Heaven to bestow the best of Blessings on this House and all that shall hereafter inhabit it. May none but honest and wise Men ever rule under this roof.” That house is the one we call the White House. Later that same month, Congress met for the first time in the new Capitol building nearby. The new city was named Washington, after George Washington.

The big idea. A **capital** is the city where leaders meet to make laws. **Washington, D.C.**, is the capital of our whole country. The letters D.C. stand for District of Columbia. It is a special place that does not belong to any state. In Washington, Congress makes laws in the **Capitol**, the building with the great white dome. The President lives and works in the White House. The Supreme Court decides hard questions about the law.

Fifty capitals. Each of the 50 states has a capital city too, with its own capitol building where the state's lawmakers meet. So there are 50 state capitals! Here is a surprise: the capital is often *not* the biggest city. Chicago is the biggest city in Illinois, but the capital is Springfield. New York City is huge, but the capital of New York is Albany. The capital of Alaska, Juneau, cannot even be reached by car from the rest of the state. People get there by boat or by plane!

On the map. Mapmakers mark capitals with a special symbol. Most maps use a **star** for a state capital and a star inside a circle for the capital of the country. Ordinary cities get a dot. Always check the **map key** to be sure. Look at the map of capitals. Washington, D.C., sits near the Atlantic Ocean, beside the Potomac River.



Washington, D.C., and six of the fifty state capitals.

PICTURE STUDY



A View of the Capitol of Washington Before It Was Burnt Down by the British, William Russell Birch, about 1800 · Watercolor · Library of Congress, Washington, D.C.

William Russell Birch was an English artist who came to live in Philadelphia. Around 1800 he painted the new Capitol in the new city of Washington. Only one part of the building, the north wing, was finished then. There was no great dome yet, and the land around it was mostly fields and trees.

In 1814, during a war with Britain, British soldiers set fire to the Capitol. Birch's painting shows us what it looked like before the fire. The Capitol was rebuilt, and many years later the great white dome we know was added on top.

Look closely

- Find the Capitol building. Is there a dome on top?
- Look around the building. Do you see a busy city, or fields and trees?
- Find the tiny people, horses or carriages. How big do they look next to the building?
- Look at the road. Is it paved, or is it dirt?

Talk about it

1. How is this picture different from a picture of the Capitol today?
2. Why do you think the leaders built a special building to meet in?

PROJECT: BUILD A CAPITOL

You will build a small model of a capitol building with boxes and a bowl for the dome. Then you will put a gold star on your puzzle map for Washington, D.C., and for your own state capital.

You will need

- One shoebox or tissue box for the middle
- Two smaller boxes for the wings (such as small cereal or snack boxes)
- A paper bowl or half of a paper cup for the dome
- White paper, tape and glue
- Crayons or markers
- A toothpick and a small paper flag
- Gold star stickers (or stars cut from yellow paper)

Steps

1. Cover the boxes with white paper so they look like stone.
2. Tape the two small boxes on each side of the big box. These are the wings.
3. Turn the paper bowl upside down and glue it on top of the middle box. This is the dome.
4. Draw windows, doors and steps with a marker. Poke the toothpick flag into the top of the dome.
5. Tell your parent: “Lawmakers meet in a capitol to make laws.”
6. Now take out your puzzle map from Lesson 1.1. Put a gold star with a circle drawn around it on Washington, D.C., near the Atlantic coast.
7. With a parent’s help, find your state’s capital in an atlas and put a gold star on that spot too.

Tips

- Your state’s capitol may look different from the one in Washington. Look up a picture of it together and add its own shape or color to your model.
- Remember the spelling trick: the capitol building has an *o*, like its round dome.

Check your work

- I can tell what happens in a capitol building.
- I can find Washington, D.C., on a map.
- I can name my state’s capital.

MAP NOTEBOOK

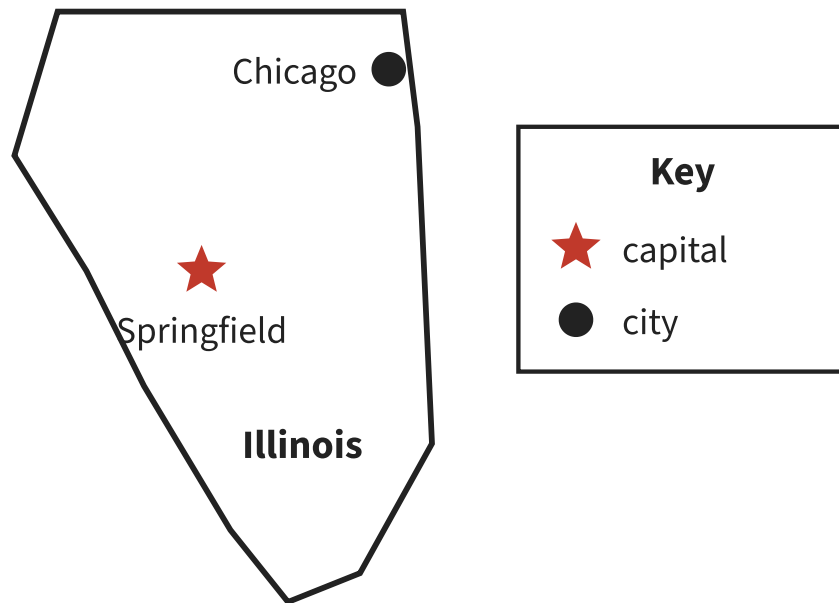
1. Draw the Capitol with its big round dome. Write “Washington, D.C.” under it.
2. Make a map key with two symbols: a star for a capital and a dot for a city.
3. Draw your state and put a star where its capital is. Write the capital’s name.

From history. George Washington chose the spot for the new capital along the Potomac River. In 1791 a surveyor named Andrew Ellicott, helped by Benjamin Banneker, a free Black man from Maryland who was skilled with numbers and the stars, marked out the

edges of the new district. They set stone markers one mile apart all the way around it, and some of those old boundary stones can still be found today.

WORKED EXAMPLES

Example 1. Look at this simple map of Illinois and its map key. Which city is the capital, Chicago or Springfield?



Use the map key: a star is a capital, a dot is a city.

1. Look at the map key first. It says a star means a capital and a dot means a city.
2. Find Chicago, up in the top right corner. It has a dot.
3. Find Springfield, near the middle. It has a star.
4. The star tells us Springfield is the capital, even though Chicago is the bigger city.

Answer: Springfield is the capital of Illinois.

PRACTICE

1. **EASY** What city is the capital of the United States?
2. **EASY** Each state has one capital. How many state capitals are there?
3. **EASY** On a map, what does a star usually mean? Check the map key.
4. **MEDIUM** Point to Washington, D.C., on the map. Is it closer to the Atlantic Ocean or the Pacific Ocean?
(Use the map or drawing "Find Washington, D.C." shown earlier in this lesson.)
5. **MEDIUM** What is the capital of our state? Find it on a map and point to its star.

COMMON MISTAKES

- Thinking the biggest city is always the capital. Chicago, New York City and Los Angeles are big cities, but none of them is a capital.
- Mixing up capital and capitol. The capital is the city; the capitol is the building with the dome.
- Thinking Washington, D.C., is in Washington State. Washington State is far away in the Northwest; Washington, D.C., is in the East, near the Atlantic.

Make it a game · Star or Dot?. A parent names a city. If it is a capital, the child makes a star by spreading out hands and feet. If it is only a city, the child crouches into a little round dot. Try these: Sacramento (star), Los Angeles (dot), Austin (star), Houston (dot), Springfield, Illinois (star), Chicago (dot), Albany (star), New York City (dot), Washington, D.C. (big star with a spin!). Then add your own state's capital and biggest city.

Scripture. "I exhort therefore, that, first of all, supplications, prayers, intercessions, and giving of thanks, be made for all men; For kings, and for all that are in authority; that we may lead a quiet and peaceable life in all godliness and honesty." (1 Timothy 2:1-2, KJV)

John Adams prayed for the house where the President would live. God asks us to pray for our leaders too, in Washington and in our own state capital.

Practice answers

1. Washington, D.C.
2. 50.
3. A capital city.
4. The Atlantic Ocean. It is in the East, near the Atlantic coast.
5. Answers will vary. Check with an atlas or state map (for example, Texas: Austin; California: Sacramento; Ohio: Columbus).

1.3 BORDERS YOU CAN SEE AND BORDERS YOU CAN'T

OBJECTIVES

- Tell that a border is the line where one state ends and the next one begins.
- Find a border you can see (a river) and a border you cannot see (a straight line) on a map.
- Find the Four Corners, where four states meet at one point.

Warm-up. Lay a piece of yarn or tape across the floor to split a room into two “states.” Give each side a name. Step back and forth across the line. Then go to a window or the yard and ask: Is there a line painted on the ground between our yard and the neighbor’s yard? How do we know where our yard ends?

Video. Coming soon. A kid-friendly video under 8 minutes on state borders, rivers as borders, or the Four Corners Monument, or a read-aloud of *There’s a Map on My Lap!* (Cat in the Hat’s Learning Library): search Homeschool Pop (Alternate), Library of Congress and Smithsonian; candidates needing vetting: National Park Service, National Geographic Kids, Brightly Storytime-style read-alouds.

KEY TERMS

border

The line where one state or country ends and the next one begins.

river border

A border that follows a river. You can see it, because the river is really there.

surveyor

A person who measures the land carefully to find exactly where a line or a place should be.

CORE IDEAS

The story. Long ago, before our country was even a country, Pennsylvania and Maryland argued for many years about where one ended and the other began. So in 1763 two men sailed from England to settle it. Their names were Charles Mason and Jeremiah Dixon. Mason knew all about the stars, and Dixon was a skilled surveyor. At night they looked at the stars to find exactly where they were. By day their workers cut a wide path through the forest, straight as a ruler. Every mile they set a stone with a **P** carved on the Pennsylvania side and an **M** on the Maryland side. Every fifth mile they set a bigger stone carved with the family arms of the two colonies’ owners. The work took four years. Their line is called the **Mason-Dixon Line**, and some of the stones still stand today.

The big idea. A **border** is the line where one state ends and the next one begins. Some borders you can see. Many states use a river as a border. The great Mississippi River runs between Illinois and Missouri, and between Mississippi and Arkansas. The Ohio River runs

along the top of Kentucky. If you stand on a riverbank, you can look across the water into another state!

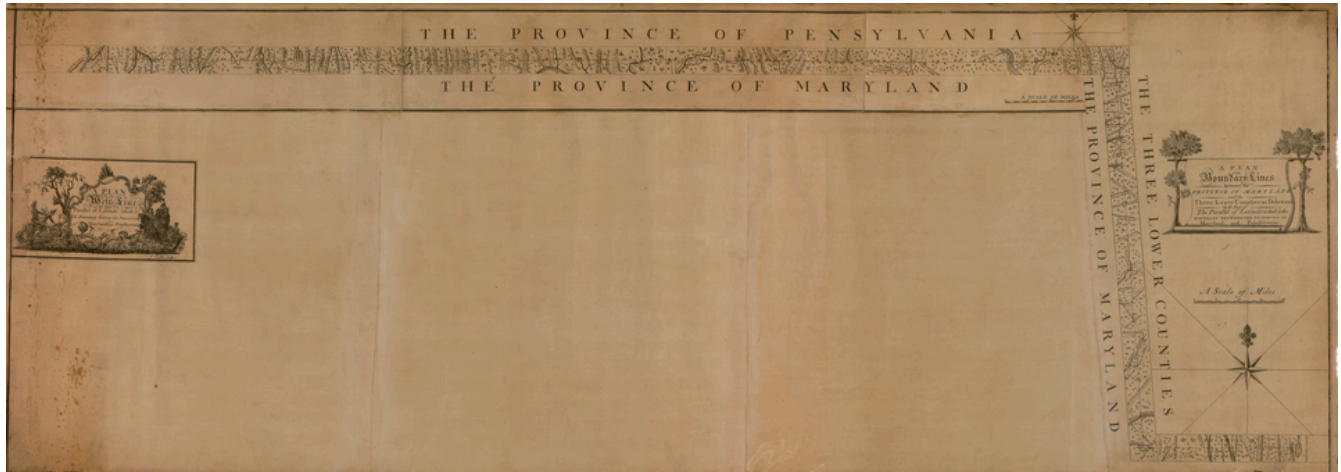
Borders you can't see. Other borders are straight lines that surveyors measured and marked. Out in the West, many borders were drawn long ago, when few people lived there. That is why Colorado and Wyoming look almost like rectangles. There is even a spot where four states meet at one point: Utah, Colorado, Arizona and New Mexico. It is called the **Four Corners**. You can kneel there with your hands and feet in four states at once!

On the map. Here is a trick. If a border wiggles and bends, it may follow a river. If it is perfectly straight, a surveyor drew it. On the ground there is no paint and no fence, only a stone or a sign. But the line is real, and people agree to keep it.



Borders you can see: the Mississippi River and the Ohio River separate many states.

PICTURE STUDY



A Plan of the West Line or Parallel of Latitude, Which Is the Boundary Between the Provinces of Maryland and Pennsylvania, Charles Mason and Jeremiah Dixon (survey); engraved and printed in Philadelphia, 1768 · Engraved map, printed in black ink · Library of Congress, Geography and Map Division, Washington, D.C.

After Mason and Dixon finished their work in 1767, a map of their line was engraved and printed in Philadelphia. It is a long, thin map, because the line itself is long and thin. It runs west across farms, creeks and mountains for more than 200 miles.

Look closely and you will see numbers along the line. Each one marks a mile. Rivers and mountain ridges cross the line, but the line does not bend for them. It goes straight, just as the stars told the surveyors it should.

Look closely

- Find the long straight line. Run your finger along it from one end to the other.
- Look for numbers along the line. What do you think they count?
- Find a creek or river that crosses the line. Does the line bend to follow it?
- Look for hills or mountains. How did the mapmaker draw them?

Talk about it

1. Is this border one you can see on the ground, or one you can't see? How did people know where it was?
2. Why do you think the two colonies wanted a clear line?

PROJECT: BOUNDARY STONES AND A RIVER BORDER

You will make little boundary stones like Mason and Dixon's from salt dough, then set up two pretend states on the floor or in the yard: one border you can see (a river) and one you can't (a straight line of stones).

You will need

- Salt dough: 1 cup flour, $\frac{1}{2}$ cup salt and about $\frac{1}{2}$ cup water, mixed and kneaded

- A pencil or toothpick for carving letters
- Blue yarn or a blue ribbon (the river)
- String and a ruler
- Paper and markers for state signs

Steps

1. Roll the dough into 6 small blocks, about as big as your thumb. These are your mile stones.
2. Carve a letter on each side of every stone, like Mason and Dixon's P and M. Use the first letters of your two pretend states.
3. Make one bigger stone and press a star or a heart on it. This is your special "fifth mile" stone.
4. Let the stones dry for a day or two, or a parent can bake them at a low heat until hard.
5. Stretch the string in a straight line across the floor. Set your stones along it, with each letter facing its own state. Put the big stone fifth.
6. In another spot, lay the blue yarn in a wiggly line. That is a river border.
7. Make two signs with your pretend state names. Stand on one side of each border and say, "I am in this state." Hop across and say the other name.

Tips

- A drop of food coloring in the dough makes the stones look like real gray or tan stone.
- Keep one stone for your unit portfolio.

Check your work

- I can tell what a border is.
- I can show a border you can see and a border you can't see.
- I can tell how Mason and Dixon marked their line.

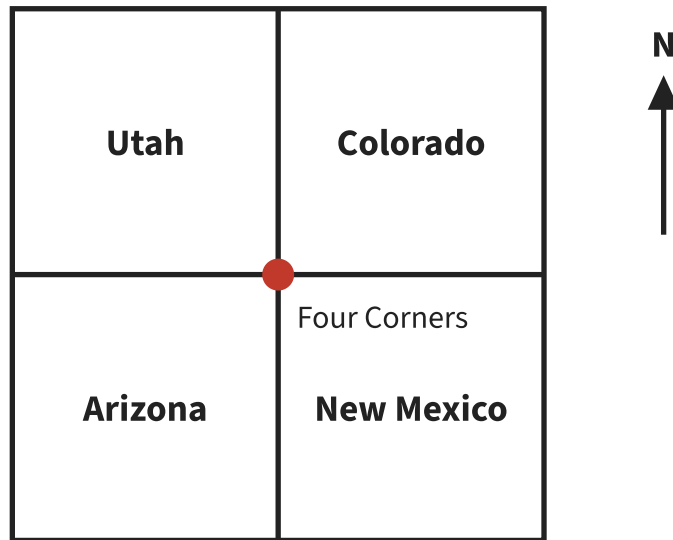
MAP NOTEBOOK

1. Draw a wiggly blue river with a different state on each side. Write "a border I can see."
2. Draw a straight dotted line with little stones along it. Write "a border I can't see."
3. Draw a square cut into four parts. Write Utah, Colorado, Arizona and New Mexico in the right parts and put a dot in the middle for the Four Corners.

From history. Mason and Dixon stopped their line in 1767 when the Native American guides traveling with them said they would go no farther west. Years later, Pennsylvania passed a law in 1780 to begin ending slavery, while Maryland kept it. So people began to think of the Mason-Dixon Line as the line between the free North and the slaveholding South. A boundary that two colonies drew to settle a land quarrel became one of the most famous lines in American history.

WORKED EXAMPLES

Example 1. Look at the Four Corners picture. North is at the top. Which state is north of Arizona?



The Four Corners: four states meet at one point.

1. Find Arizona. It is in the bottom left part of the square.
2. North is up, toward the top of the picture.
3. Move your finger straight up from Arizona. You come to Utah.

Answer: Utah is north of Arizona.

PRACTICE

1. **EASY** Count the states that meet at the Four Corners. How many are there?
(Use the map or drawing "Count the states." shown earlier in this lesson.)
2. **EASY** On the Four Corners picture, which state is east of Utah?
3. **EASY** Look at the river map. Which river runs between Illinois and Missouri?
(Use the map or drawing "Find Illinois and Missouri." shown earlier in this lesson.)
4. **MEDIUM** Mason and Dixon set a stone at the end of every mile. How many stones did they need for 10 miles?
5. **MEDIUM** They set a big stone every fifth mile. Count by fives to 20: 5, 10, 15, 20. How many big stones is that?

COMMON MISTAKES

- Thinking state borders are painted on the ground like the lines on a map. Most borders have only a sign or a stone, or nothing at all.
- Thinking every river is a border. Many rivers flow right through the middle of a state.
- Mixing up the Four Corners states. Utah and Colorado are on top; Arizona and New Mexico are below.

Make it a game · Seen or Unseen?. Lay your blue yarn river and your string of stones on the floor. A parent names a border, and the child runs to stand on the yarn if it is a border you can see, or on the string if it is a border you can't see. Try these: the Mississippi River between Illinois and Missouri (yarn), the straight line between Colorado and Wyoming (string), the Ohio River along Kentucky (yarn), the Mason-Dixon Line (string), the Four Corners (string, then kneel with hands and feet in four "states"!).

Scripture. "And hath made of one blood all nations of men for to dwell on all the face of the earth, and hath determined the times before appointed, and the bounds of their habitation;" (Acts 17:26, KJV)

"Bounds" is an old word for borders. God made all people, and He knows every place where they live, every river and every line on the map.

Practice answers

1. 4 (Utah, Colorado, Arizona and New Mexico).
2. Colorado.
3. The Mississippi River.
4. 10 stones.
5. 4 big stones.

1.4 OUR STATE ON THE MAP

OBJECTIVES

- Find our state on a map of the United States and name and count its neighbor states.
- Find our state's capital, one big river and one or two big cities on a map.
- Draw and label a map of our state and its neighbors.

Warm-up. Stand at your front door or a front window. Who lives next door on one side? On the other side? Across the street? Those are your neighbors. Count them on your fingers. States have neighbors too: the states that share a border with them.

Video. Coming soon. A kid-friendly video under 8 minutes about your own state (its land, rivers, capital and big cities), or a read-aloud of a picture book about your state or about maps, such as *There's a Map on My Lap!*: search Homeschool Pop (Alternate), Library of Congress and Smithsonian; candidates needing vetting: your state's parks or tourism office, National Park Service, Brightly Storytime-style read-alouds.

KEY TERMS

neighbor state

A state that shares a border with your state.

symbol

A small picture on a map that stands for a real thing, like a star for a capital or a blue line for a river.

atlas

A book of maps.

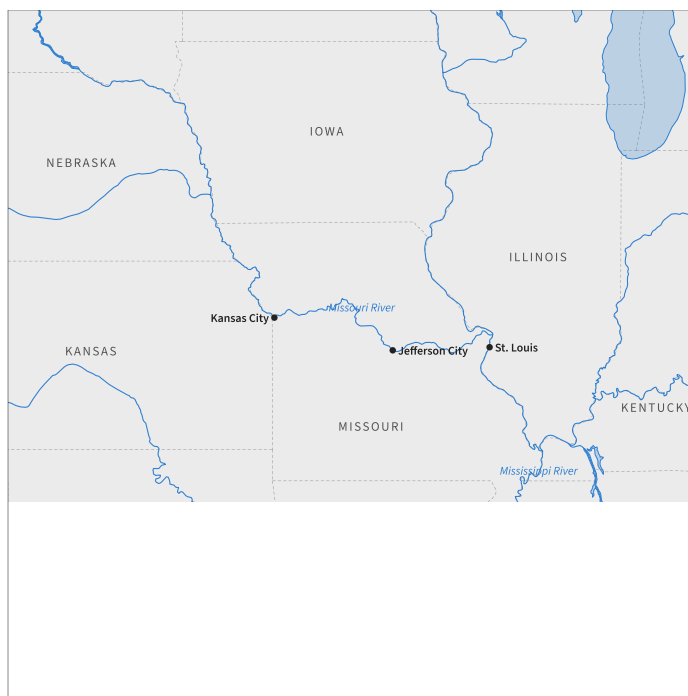
CORE IDEAS

The story. In 1780 a man from France named François Barbé-Marbois wanted to learn about the American states. He sent a list of questions. Thomas Jefferson of Virginia answered with a whole book, called *Notes on the State of Virginia*. What did he write about first? Where Virginia's borders were! Next he wrote about its rivers, then its mountains, its towns and much more. Jefferson knew his state well. His father, Peter Jefferson, had been a surveyor. With a friend named Joshua Fry, he drew the best map of Virginia in their day.

The big idea. Every state has **neighbor states**. They are the states that share a border with it. Some states have many neighbors. Missouri and Tennessee each have 8, more than any other state. Some have very few. Maine has only 1, New Hampshire. Alaska and Hawaii have no neighbor states at all! A state may also touch another country, a Great Lake or an ocean.

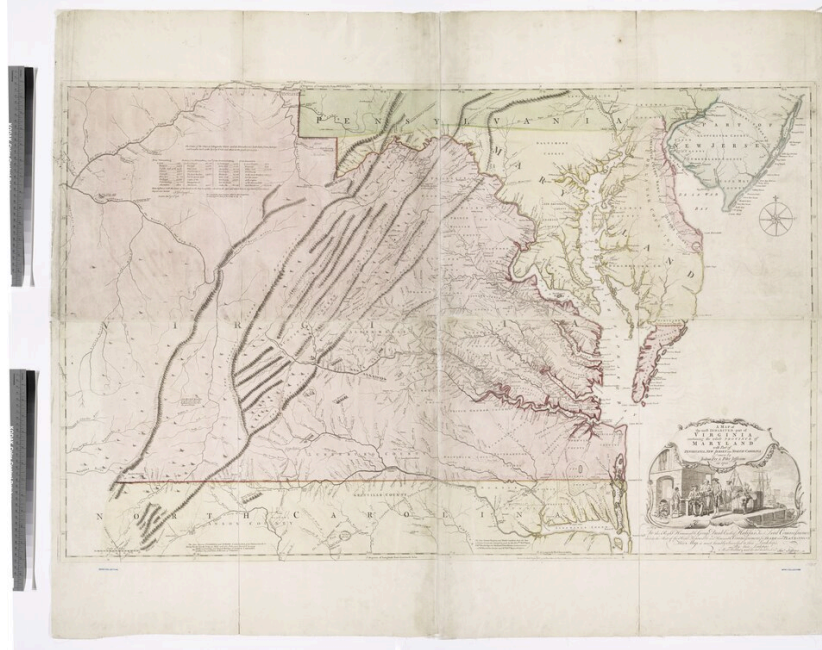
On the map. Let's study our own state the way Jefferson did. First, find its shape on a map of the United States. Trace its borders with your finger. Which states are its neighbors? Next, look for rivers, the thin blue lines. Then find the capital with its star, and the biggest cities with their dots. Many big cities grew up beside rivers, because long ago rivers were the best roads. In Missouri, St. Louis stands near the spot where the Missouri River flows into the Mississippi River.

A good land. Every state has its own gifts from God. One has rich farmland. Another has mountains, forests or a long seacoast. Some have lakes full of fish or rivers that carry boats. When you learn your state's map, you are learning the gifts God has given to the place where you live.



Missouri and its 8 neighbor states.

PICTURE STUDY



A Map of the Most Inhabited Part of Virginia, Joshua Fry and Peter Jefferson, drawn 1751, printed in London soon after · Engraved map with hand coloring · Library of Congress, Geography and Map Division, Washington, D.C.

Joshua Fry and Peter Jefferson were surveyors who rode all over Virginia measuring the land. In 1751 they finished a large map of their colony, and it was printed in London. It showed Virginia's rivers, mountains, towns and borders better than any map before it. Peter Jefferson was the father of Thomas Jefferson.

In one corner is a little picture called a cartouche. It shows people at a river landing, some of them enslaved, loading barrels of tobacco to be carried to a ship. Tobacco was the crop that most of Virginia's farms grew for sale in those days.

Look closely

- Find the big bay where many rivers flow together. (It is the Chesapeake Bay.)
- Follow one river with your finger from the mountains down to the bay.
- Look for the mountains. How did the mapmakers draw them?
- Find the corner picture. What are the people doing?

Talk about it

1. Why do you think rivers are drawn so carefully on this map?
2. If you made a map of your own state, what would you put on it first?

PROJECT: MY STATE AND ITS NEIGHBORS

You will make your own map of your state and its neighbor states, like a young Jefferson. You will trace the shapes, color them, and label the capital, a river and a big city.

You will need

- An atlas or a printed map of your state and the states around it
- Tracing paper or thin white paper, and a sunny window
- Pencil, crayons and a blue colored pencil
- A gold star sticker or a yellow crayon

Steps

1. Lay the thin paper over the map. Hold it up to a sunny window if it is hard to see through.
2. Trace your state's borders with a dark pencil. Then trace the neighbor states around it more lightly.
3. Color your state one bright color. Give each neighbor a different, lighter color.
4. Write the name of your state in big letters. Write each neighbor's name in smaller letters.
5. Draw one big river in blue and write its name. Is it a border, or does it run through the middle?
6. Put a star on your capital and a dot on your biggest city. Write their names.
7. Add a compass rose with N at the top, and a little map key: star = capital, dot = city, blue line = river.
8. If your state touches another country, a Great Lake or an ocean, label that too.

Tips

- Keep north at the top of your paper, the same as the map you are tracing.
- Look for your state's neighbors in every direction: north, south, east and west.

Check your work

- I can name my state's neighbors and count them.
- I can show my capital, a river and a big city on my map.
- My map has a compass rose and a key.

MAP NOTEBOOK

1. Draw the shape of your state from memory. Then check it against the atlas.
2. Write the names of your neighbor states in a list and put a number next to each one.
3. Draw one gift God gave your state, such as a river, a mountain, a farm field or a beach.

From history. When Jefferson wrote his book, Virginia was much bigger than it is now. It stretched all the way west to the Mississippi and Ohio rivers. Part of that land became the state of Kentucky in 1792, and the western mountains became West Virginia in 1863. So the borders of a state can change, and old maps help us see how.

WORKED EXAMPLES

Example 1. Look at the map of Missouri. How many neighbor states does Missouri have?

(Use the map or drawing “Count Missouri’s neighbors.” shown earlier in this lesson.)

1. Find Missouri in the middle of the map.
2. Start at the top and go around like a clock. Touch each state that shares a border with Missouri: Iowa, Illinois, Kentucky, Tennessee, Arkansas, Oklahoma, Kansas, Nebraska.
3. Count them as you touch: 1, 2, 3, 4, 5, 6, 7, 8.

Answer: Missouri has 8 neighbor states.

PRACTICE

1. **EASY** How many neighbor states does Maine have? Find it on a U.S. map.
2. **EASY** How many neighbor states does Hawaii have?
3. **EASY** On the Missouri map, which big river runs along Missouri’s east side?
(Use the map or drawing “Find the river on the east side.” shown earlier in this lesson.)
4. **MEDIUM** Missouri has 8 neighbors and Maine has 1. How many more neighbors does Missouri have?
5. **MEDIUM** Name our state’s neighbor states and count them. Point to each one on a map.

COMMON MISTAKES

- Forgetting a neighbor across a river. If a river is the border, the state on the other side is still a neighbor.
- Forgetting the other things at a state’s edge. A state can also touch another country, a Great Lake or an ocean.
- Turning the map sideways or upside down while tracing. Keep north at the top.

Make it a game • Neighbor Hop. Lay out your puzzle map from Lesson 1.1. A parent names a state, and the child finds it and names one of its neighbors. Each correct neighbor earns a point. Bonus points: name all of the neighbors of your own state without looking, or find the state with the most neighbors (Missouri or Tennessee, 8 each).

Scripture. “For the LORD thy God bringeth thee into a good land, a land of brooks of water, of fountains and depths that spring out of valleys and hills;” (Deuteronomy 8:7, KJV)

God told Israel about the good land He was giving them, with its brooks and hills. Every state has its own brooks, hills and gifts. We can thank God for the land where we live.

1. 1 (New Hampshire).
2. 0. Hawaii is made of islands with ocean all around.
3. The Mississippi River.
4. 7 more ($8 - 1 = 7$).
5. Answers will vary. Check with an atlas (for example, Ohio has 5: Michigan, Indiana, Kentucky, West Virginia and Pennsylvania).

UNIT 1 REVIEW

Read each question aloud. Your child may answer by speaking, pointing or drawing. Keep a map of the United States and the puzzle map handy. The review is worth 20 points.

1. (3 pts) How many states are in the United States? Which two states do not touch any other state?
2. (2 pts) Why do many maps put Alaska and Hawaii in little boxes?
3. (3 pts) What is the capital of the United States? What is a capital?
4. (2 pts) On a map, what does a star usually stand for? Point to our state's capital and say its name.
5. (3 pts) What is a border? Tell one border you can see and one you can't see.
6. (2 pts) How many states meet at the Four Corners? Name one of them.
7. (3 pts) Name our state's neighbor states and count them on a map.
8. (2 pts) Missouri has 8 neighbor states and Hawaii has none. How many more neighbors does Missouri have?

UNIT PROJECT: MY PUZZLE MAP AND MY STATE MAP

Show your finished puzzle map of the United States from Lesson 1.1, with a gold star on Washington, D.C., and on your state capital. Put it together for your family while a parent times you, and set Alaska and Hawaii in their true places on a blue towel ocean. Beside it, display your map of your state and its neighbors from Lesson 1.4, with the neighbor states labeled, a river in blue, the capital starred, a big city dotted, a compass rose and a key. Add one of your salt-dough boundary stones and tell what it stands for.

- **Puzzle map:** The child can put the lower 48 together and place Alaska and Hawaii in their true places.
- **My state map:** The state and all its neighbors are traced, colored and labeled correctly, with the capital, a river and a city.
- **Map tools:** The map has a compass rose with north at the top and a key that matches its symbols.
- **Telling:** The child can tell what a capital and a border are, and give one border you can see and one you can't.

Answer key

1. 50. Alaska and Hawaii.
2. They are very far from the other states, so drawing them in their real places would leave most of the map as empty ocean. Mapmakers move them into boxes to save room.
3. Washington, D.C. A capital is the city where leaders meet to make laws.
4. A capital city. The capital named will vary by state; check with a map.
5. The line where one state ends and the next begins. Seen: a river, such as the Mississippi River between Illinois and Missouri. Unseen: a straight surveyed line, such as the Mason-Dixon Line or the line between Colorado and Wyoming.

6. 4: Utah, Colorado, Arizona and New Mexico (any one is correct).
7. Answers will vary by state; check with an atlas. Give full points for all neighbors named and counted correctly.
8. 8 more ($8 - 0 = 8$).

THE REGIONS

Our country is so big that it is hard to hold it all in your head at once. So we sort its fifty states into five **regions**: the Northeast, the Southeast, the Midwest, the Southwest and the West. The states in each region are alike in some ways: in their land, their weather, their plants and animals, and the work people do there.

In this unit your child will step ashore with the Pilgrims near Plymouth Rock, watch the slow “river of grass” creep through the Everglades, look down on Grant Wood’s rolling Iowa farms and the Great Lakes, and climb with a photographer to see a cross of snow high in the Rocky Mountains. Each lesson adds a page to a **region flip-book**, and at the end your child colors the five regions on a map of the United States.

All along the way we will notice that God gave each land its own gifts: harbors and forests, warm seas and wetlands, rich soil and fresh water, mountains and deserts. Like the Pilgrims and the settlers, we thank Him for a good land.

BEFORE YOU BEGIN

- Can point to the United States, the Atlantic Ocean and the Pacific Ocean on a map (Unit 1)
- Knows that north is usually at the top of a map
- Can count to 20 and add small numbers
- Can use crayons, scissors and glue with a little help

MASTERY CHECKLIST

- I can name the five regions of our country and point to each one on a map.
- I can tell about the Pilgrims, Plymouth Rock and the rocky coast of the Northeast.
- I can tell how the Everglades is a slow river of grass that flows south.
- I can name the five Great Lakes and two crops of the Midwest.
- I can tell about deserts, mesas, the Rocky Mountains and the Pacific coast.
- I can show my region flip-book and my colored region map.

OPTIONAL BOOKS AND RESOURCES

- **Everglades National Park (National Park Service)** (<https://www.nps.gov/ever/>): Free. Photos of the park’s animals and the river of grass, maps and kids’ pages from the National Park Service (Lesson 2.2).
- **Joslyn Art Museum, Omaha** (<https://joslyn.org/>): Free to browse. The home of Grant Wood’s *Stone City, Iowa* (Lesson 2.3). Families near Omaha can see the painting in person.

2.1 THE NORTHEAST ★

OBJECTIVES

- Say that a region is a part of the country whose places are alike in some ways, and name the five regions.
- Find the Northeast on a map and tell about its rocky coast, its lighthouses and its old towns.
- Tell the story of the Pilgrims and Plymouth Rock.

Warm-up. Dump a handful of mixed things on the table: buttons, spoons, crayons and blocks. Ask your child to sort them into groups that are alike. Then ask, “Why did you put these together?” Our big country is sorted into groups too. Each group of states that are alike in some ways is called a region.

Video. Coming soon. Short (under 8 minutes) kid-friendly videos: a simple animation of the five U.S. regions, footage of the rocky Maine coast and Portland Head Light, and a visit to Plymouth Rock and the Mayflower II; search Homeschool Pop (Alternate: regions of the United States), Drive Thru History (Plymouth), Smithsonian, Library of Congress, and a Brightly Storytime-style read-aloud of a Pilgrim picture book (candidate, needs vetting).

KEY TERMS

region

A big part of the country where the places are alike in some ways, like the land, the weather or the work people do.

coast

The land right beside the ocean.

lighthouse

A tall tower with a bright light on top that shows ships where the rocks are at night.

CORE IDEAS

The story. In the fall of 1620, a small wooden ship named the *Mayflower* sailed across the wide Atlantic Ocean. It carried 102 passengers. Many of them were Pilgrims, families who wanted to worship God in their own way. The trip took about two months of cold, rocking waves. At last they saw land: the sandy hook of Cape Cod. When they were safe on land, they knelt down and thanked God for bringing them across the sea. In December they chose a place for their new home, called Plymouth.

The rock. Many years later, an old man named Thomas Faunce pointed to a big gray rock by the water. His father had told him that the Pilgrims stepped ashore near that rock. People

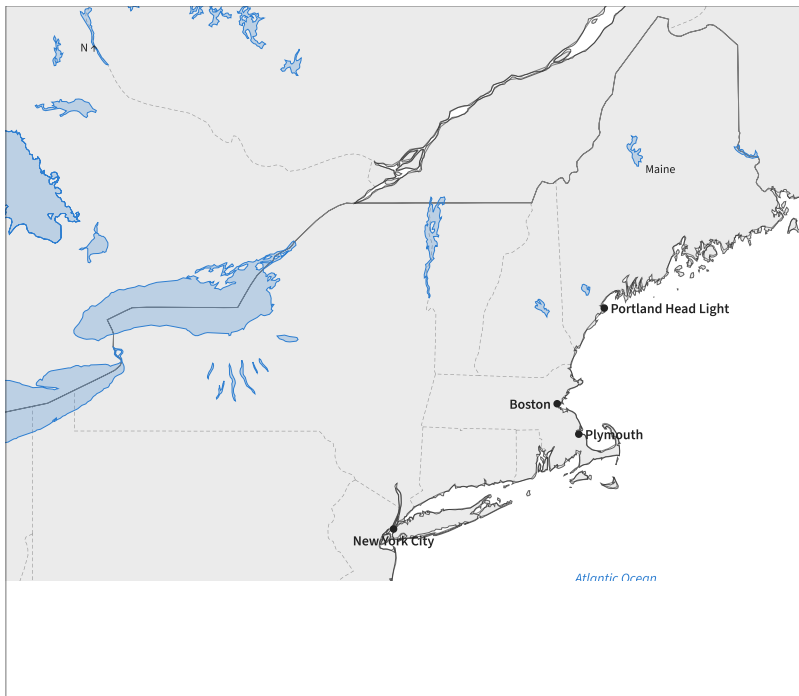
called it **Plymouth Rock**. Today it rests by the sea in Plymouth, Massachusetts, with the year 1620 carved on it. Children come from all over the country to see it.

The big idea. Our country is very big, so we sort its states into five **regions**: the Northeast, the Southeast, the Midwest, the Southwest and the West. The states in each region are alike in some ways. The **Northeast** is up in the top right corner of the map. Its **coast** is rocky, with crashing waves. Tall white **lighthouses** warn ships away from the rocks. Winters are cold and snowy, and in the fall the trees turn red, orange and gold. Some of our oldest towns are here, like Plymouth and Boston, and big cities too, like New York City and Philadelphia.

On the map. Find the Northeast on the map. Put your finger on the ocean. That is the Atlantic Ocean. Now slide your finger up the coast to Maine, the state at the very top corner. Maine has a long, rocky coast and many lighthouses. Fishermen there catch lobsters, and farmers in nearby Vermont make sweet maple syrup from the sap of maple trees. God gave this region rocky shores, good harbors and tall forests, and the Pilgrims thanked Him for a safe place to live.



The five regions of the United States. Alaska and Hawaii belong to the West. (Some books sort a few states a little differently.)



The Northeast. Plymouth is on the coast south of Boston.

PICTURE STUDY



Weatherbeaten, Winslow Homer, 1894 · Oil on canvas · Portland Museum of Art, Portland, Maine

Winslow Homer lived in a house on the rocky coast of Maine, at a place called Prouts Neck. He loved to watch storms roll in from the Atlantic Ocean. In this painting he shows giant waves smashing into the rocks. There are no people and no ships, just the sea and the stone.

Look closely

- Find the rocks. What color are they? Do they look wet or dry?

- Find the white spray of a wave. Point to where it is flying up.
- Is the sky calm or stormy? How can you tell?
- Where would a lighthouse help a ship on a coast like this?

Talk about it

1. How do you think it would sound to stand on these rocks?
2. Why do you think the painter named it “Weatherbeaten”?

PROJECT: MY REGION FLIP-BOOK: THE NORTHEAST PAGE

Over the next four lessons your child will make a flip-book with one page for each region. Today you will make the cover and the Northeast page: a rocky coast with a lighthouse. Then you will paint a little “Plymouth Rock” to keep.

You will need

- Five sheets of paper or card stock, cut in half the long way (ten strips), and a stapler
- Gray, brown and blue paper to tear, or crayons
- Glue stick
- A smooth stone the size of a child’s palm
- Paint or a marker

Steps

1. Stack the paper strips so each one sticks out a little lower than the one above, like steps. Fold and staple at the top. Now you have a flip-book with tabs at the bottom.
2. On the top page your child writes or traces “Our Country’s Regions.”
3. Label the first tab “Northeast.”
4. On that page, tear gray and brown paper into rocks and glue them along the bottom. Tear blue paper for the ocean and glue it beside the rocks.
5. Draw a tall white lighthouse on the rocks, with yellow rays of light shining out.
6. Add one more Northeast thing: a red leaf, a lobster or a maple tree.
7. Paint the stone gray and write “1620” on it. This is your own Plymouth Rock.

Tips

- Tearing paper is great for small hands, and torn edges look like real rocks.
- Keep the flip-book in a safe place. You will add a page in each lesson.

Check your work

- I can point to the Northeast on the map.
- I can tell why a lighthouse stands on a rocky coast.
- I can tell what year the Pilgrims came to Plymouth.

MAP NOTEBOOK

1. Draw the *Mayflower* sailing on big ocean waves.
2. Draw a lighthouse at night with its light shining over the water.
3. Draw a tree in the fall with red, orange and gold leaves.

From history. Plymouth Rock has been moved and broken more than once. In 1774 the people of Plymouth tried to move it with a team of oxen, and it split in two. For many years the top half sat in the town square while the bottom half stayed by the water. Later the two halves were put back together by the shore, where the rock rests today.

WORKED EXAMPLES

Example 1. Look at the map of the Northeast. Is Boston north or south of Plymouth?

(Use the map or drawing “Up on the map is north.” shown earlier in this lesson.)

1. Find the compass letter N. North is toward the top of the map.
2. Put one finger on Plymouth.
3. Find Boston. It is a little higher up on the map than Plymouth.
4. Higher up on the map means north.

Answer: Boston is north of Plymouth.

PRACTICE

1. **EASY** Point to the Northeast on the map of the five regions. Is it on the left side or the right side of the map?
2. **EASY** How many regions are there in our country? Count them on the map.
3. **EASY** What year is carved on Plymouth Rock?
4. **MEDIUM** The *Mayflower* carried 102 passengers. Is that more than 100 or less than 100?
5. **MEDIUM** Why do people build lighthouses on rocky coasts? Tell it in your own words.

COMMON MISTAKES

- Thinking a region is one state. A region is a group of many states.
- Thinking the Pilgrims landed at Plymouth first. They first reached Cape Cod, then chose Plymouth a few weeks later.
- Thinking the Northeast is on the left of the map. It is up and to the right, by the Atlantic Ocean.

Make it a game • Lighthouse Keeper. Darken the room. One player is the lighthouse keeper and holds a flashlight. Lay a few pillows on the floor for rocks. The other player is a ship and crawls slowly across the room. When the keeper shines the light on a rock, the

ship must steer around it. If the ship bumps a rock, switch jobs. Play until each player has been the keeper three times.

Scripture. “Then are they glad because they be quiet; so he bringeth them unto their desired haven.” (Psalm 107:30, KJV)

A haven is a safe harbor. After two stormy months at sea, the Pilgrims were glad to reach a quiet harbor, and they thanked God for bringing them there.

Practice answers

1. The right side (the top right corner).
2. 5 regions.
3. 1620.
4. More than 100 (2 more).
5. So ships can see the light and stay away from the rocks, especially at night or in a storm.

2.2 THE SOUTHEAST

OBJECTIVES

- Find the Southeast and the state of Florida on a map and tell about its warm coasts and swamps.
- Tell how the Everglades is a slow “river of grass” that flows south.
- Name some animals God made to live in the Everglades.

Warm-up. Fill one cup with cold water from the fridge and one with warm water from the tap. Let your child dip a finger in each. Which one feels like the ocean in Maine? Which one feels like the ocean in Florida? The water in the Southeast is warm for much of the year, because it is closer to the equator, the warm belt around the middle of the globe.

Video. Coming soon. Short (under 8 minutes) kid-friendly footage of the Everglades (alligators, roseate spoonbills, manatees, sawgrass, an airboat ride) and a simple animation of the Southeast region; search National Park Service (Everglades; candidate, needs vetting), Smithsonian, Homeschool Pop (Alternate: Southeast region), and SciShow Kids (swamps and wetlands).

KEY TERMS

swamp

Wet, soggy land where trees grow up out of shallow water.

Everglades

A very wide, shallow, grassy wetland in southern Florida where water flows slowly south.

peninsula

Land with water on three sides. Florida is a peninsula.

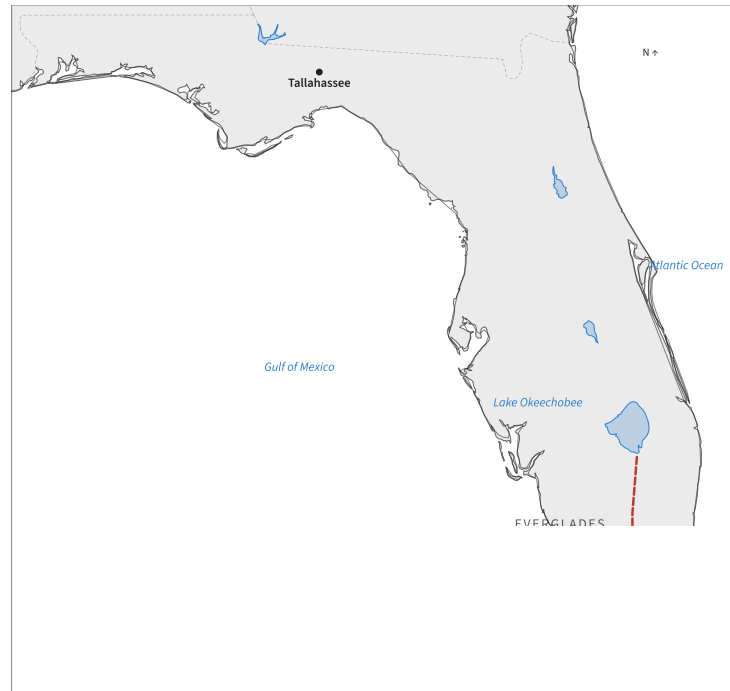
CORE IDEAS

The story. On December 6, 1947, President Harry Truman came to a little town in southern Florida. Crowds gathered in the warm sunshine. That day the President opened **Everglades National Park**, a park to keep the wild Everglades safe. That same year a writer named Marjory Stoneman Douglas wrote a book about the Everglades. She called it a “river of grass,” and the name stuck.

How it works. Most rivers are narrow and fast. The Everglades is different. It is a sheet of water many miles wide and only a few inches or feet deep. Tall sawgrass grows up out of it. The water starts at a big lake called Lake Okeechobee. Then it creeps south, very slowly, all the way to the sea at Florida Bay. If you dropped a leaf in it, the leaf might take weeks to drift a short way. Alligators rest in the water. Pink birds called roseate spoonbills wade in the shallows. Gentle manatees swim near the coast. The Everglades is one of the only places in the world where alligators and crocodiles live side by side.

The big idea. The **Southeast** is the warm, bottom right part of our country. Summers are long and hot, and the winters are mild. Its coasts have sandy beaches on the Atlantic Ocean and the Gulf of Mexico. It has many **swamps**, where cypress trees stand in dark water draped with gray Spanish moss. Farmers grow oranges in Florida and peaches in Georgia. In late summer, big storms called hurricanes sometimes spin in from the warm ocean.

On the map. Find Florida. It sticks down into the sea like a thumb. Water is on three sides of it, so it is a **peninsula**. Put your finger on Lake Okeechobee. Now slide it down, south, to Florida Bay. That is the way the river of grass flows. God made the Everglades full of life. The psalm says, “O LORD, how manifold are thy works!”



Florida is a peninsula. The arrow shows the Everglades water moving south from Lake Okeechobee to Florida Bay.

PICTURE STUDY



Roseate Spoonbill, from *The Birds of America*, John James Audubon (engraved by Robert Havell Jr.), 1836 (plate 321; watercolor from the early 1830s) · Hand-colored engraving and aquatint, from a watercolor · Original watercolor at the New-York Historical Society; printed copies in many libraries and museums

John James Audubon loved birds. He wanted to paint every kind of bird in America, life size. In 1831 and 1832 he traveled to Florida to find and draw its birds. This is the roseate spoonbill, a pink bird that wades in the shallow water of the Everglades and sweeps its flat bill from side to side to catch little fish and shrimp.

Look closely

- Find the bird's bill. What does it look like? Why do you think it is called a spoonbill?
- What color is the bird? Find the brightest pink.
- Look at its legs. Are they long or short? Why are long legs good for a bird that wades in water?
- Look behind the bird. Can you find land or water?

Talk about it

1. If you could have a bill like a spoon for one day, what would you scoop up?
2. Why do you think God made so many different kinds of birds?

PROJECT: A RIVER OF GRASS IN A PAN

Your child will make a tiny Everglades in a baking pan and watch water creep slowly through the "grass," then add the Southeast page to the flip-book.

You will need

- A baking pan with sides
- A small book or block to tilt one end of the pan
- A handful of broom straws, pine needles, dry grass or thin paper strips
- Modeling clay or play dough
- A cup of water with a few drops of blue food coloring
- Towels
- The flip-book, crayons and green paper

Steps

1. Press a small ring of clay into the high end of the pan. This is Lake Okeechobee.
2. Lay the straws or grass across the rest of the pan in a thick, flat mat. This is the sawgrass.
3. Prop up the lake end of the pan a little with the book. The low end is Florida Bay.
4. Slowly pour the blue water into the lake until it spills over.
5. Watch the water creep down through the grass. Does it rush or does it creep? Which way is it going on our map? (South.)
6. Label the next flip-book tab "Southeast." Glue on strips of green paper for sawgrass and draw blue water, an alligator and a pink spoonbill.

Tips

- Tilt the pan only a little. The real Everglades is almost flat, so the water moves very slowly.
- Do this on a towel or outdoors. A little spilling is part of the fun.

Check your work

- I can point to Florida and say it is a peninsula.
- I can show which way the river of grass flows.
- I can name two animals of the Everglades.

MAP NOTEBOOK

1. Draw an alligator resting in the sawgrass with only its eyes and nose above the water.
2. Draw a cypress tree in a swamp with gray Spanish moss hanging down.
3. Trace your hand with the thumb sticking down, and color the thumb as Florida.

From history. Marjory Stoneman Douglas lived a very long life. She was born in 1890 and lived to be 108 years old. Her book *The Everglades: River of Grass* came out in 1947, the same year the national park opened. She spent many years telling people to take good care of the Everglades.

WORKED EXAMPLES

Example 1. Look at the map of Florida. The water of the Everglades moves from Lake Okeechobee to Florida Bay. Which way does it flow?

(Use the map or drawing “Follow the arrow from the lake to the bay.” shown earlier in this lesson.)

1. Find the N on the map. North is up, so south is down.
2. Put your finger on Lake Okeechobee.
3. Follow the arrow to Florida Bay. Your finger moves down the map.
4. Down on the map is south.

Answer: The water flows south.

PRACTICE

1. **EASY** Point to Florida on the map. How many sides of Florida touch water: 1, 2 or 3?
2. **EASY** Is the Southeast mostly warm or mostly cold?
3. **EASY** Name two animals that live in the Everglades.
4. **MEDIUM** Everglades National Park opened in 1947. Plymouth Rock says 1620. Which number is bigger? Which happened first?
5. **MEDIUM** Draw a swamp. Show water and a tree growing up out of it.

COMMON MISTAKES

- Thinking the Everglades is a fast river with banks. It is a wide, shallow sheet of water that moves very slowly through grass.
- Thinking the Everglades water flows north. It flows south, from Lake Okeechobee to Florida Bay.
- Mixing up a peninsula and an island. An island has water all around it; a peninsula has water on three sides and is joined to land on the fourth.

Make it a game • Spoonbill Sweep. Scatter twenty dry cereal pieces (the “shrimp”) in a shallow tray. The player holds a big spoon like a spoonbill’s bill and sweeps it side to side, scooping up shrimp for 30 seconds. Count the shrimp caught. Take turns and try to beat your own number.

Scripture. “O LORD, how manifold are thy works! in wisdom hast thou made them all: the earth is full of thy riches.” (Psalm 104:24, KJV)

Manifold means many and all different. The Everglades has pink birds, slow manatees and sleepy alligators. God made each one in wisdom.

Practice answers

1. 3. That is why Florida is a peninsula.
2. Mostly warm.
3. Any two: alligators, crocodiles, roseate spoonbills, manatees, herons, turtles, fish.
4. 1947 is bigger. 1620 happened first, long before the park.
5. A drawing with water and at least one tree (such as a cypress) standing in the water.

2.3 THE MIDWEST

OBJECTIVES

- Find the Midwest and the five Great Lakes on a map.
- Tell why the Midwest is called a land of farms and name two crops grown there.
- Look closely at Grant Wood’s *Stone City, Iowa* and find farm fields, a river and a bridge.

Warm-up. Hold up a bag of popcorn kernels, a box of cornflakes or an ear of corn, and a slice of bread. Ask your child, “Where did these come from?” Follow the trail back: from the store, to a truck, to a farm. Many of the farms that grow our corn and wheat are in the middle of our country, in a region called the Midwest.

Video. Coming soon. Short (under 8 minutes) kid-friendly videos: a corn harvest with a combine on a Midwest farm, the five Great Lakes from above, and a simple animation of the Midwest region; search Smithsonian, NASA Earth Observatory (the Great Lakes from space), Homeschool Pop (Alternate: Midwest region), The Henry Ford (farm machines), and a Brightly Storytime-style read-aloud about a farm year (candidate, needs vetting).

KEY TERMS

crop

A plant that farmers grow to eat or sell, like corn, wheat or soybeans.

prairie

Wide, flat or gently rolling land covered with tall grass and wildflowers.

Great Lakes

Five huge lakes of fresh water in the northern Midwest: Superior, Michigan, Huron, Erie and Ontario.

CORE IDEAS

The story. In 1930 an artist named Grant Wood stood on a hill in Iowa and looked down at a little town called Stone City. Mr. Wood had grown up on an Iowa farm. He loved the rolling green hills, the round trees, the river and the neat fields in rows. He painted what he saw, and he made it look almost like a toy land. That painting is called *Stone City, Iowa*.

The big idea. The **Midwest** is the middle and top of our country. Long ago much of it was **prairie**, tall grass waving as far as you could see. God gave it deep, dark, rich soil. Today it is full of farms. Farmers plant **crops** of corn, soybeans and wheat in long, straight rows. In the fall big machines called combines roll through the fields to bring in the harvest. Iowa and Illinois grow more corn than almost any other place in the world. Some of that corn may become the popcorn or cornflakes in your kitchen!

The lakes and the city. At the top of the Midwest lie the five **Great Lakes**. They are so big you cannot see across them, and they have waves like the sea. But their water is fresh, not salty. A handy way to remember their names is the word HOMES: Huron, Ontario, Michigan, Erie, Superior. On the shore of Lake Michigan stands Chicago, the biggest city in the Midwest. Trains and ships brought grain and cattle from the farms to Chicago, and it grew into a great city. In 1893 Chicago held a world's fair, and there people rode the very first Ferris wheel.

On the map. Find the Great Lakes. They look like five blue puddles at the top of the map. Find Lake Michigan, the one shaped like a long finger pointing down. Put your finger on Chicago at its bottom corner. Now look west, to the left, at the wide farm states. The Bible says that when we have eaten and are full, we should bless the Lord for the good land He has given us.



The Midwest and the five Great Lakes. Chicago sits at the bottom of Lake Michigan.

PICTURE STUDY



Stone City, Iowa, Grant Wood, 1930 · Oil on wood panel · Joslyn Art Museum, Omaha, Nebraska

Grant Wood was born on a farm near Anamosa, Iowa, in 1891. Stone City was a small town near his home, with buildings made of stone from a nearby quarry and a river called the Wapsipinicon running through it. In 1930 he painted this view of Stone City. The same year he painted his most famous picture, *American Gothic*. Grant Wood made the hills smooth and round and the trees like green balls, so the whole valley looks neat and peaceful.

Look closely

- Find the river. Now find the bridge that crosses it.
- Find the round trees. What shape did the painter make them?
- Find a field with stripes or rows. What do you think is growing there?
- Find a windmill. What do you think a farmer uses it for?

Talk about it

1. Do the hills look flat, bumpy or rolling? Run your hand in the air to show their shape.
2. Would you like to live in this valley? What would you do first?
3. Why do you think Grant Wood painted his home place so neat and happy?

PROJECT: A PATCHWORK FARM PAGE

Grant Wood's fields look like a patchwork quilt. Your child will make a patchwork farm from paper squares, then shape the five Great Lakes from play dough or blue paper, and add the Midwest page to the flip-book.

You will need

- Squares of green, yellow and brown paper (about 2 inches across)
- Glue stick and crayons
- Blue play dough or blue paper
- The flip-book

Steps

1. Label the next flip-book tab “Midwest.”
2. Glue paper squares across the page like a quilt: green for corn, yellow for wheat, brown for a field just plowed.
3. With a crayon, draw rows of lines on each field, the way a farmer plants in rows.
4. Draw a red barn, a windmill and a round tree like Grant Wood’s.
5. On the table, roll blue play dough into five lakes (or cut five from blue paper). Lay them out like the map: Superior at the top left, Michigan pointing down, Huron beside it, then Erie and Ontario to the right.
6. Say HOMES and touch each lake as you name it.

Tips

- Let the squares tilt and overlap a little. Grant Wood’s fields curve over the hills.
- If cutting squares is hard, a grown-up can cut them ahead of time.

Check your work

- I can point to the Midwest on the map.
- I can name two crops grown in the Midwest.
- I can say the five Great Lakes with the word HOMES.

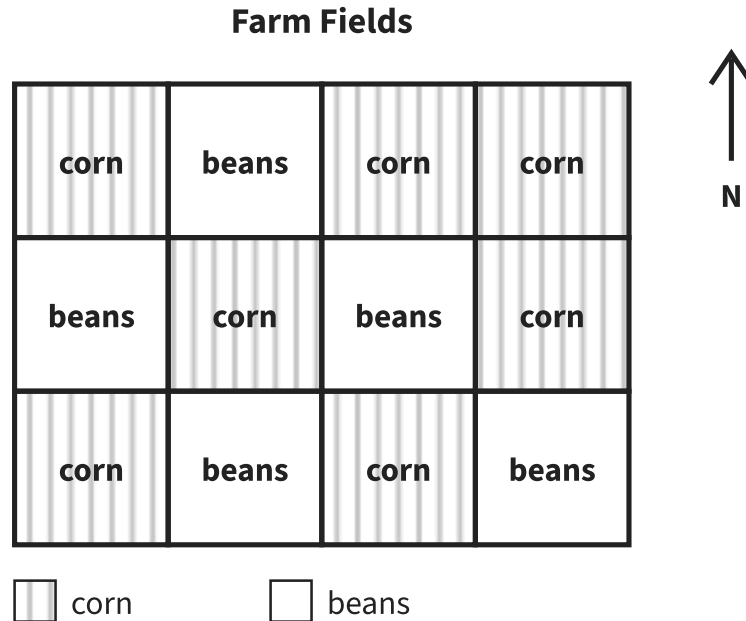
MAP NOTEBOOK

1. Draw an ear of corn with its green husk peeled back.
2. Draw the five Great Lakes and color them blue.
3. Draw the first Ferris wheel at the Chicago fair, with people riding in it.

From history. Grant Wood loved Stone City so much that in the summers of 1932 and 1933 he helped start an art colony there. Artists came to live in the old stone buildings and in painted ice wagons, and they spent their days painting the Iowa hills and farms.

WORKED EXAMPLES

Example 1. Look at the picture map of a Midwest farm. Each square is one field. How many fields are corn? How many are beans? How many fields in all?



A picture map of a farm. Striped squares are corn; plain squares are beans.

1. Look at the key. A striped square is corn. A plain square is beans.
2. Count the striped squares, one row at a time: 3 in the top row, 2 in the middle row, 2 in the bottom row. $3 + 2 + 2 = 7$.
3. Count the plain squares the same way: $1 + 2 + 2 = 5$.
4. Add them: $7 + 5 = 12$. Check by counting every square: 3 rows of 4 is 12.

Answer: 7 corn fields, 5 bean fields, 12 fields in all.

PRACTICE

1. **EASY** Point to the Great Lakes on the map. How many are there?
2. **EASY** Name two crops that Midwest farmers grow.
3. **EASY** Which big city sits on the shore of Lake Michigan?
4. **MEDIUM** A farmer plants 10 rows of corn and 8 rows of beans. How many rows in all?
5. **MEDIUM** Is the water in the Great Lakes fresh or salty? How is that different from the ocean?

COMMON MISTAKES

- Thinking the Great Lakes are salty like the ocean. They are fresh water.

- Thinking the Midwest is in the west. It is in the middle of the country. It got its name long ago, when it was the western edge of the settled land.
- Forgetting a lake. Say HOMES to remember all five.

Make it a game • HOMES Hop. Lay five pieces of blue paper on the floor in the shape of the Great Lakes and write one letter on each: S, M, H, E, O. A grown-up calls out a lake's name and the child hops to it. Then call out "HOMES!" and the child hops to all five in that order. Time it, and try to get faster each round.

Scripture. "When thou hast eaten and art full, then thou shalt bless the LORD thy God for the good land which he hath given thee." (Deuteronomy 8:10, KJV)

The farms of the Midwest grow food for families all over our country. When we eat, we thank God for the good land and for the farmers who work it.

Practice answers

1. 5.
2. Any two: corn, soybeans, wheat (oats and others are fine too).
3. Chicago.
4. 18 rows.
5. Fresh. The ocean is salty.

2.4 THE SOUTHWEST AND THE WEST

OBJECTIVES

- Find the Southwest and the West on a map and name the ocean on the West's coast.
- Tell about deserts, mesas, high mountains and the Pacific coast.
- Finish a region flip-book and color the five regions on a map.

Warm-up. Pour a little water onto two plates. Put one plate in a sunny window and one in a shady corner. Check them at the end of the lesson. Which one dried up faster? In the hot, sunny Southwest, rain dries up fast and very little rain falls at all. Plants there must save every drop.

Video. Coming soon. Short (under 8 minutes) kid-friendly footage of the saguaro cactus and the Sonoran Desert, the Rocky Mountains, mesas of the Southwest and waves on the Pacific coast, plus a simple animation of the West and Southwest regions; search National Park Service (Saguaro National Park; candidate, needs vetting), Smithsonian, Library of Congress (William Henry Jackson photographs), Homeschool Pop (Alternate: Southwest and West regions), and SciShow Kids (deserts).

KEY TERMS

desert

A very dry place that gets only a little rain each year.

mesa

A hill with steep sides and a flat top, like a table. Mesa is the Spanish word for table.

mountain range

A long line of mountains standing together, like the Rocky Mountains.

Pacific Ocean

The biggest ocean on earth. It is on the west coast of our country.

CORE IDEAS

The story. In August 1873 a photographer named William Henry Jackson climbed a steep mountain in Colorado. Mules and his helpers carried his big, heavy camera and his glass picture plates. At the top he looked across the valley and saw a wonder. On the side of a tall peak, two deep cracks were filled with snow. They made a giant white cross! Mr. Jackson took the first photograph of it. It is called the **Mount of the Holy Cross**. Two years later the painter Thomas Moran painted it, and people across the country wanted to see it.

The West. The **West** is the biggest region. It has the Rocky Mountains, a great **mountain range** with peaks so high that snow stays on top into summer. It has deep forests and wide valleys. Its coast is on the **Pacific Ocean**, the biggest ocean in the world. Washington,

Oregon and California sit along that coast. Alaska and Hawaii belong to the West too, even though they sit apart on the map.

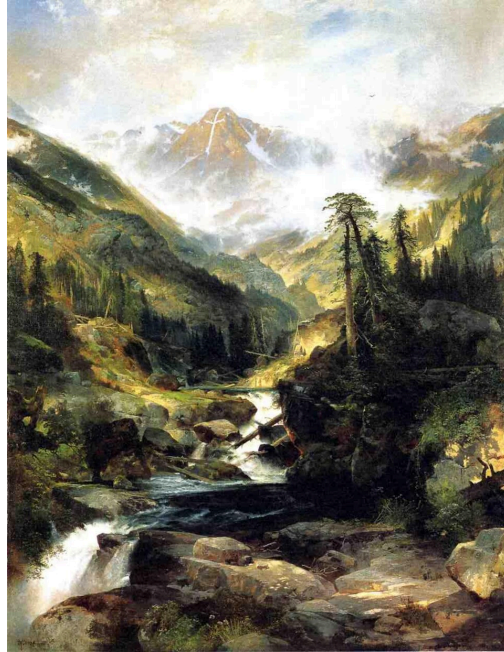
The Southwest. The **Southwest** has only four states: Arizona, New Mexico, Texas and Oklahoma. Much of it is hot and dry. Parts of it are **desert**. Red rock **mesas** stand up with flat tops like tables. In the Sonoran Desert of Arizona grows the saguaro cactus, taller than a house, with arms that reach up to the sky. When rain comes, it soaks up water and swells, and it saves the water to use for months. God gave even the dry places plants and animals made just right to live there.

On the map. Put your finger on Colorado, in the Rocky Mountains. Now slide it west, to the left, until you reach the blue water. That is the Pacific Ocean. Slide down and to the right to find the deserts of Arizona and New Mexico. Now you have visited all five regions! Look back at them all: rocky coasts, warm swamps, rich farms, dry deserts and high mountains, coast to coast.



The West and the Southwest. The Pacific Ocean is on the left, to the west.

PICTURE STUDY



Mountain of the Holy Cross, Thomas Moran, 1875 · Oil on canvas · Autry Museum of the American West, Los Angeles

Thomas Moran painted big pictures of the wild places of the West. After he saw William Henry Jackson's photograph of the snowy cross, he traveled to Colorado to see the mountain himself. Then he painted this picture. He put a rushing stream and rocks in front, so your eyes climb up the picture to the cross of snow on the mountain far away.

Look closely

- Find the cross of snow. Is it near or far away?
- Find the water. Is it still or rushing?
- Find the rocks and trees in the front of the picture.
- Does the mountain look small or very, very big?

Talk about it

1. Why do you think so many people wanted to see this mountain?
2. How do you think Mr. Jackson felt when he first saw the cross of snow?

PROJECT: FINISH THE FLIP-BOOK AND COLOR THE REGIONS

Your child will make the Southwest page and the West page of the flip-book, then color the five regions on a map of the United States. Now the whole flip-book is done.

You will need

- The flip-book
- Brown, red, orange, green, white and blue paper, or crayons

- Glue stick
- A printed blank outline map of the United States with state lines
- Five crayons of different colors

Steps

1. Label the next tab “Southwest.” Tear orange and red paper into mesas with flat tops and glue them on. Draw a tall saguaro cactus with arms, and a hot yellow sun.
2. Label the last tab “West.” Tear brown or gray paper into tall pointed mountains and add white snow on top. Draw a strip of blue at the left side for the Pacific Ocean and a few green trees.
3. Flip through the whole book and tell a grown-up one thing about each region.
4. On the blank map, a grown-up shows where each region is (use the five-regions map from Lesson 2.1).
5. Color each region a different color: Northeast, Southeast, Midwest, Southwest and West.
6. Draw a little color key in the corner: one box of each color with the region’s name.
7. Color Alaska and Hawaii the same color as the West.

Tips

- Use the same colors on the map as on the flip-book tabs, if you like, so they match.
- Coloring a whole region is a lot of coloring. It is fine to color the edges and fill in with light strokes.

Check your work

- I can point to all five regions on my map.
- I can tell one thing about each region.
- I can point to the Pacific Ocean and the Atlantic Ocean.

MAP NOTEBOOK

1. Draw a saguaro cactus with three arms, and a bird peeking out of a hole in it.
2. Draw a mesa with a flat top, like a table made of rock.
3. Draw the Mount of the Holy Cross with its white cross of snow.

From history. William Henry Jackson took his photographs on glass plates that he had to coat, use and develop right away, out in the wild, in a little dark tent. He worked for the Hayden Survey, a team the government sent to map the mountains of the West. His pictures helped people back East see the wonders of the West for the first time.

WORKED EXAMPLES

Example 1. Look at the map of the West. You are standing on the Mount of the Holy Cross in Colorado. Which way would you go to reach the Pacific Ocean?

(Use the map or drawing “Left on the map is west.” shown earlier in this lesson.)

1. Find the N. North is up, so south is down, east is to the right and west is to the left.
2. Put your finger on the Mount of the Holy Cross.
3. Find the Pacific Ocean. It is on the left side of the map.
4. Left on the map is west.

Answer: Go west to reach the Pacific Ocean.

PRACTICE

1. **EASY** Which ocean is on the coast of the West?
2. **EASY** How many states are in the Southwest? Count them on your fingers: Arizona, New Mexico, Texas, Oklahoma.
3. **EASY** Point to a mesa in your flip-book. What shape is its top?
4. **MEDIUM** One saguaro has 5 arms. Another has 3 arms. How many arms in all?
5. **MEDIUM** Match each region with its picture: rocky coast and lighthouse, swamp and alligator, farm and corn, cactus and mesa, snowy mountains and Pacific waves.

COMMON MISTAKES

- Thinking all of the West is desert. The West has deserts, but also snowy mountains, thick forests and a long, cool ocean coast.
- Forgetting that Alaska and Hawaii are part of the West. They sit apart on the map, but they belong to the West region.
- Mixing up the oceans. The Pacific is on the west (left) side of the map; the Atlantic is on the east (right) side.

Make it a game • Region Road Trip. Lay your colored region map on the floor. A grown-up calls out a clue: “Find a cactus,” “Find the Great Lakes,” “Find Plymouth Rock,” “Find the river of grass,” “Find snowy mountains.” The child drives a toy car to the right region and says its name. Go coast to coast: start in the Northeast and finish at the Pacific. Then switch, and the child gives the clues.

Scripture. “I will lift up mine eyes unto the hills, from whence cometh my help.” (Psalm 121:1, KJV)

The next verse tells us where our help comes from: from the Lord, who made heaven and earth. When we look up at tall mountains, we remember how great God is.

Practice answers

1. The Pacific Ocean.
2. 4.
3. Flat, like a table.
4. 8 arms.
5. Northeast: rocky coast and lighthouse. Southeast: swamp and alligator. Midwest: farm and corn. Southwest: cactus and mesa. West: snowy mountains and Pacific waves.

UNIT 2 REVIEW

A grown-up reads each question aloud. The child answers out loud, points or draws. The review is worth 20 points.

1. (3 pts) Name the five regions of our country.
2. (3 pts) Who sailed on the *Mayflower*? What year is carved on Plymouth Rock?
3. (2 pts) Why does a lighthouse stand on a rocky coast?
4. (3 pts) Point to Florida on a map. What is the river of grass called, and which way does its water flow?
5. (2 pts) Name one animal that lives in the Everglades.
6. (3 pts) How many Great Lakes are there? Name one crop that Midwest farmers grow.
7. (2 pts) Which ocean is on the coast of the West? Which way is it on the map: left or right?
8. (2 pts) Draw a mesa. What does its top look like?

UNIT PROJECT: MY REGION FLIP-BOOK AND REGION MAP

Show your finished region flip-book, with one page for each of the five regions: a rocky coast and lighthouse for the Northeast, the river of grass for the Southeast, a patchwork farm for the Midwest, mesas and a saguaro for the Southwest, and snowy mountains and the Pacific for the West. Beside it, show your map of the United States with each region colored and a color key. Then give a short “tour” to your family: flip each page and tell one thing about that region.

- **All five regions:** The flip-book has a labeled page for each of the five regions, and each page shows at least one true thing about that region.
- **Map:** The five regions are colored on the map in different colors, with a key, and Alaska and Hawaii are colored with the West.
- **Telling:** The child can point to each region on the map and tell one thing about it in their own words.
- **Care:** The pages are colorful and neat for the child’s age, and the work shows a real try.

Answer key

1. Northeast, Southeast, Midwest, Southwest and West (1 point for 2–3 regions, 2 points for 4, 3 points for all 5).
2. The Pilgrims (and other passengers). 1620.
3. Its light warns ships to stay away from the rocks, especially at night or in storms.
4. Points to Florida. The Everglades. It flows south (from Lake Okeechobee to Florida Bay).
5. Any one: alligator, crocodile, roseate spoonbill, manatee, heron, turtle.
6. 5. Corn, soybeans or wheat.
7. The Pacific Ocean. Left (west).

8. A drawing of a steep-sided hill with a flat top, like a table.

GREAT RIVERS

God gives each land its gifts, and one of the greatest gifts He gave our country is its rivers. Moses told the people of Israel that the Lord was bringing them “into a good land, a land of brooks of water, of fountains and depths that spring out of valleys and hills” (Deuteronomy 8:7). Rivers give water to farms and towns, and for hundreds of years they were the best roads in America. In this unit your child will follow the mighty Mississippi from a little stream at Lake Itasca all the way to the Gulf of Mexico, and meet the Missouri and the Ohio where they join it.

Along the way you will paddle with Marquette and Jolliet, ride a flatboat in a George Caleb Bingham painting, learn the river calls of young Mark Twain on a steamboat, and stand on the rim of the Grand Canyon with Spanish explorers, and ride its rapids with John Wesley Powell. Each week your child builds part of a river model in a rain gutter or foil channel and draws the river system in a map notebook. By the end, your child will be able to trace the great rivers on a map and tell how steam engines let boats go upstream against the current.

BEFORE YOU BEGIN

- Can find north, south, east and west on a map with an N arrow
- Can find the United States and a few states on a map (Units 1-2)
- Knows that water flows downhill
- Can add small numbers such as $6 + 6$

MASTERY CHECKLIST

- I can show where the Mississippi River starts (Lake Itasca) and where it ends (the Gulf of Mexico).
- I can point to the Missouri and the Ohio and tell what a confluence is.
- I can tell how steamboats went upstream and what “mark twain” means.
- I can explain how the Colorado River carved the Grand Canyon by erosion.
- I can trace the Mississippi river system on a map of the United States.

OPTIONAL BOOKS AND RESOURCES

- **Mississippi National River and Recreation Area (National Park Service)** (<https://www.nps.gov/miss/>): Free. Photos and short facts about the Mississippi River for families. Good for Lessons 3.1 and 3.2.
- **Grand Canyon National Park (National Park Service)** (<https://www.nps.gov/grca/>): Free. Photos of the canyon and the Colorado River, plus kid-friendly Junior Ranger pages. Good for Lesson 3.4.
- ***Life on the Mississippi* by Mark Twain (free at Project Gutenberg)** (<https://www.gutenberg.org/ebooks/245>): Free. Written for grown-ups. A parent may read aloud a short passage from the early chapters, where Twain tells about the

steamboat arriving in his sleepy hometown and about learning to be a cub pilot (Lesson 3.3).

3.1 THE MIGHTY MISSISSIPPI ★

OBJECTIVES

- Tell where the Mississippi River begins (Lake Itasca in Minnesota) and where it ends (the Gulf of Mexico).
- Point to the Mississippi on a map and show that it flows from north to south.
- Explain that a river starts small and grows bigger as more water joins it.

Warm-up. Turn on the kitchen faucet to a tiny trickle and let it run into a bowl. Is it a big river or a small stream? Now turn it up a little more, then a little more. Talk about it: a river can start small and grow big as more and more water comes in. Today we meet a river that starts so small a child can step across it.

Video. Coming soon. A short kid-friendly video (under 8 minutes) of children walking across the stepping stones at the Mississippi headwaters in Itasca State Park, plus a simple animation of the river flowing to the Gulf of Mexico. Search Homeschool Pop (Alternate), Smithsonian, SciShow Kids, and the National Park Service (candidate, needs vetting).

KEY TERMS

river

A long stream of fresh water that flows across the land, always going downhill.

source

The place where a river begins. The Mississippi's source is Lake Itasca.

mouth

The place where a river ends by flowing into a sea, a gulf or another river.

gulf

A big part of the ocean that reaches into the land. The Mississippi flows into the Gulf of Mexico.

CORE IDEAS

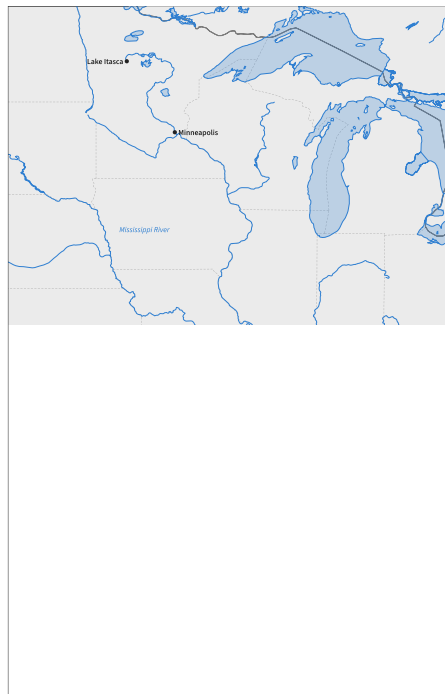
The story. In the summer of 1832, a man named Henry Schoolcraft traveled by canoe across lakes and up rivers. He wanted to find where the great Mississippi River begins. An Ojibwe guide named Ozawindib knew the way. He led Schoolcraft through small lakes and over the land, carrying the canoes. At last they came to a quiet, pretty lake with pine trees all around. A little stream ran out of it. This was the start of the Mississippi! Schoolcraft named the lake **Lake Itasca**. He made the name from parts of two Latin words, *veritas caput*, which mean “true head.” He took the end of the first word and the start of the second.

How it works. At Lake Itasca, in Minnesota, the Mississippi is so small that children can walk across it on stepping stones. But the river keeps going. It flows downhill, and here the

land slopes down toward the **south**. Little streams and big rivers pour into it all along the way. The river gets wider and deeper and stronger. By the time it reaches New Orleans, it is so big that ocean ships sail on it.

The big idea. Every river has a **source**, where it starts, and a **mouth**, where it ends. The Mississippi's source is Lake Itasca. Its mouth is the **Gulf of Mexico**. The trip is about 2,340 miles long! A drop of water that starts at Lake Itasca takes about three months to float all the way to the Gulf. The river runs through or along ten states. God made the land slope gently down to the sea, so the water always knows which way to go.

On the map. Find Minnesota at the top of the middle of the United States. Find Lake Itasca there. Now put your finger on the river and slide it down, down, down, past St. Louis and Memphis, all the way to New Orleans and the Gulf of Mexico. The Mississippi runs almost straight down the middle of our country, like a long blue backbone.



The Mississippi starts small at Lake Itasca and flows south about 2,340 miles to the Gulf of Mexico.

PICTURE STUDY



The Jolly Flatboatmen, George Caleb Bingham, 1846 · Oil on canvas · National Gallery of Art, Washington, D.C.

George Caleb Bingham grew up in Missouri, near the great rivers. He loved to paint the people who worked on them. Long before there were trucks or trains in the West, farmers and boatmen floated their corn, flour and pork down the rivers on big wooden **flatboats**. The river did the work of carrying them south, all the way to New Orleans.

In this painting the men are resting on a calm day. One is dancing, and one is playing music. The river is carrying them along.

Look closely

- Find the man who is dancing. What is he standing on?
- Find the man playing music. What instrument does he have?
- Look at the water. Is it rough and wild, or calm and smooth?
- Find the shore and the trees. Which way do you think the boat is floating?

Talk about it

1. A flatboat had no engine. How did it move down the river?
2. Why would it be very hard to take a flatboat back *up* the river?
3. If you rode a flatboat down the Mississippi, what would you hope to see?

PROJECT: A RIVER IN A RAIN GUTTER

You will make a little Mississippi River and watch it run from its source to its mouth. This is the first part of your unit river model, so keep it for the next lessons.

You will need

- A piece of plastic rain gutter (about 4 to 8 feet long) or a long strip of heavy aluminum foil folded up on both sides
- A few books or a box to lift one end
- A cup or small pitcher of water
- A bucket, tub or baking pan to catch the water
- Blue food coloring (optional)
- Masking tape and a marker

Steps

1. Take the river outside, or lay it in the bathtub or on a towel.
2. Lift one end a little with books. This high end is the north. Put the tub at the low end. The tub is the Gulf of Mexico.
3. Put a tape label at the high end: "Lake Itasca." Put another label by the tub: "Gulf of Mexico."
4. Add a few drops of blue coloring to your water. Pour a small, slow trickle in at Lake Itasca. Watch it run down.
5. Now pour a little more water in at three places along the way. These are other rivers joining in. Does the river at the bottom get bigger?
6. Add tape labels in order from top to bottom: Minneapolis, St. Louis, Memphis, New Orleans.

Tips

- A very small slope works best. If the water rushes too fast, take away a book.
- If you use foil, fold it three times thick and pinch up the sides to make walls.

Check your work

- I can show where the river starts and where it ends.
- I can show that the water always runs downhill.
- I can show that the river gets bigger when more water joins it.

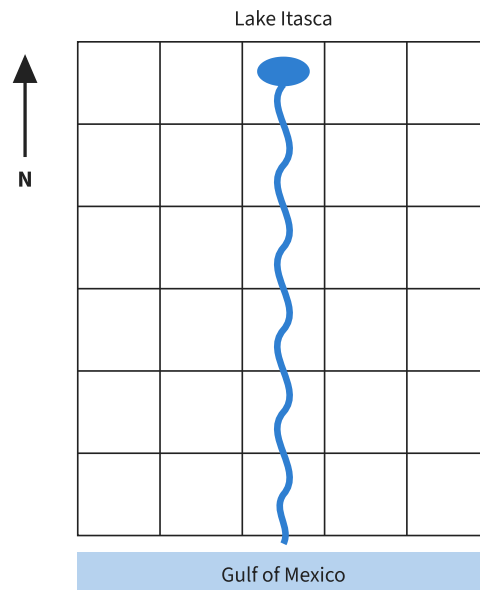
MAP NOTEBOOK

1. Draw Lake Itasca with pine trees around it and a tiny stream with stepping stones. Label it "Source."
2. Draw a long blue line down your page from top to bottom. Write "Lake Itasca" at the top and "Gulf of Mexico" at the bottom. Draw an arrow showing which way the water flows.
3. Draw a flatboat floating down the river with something it might carry, like corn or barrels of flour.

From history. Ozawindib, whose name means “Yellow Head,” was an Ojibwe leader who knew the lakes and streams of northern Minnesota well. Schoolcraft could not have found the lake without him. Today Lake Itasca is inside Itasca State Park, Minnesota’s oldest state park, and visitors still take off their shoes to wade across the young river on the stepping stones.

WORKED EXAMPLES

Example 1. Look at the picture map. The river starts at Lake Itasca and ends at the Gulf of Mexico. How many squares does the river run through? Which way is the river flowing?



Count the squares from the source to the mouth.

1. Find the N arrow. It points up, so the top of the map is north and the bottom is south.
2. Put your finger on Lake Itasca in the top square.
3. Count each square as your finger slides down the river: 1, 2, 3, 4, 5, 6.
4. The river starts at the top (north) and ends at the bottom (south).

Answer: The river runs through 6 squares, and it flows from north to south.

PRACTICE

1. **EASY** Say it aloud: Where does the Mississippi River begin?
2. **EASY** Point on the map: Where does the Mississippi River end?
3. **EASY** Does the Mississippi flow north or south?

4. **MEDIUM** Which is bigger: the Mississippi at Lake Itasca or the Mississippi at New Orleans? Why?
5. **MEDIUM** Look at the map of the Mississippi. Put these cities in order from north to south: New Orleans, Minneapolis, St. Louis, Memphis.
(Use the map or drawing "Slide your finger down the river from north to south." shown earlier in this lesson.)

COMMON MISTAKES

- Thinking rivers flow "down" the map because south is down. Rivers flow downhill. The Mississippi happens to flow south because the land slopes down toward the Gulf.
- Mixing up source and mouth. The source is where a river starts; the mouth is where it ends.
- Thinking a big river is big all the way. The Mississippi starts as a little stream.

Make it a game • Source to Sea. Lay a long blue ribbon or rope across the floor. One end is Lake Itasca and the other is the Gulf of Mexico. The child starts at Lake Itasca. A parent calls out "Minneapolis!", "St. Louis!", "Memphis!" or "New Orleans!" in order, and the child hops to the right spot along the river. At the end the child shouts "Gulf of Mexico!" and jumps into the "sea." Then trade places and let the child call out the cities.

Scripture. "All the rivers run into the sea; yet the sea is not full; unto the place from whence the rivers come, thither they return again." (Ecclesiastes 1:7, KJV)

The Mississippi runs into the sea, just as this verse says. Then the sun lifts water up into clouds, and rain falls again on Minnesota to fill Lake Itasca. God keeps the water moving round and round.

Practice answers

1. At Lake Itasca, in Minnesota.
2. At the Gulf of Mexico, below New Orleans.
3. South.
4. At New Orleans. Many streams and rivers have joined it along the way.
5. Minneapolis, St. Louis, Memphis, New Orleans.

3.2 THE MISSOURI AND THE OHIO

OBJECTIVES

- Name the two great rivers that join the Mississippi: the Missouri from the west and the Ohio from the east.
- Explain that a confluence is a place where two rivers meet and become one.
- Find St. Louis and Cairo, Illinois, on a map of the Mississippi river system.

Warm-up. Fill one clear glass with plain water and one with water stirred with a spoonful of dirt or a drop of brown food coloring. Pour both slowly, at the same time, into a big clear bowl. Watch closely. Do they mix right away, or do the colors swirl side by side for a moment? Today we visit places where real rivers meet like this.

Video. Coming soon. A short kid-friendly video (under 8 minutes) showing the muddy Missouri meeting the Mississippi near St. Louis, or the Ohio meeting the Mississippi at Cairo, Illinois, ideally with drone footage. Search Homeschool Pop (Alternate), Smithsonian, SciShow Kids, and the National Park Service or USGS (candidates, need vetting).

KEY TERMS

confluence

A place where two rivers meet and flow on together as one river.

tributary

A river or stream that flows into a bigger river. The Missouri and the Ohio are tributaries of the Mississippi.

river system

A big river and all the rivers and streams that flow into it, like a tree with its branches.

CORE IDEAS

The story. In the summer of 1673, two Frenchmen paddled down the Mississippi in bark canoes. One was a priest, Father Jacques Marquette. The other was an explorer, Louis Jolliet. One day they heard a loud rushing sound. A great river came pouring in from the west, full of mud. Whole trees and branches tumbled along in it! Marquette wrote in his journal that the water was very muddy. This wild river was the **Missouri**. Later, people would call it the “Big Muddy.” Farther south, they passed another great river coming in from the east. That was the **Ohio**.

How it works. When two rivers meet, the place is called a **confluence**. The Missouri meets the Mississippi just north of the city of St. Louis. For a while the brown Missouri water and the clearer Mississippi water flow side by side, like two colors of paint. Then they mix

together. The Ohio meets the Mississippi at the very bottom tip of Illinois, at a town called Cairo. After each confluence, the Mississippi is bigger than before.

The big idea. The Mississippi is like a great tree lying on its side. The trunk is the Mississippi. The big branches are the Missouri and the Ohio, and thousands of smaller streams are the twigs. All of them together are called a **river system**. The Missouri begins far away in the mountains of Montana. It is even a little longer than the Mississippi! The Ohio begins at Pittsburgh, Pennsylvania, where two rivers meet in another confluence.

On the map. Put your finger on the Missouri in Montana and follow it east and south until it reaches the Mississippi at St. Louis. Now find Pittsburgh in the east and follow the Ohio west until it joins the Mississippi at Cairo. Rain that falls on nearly half of our lower 48 states ends up in this one river system, and it all flows out to the Gulf of Mexico.



The Mississippi river system: the Missouri joins from the west and the Ohio from the east.

PICTURE STUDY



Fur Traders Descending the Missouri, George Caleb Bingham, 1845 · Oil on canvas · Metropolitan Museum of Art, New York

George Caleb Bingham grew up beside the Missouri River. In this painting, a fur trader and a boy float down the Missouri early in the morning. The trader was French. The boy was most likely his son, whose mother was probably a Native American woman, as was common among fur-trading families. They have been trading for beaver and other furs, and now the river carries them toward the town where they will sell them.

Look how still everything is. The mist hangs over the water, and the river is as smooth as glass.

Look closely

- Find the man in the back of the canoe. What is he holding to steer?
- Find the boy. What is he leaning on?
- Find the dark animal at the front of the boat. Some people think it is a pet fox, and some think it is a bear cub. What do you think?
- Look at the reflection in the water. Can you see the boat twice?

Talk about it

1. Is the canoe going upstream or downstream? How can you tell the river is doing most of the work?
2. What time of day do you think it is? Why?
3. Where might the river carry these traders next?

PROJECT: A FOIL CONFLUENCE

You will build two rivers that meet in a confluence and watch the brown “Missouri” water join the blue “Mississippi” water. Then you can add these branches to your rain-gutter river.

You will need

- Heavy aluminum foil
- A baking sheet with sides, or an outdoor spot on the grass or sidewalk
- Two cups of water
- Blue food coloring and a spoonful of dirt or cocoa powder (for brown)
- A few books to tilt the pan

Steps

1. Tear off three long strips of foil. Fold each one up on both sides to make a little channel.
2. Lay one strip down the middle of the pan. This is the Mississippi.
3. Lay a second strip so it comes in from the left side (the west) and joins the middle channel. Pinch the foil together where they meet. This is the Missouri.
4. Lay a third strip coming in from the right side (the east), lower down. This is the Ohio.
5. Lift the top end of the pan with books so water runs down.
6. Stir dirt or cocoa into one cup to make it brown. Put blue coloring in the other cup.
7. Pour the blue water into the top of the Mississippi and the brown water into the Missouri at the same time. Watch the confluence! Then pour plain water into the Ohio.
8. Point to each confluence and say its name: St. Louis for the Missouri, Cairo for the Ohio.

Tips

- Pour slowly so the water does not jump out of the channel.
- Remember: the Missouri comes from the west (left on a map) and the Ohio comes from the east (right on a map).

Check your work

- I can show where two rivers meet and tell what that place is called.
- I can show which river comes from the west and which comes from the east.
- I can see that the river is bigger after the confluence.

MAP NOTEBOOK

1. Draw a tree lying on its side. Label the trunk “Mississippi” and two big branches “Missouri” and “Ohio.”
2. Draw a confluence: one brown river and one blue river meeting in a Y. Write the word “confluence” where they meet.

3. Draw Marquette and Jolliet in their canoe watching logs tumble down the muddy Missouri.

From history. Marquette and Jolliet set out in May 1673 with five other men in two canoes. They paddled down the Mississippi as far as the mouth of the Arkansas River. There, Native people told them the river ran on to the sea, and they turned back so they would not be caught by Spanish soldiers farther south. Father Marquette kept a journal of the trip, and that is how we know what the muddy Missouri looked like to them.

WORKED EXAMPLES

Example 1. Look at the map. Which great river joins the Mississippi from the west? Which one joins from the east?

(Use the map or drawing “West is on the left and east is on the right.” shown earlier in this lesson.)

1. On this map, north is at the top. So west is on the left and east is on the right.
2. Find the Mississippi running down the middle.
3. Look to the left (west) side. The Missouri comes in from that side, near St. Louis.
4. Look to the right (east) side. The Ohio comes in from that side, at Cairo.

Answer: The Missouri joins from the west. The Ohio joins from the east.

PRACTICE

1. **EASY** What do we call a place where two rivers meet?
2. **EASY** Point on the map: near which city does the Missouri join the Mississippi?
(Use the map or drawing “Find where the rivers meet.” shown earlier in this lesson.)
3. **EASY** Which river did people call the “Big Muddy”?
4. **MEDIUM** Count the confluences in your foil model: the Missouri meets the Mississippi, and the Ohio meets the Mississippi. How many confluences is that?
5. **MEDIUM** Draw a river tree: one trunk and two big branches. Label the Mississippi, the Missouri and the Ohio.

COMMON MISTAKES

- Mixing up which river comes from which side. The Missouri comes from the west; the Ohio comes from the east.
- Thinking rivers bump into each other and stop. At a confluence they join and keep flowing on together.
- Thinking the Missouri is a small river. It is the longest river in the United States, a little longer than the Mississippi.

Make it a game • Rivers Meet. Two players are rivers. One stands on the west side of the room (the Missouri) and one on the east side (the Ohio). A parent is the Mississippi in the middle. When the parent calls “Confluence at St. Louis!” the Missouri walks over and links arms. When the parent calls “Confluence at Cairo!” the Ohio walks over and links arms too. Then all three “flow” together down the hall to the Gulf of Mexico. Take turns being each river.

Scripture. “There is a river, the streams whereof shall make glad the city of God, the holy place of the tabernacles of the most High.” (Psalm 46:4, KJV)

Many streams flow together to make one great river that brings gladness. The Mississippi and its tributaries water farms and carry boats to the cities along their banks, a good gift from God.

Practice answers

1. A confluence.
2. St. Louis.
3. The Missouri.
4. 2.
5. The trunk is labeled Mississippi; one branch (on the west, or left) is Missouri; the other (on the east, or right) is Ohio.

3.3 STEAMBOATS ON THE RIVER

OBJECTIVES

- Explain that steamboats could go up the river against the current, which flatboats could not do.
- Tell how Mark Twain learned to be a river pilot and what “mark twain” means.
- Measure water depth with a homemade lead line.

Warm-up. Float a toy boat or a plastic lid in the bathtub and make a gentle current by pushing the water with your hand. Let the boat float along with the current. Now try to make it go the other way without touching it. Hard, isn’t it? Talk about it: going downstream is easy, but going upstream needs a strong push.

Video. Coming soon. A short kid-friendly video (under 8 minutes) showing a working paddle-wheel steamboat on the Mississippi, or a simple animation of how a paddle wheel pushes a boat. Search The Henry Ford, Smithsonian, Library of Congress, and Homeschool Pop (Alternate); a short read-aloud picture book about young Mark Twain on the river is also good (search Brightly Storytime-style read-alouds, candidate, needs vetting).

KEY TERMS

steamboat

A boat pushed by a steam engine that turns a big paddle wheel.

upstream

Going against the river’s flow, toward where it starts.

downstream

Going with the river’s flow, toward its mouth.

pilot

The person who steers the boat and knows the river well enough to keep it safe.

CORE IDEAS

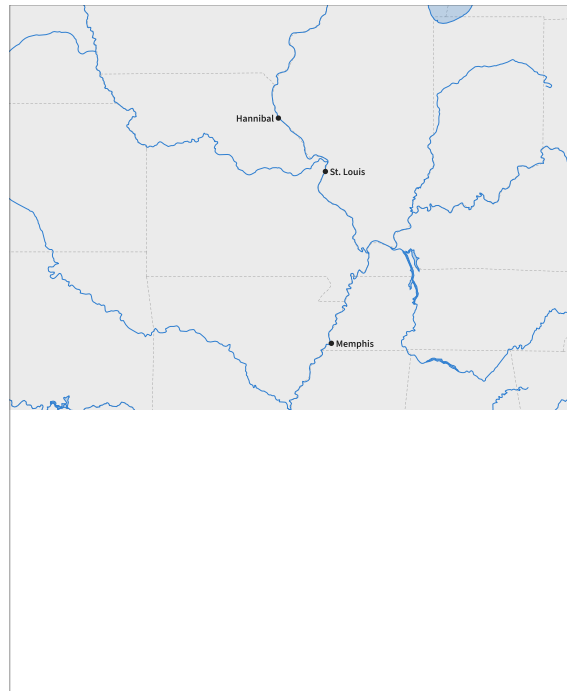
The story. A boy named Samuel Clemens grew up in Hannibal, Missouri, right on the bank of the Mississippi. Every day he and his friends waited for the steamboat. When someone shouted “Steamboat a-comin’!” the whole sleepy town woke up and ran to the landing. Sam wanted to be a steamboat pilot more than anything. In 1857, when he was a young man, a pilot named Horace Bixby agreed to teach him. Sam became a “cub pilot.” Two years later he earned his own pilot’s license.

How it worked. A pilot had to know the river by heart, by day and by night. He had to remember every bend, every island and every sandbar where a boat could get stuck. A crewman called the leadsman dropped a rope with a heavy lead weight into the water to

measure how deep it was. He called out the depth. When he sang out “Mark twain!” it meant the water was two fathoms deep. A fathom is 6 feet, so two fathoms is 12 feet: deep enough to be safe. Later Sam Clemens wrote books, and he chose the pen name **Mark Twain**.

Technology overcoming geography. Before steamboats, a flatboat could only float **downstream**. Going back **upstream** meant men pushing a keelboat with long poles, or walking home, and that took months. Then came the steam engine. In 1811 the first steamboat on the western rivers, the *New Orleans*, set out from Pittsburgh down the Ohio and the Mississippi. Soon hundreds of steamboats were churning up and down the rivers. Their engines turned big paddle wheels that pushed against the current. A trip that once took months now took days. In 1870 two famous steamboats raced from New Orleans to St. Louis, and the winner, the *Robert E. Lee*, made it in less than four days!

On the map. Find Hannibal on the Mississippi. Follow the river south to St. Louis, then Memphis, then New Orleans. Mark Twain piloted steamboats between St. Louis and New Orleans until 1861, when the Civil War stopped most of the boats on the river.



Mark Twain grew up in Hannibal and piloted steamboats between St. Louis and New Orleans.

PICTURE STUDY



A Midnight Race on the Mississippi, Frances F. Palmer, for Currier & Ives, 1860 · Hand-colored lithograph (a print) · National Gallery of Art, Washington, D.C. (other copies are in the Library of Congress and other collections)

Currier & Ives was a company in New York that made colorful, low-priced prints that families hung on their walls. One of their best artists was a woman named Frances Flora Bond Palmer, called Fanny. She drew this exciting scene of two steamboats racing on the Mississippi at night.

People loved steamboat races. Crowds gathered on the riverbanks to watch the big boats go by, with smoke and sparks flying from their tall chimneys.

Look closely

- Count the steamboats. Which one do you think is winning?
- Find the tall smokestacks. What is coming out of them?
- Look at the sky and the water. How can you tell it is night?
- Look for the paddle wheel or the box that covers it on the side of a boat.

Talk about it

1. Why do you think steamboats had such tall smokestacks?
2. Would you rather ride a steamboat or a flatboat down the river? Why?
3. Why would a pilot need to be extra careful at night?

Safety first. A grown-up should cut the milk carton and do any cutting with a craft knife. Never leave a child alone with water in a tub.

PROJECT: A RUBBER-BAND PADDLE BOAT AND A LEAD LINE

You will build a little paddle-wheel boat that moves by itself, the way a steamboat's engine turned its wheel. Then you will make a leadsman's line and measure the water like the crew on Mark Twain's boat.

You will need

- An empty half-gallon milk or juice carton, rinsed
- Two pencils or craft sticks
- A strong rubber band
- A piece of a plastic lid or thin plastic cut into a small rectangle (the paddle)
- Tape and scissors
- A piece of string about 2 feet long, a metal washer or nut, and a marker
- A bathtub or a big tub of water

Steps

1. A grown-up cuts the carton in half the long way to make a flat boat.
2. Tape the two pencils to the sides of the boat so they stick out past the back end, like two arms.
3. Stretch the rubber band between the ends of the two pencils.
4. Slide the plastic paddle through the middle of the rubber band and tape it in place.
5. Wind the paddle around and around toward you about 15 times. Hold it tight.
6. Set the boat in the water and let go. The paddle wheel spins and pushes the boat along!
7. Now make a lead line: tie the washer to the end of the string. With a marker, make a dot every 6 inches. In our pretend river, each dot is one "fathom."
8. Lower the washer into the tub until it touches the bottom. Count the dots under the water. Call out the depth like a leadsman: "Mark one!" or "Mark twain!"

Tips

- If the boat goes backward, wind the paddle the other way.
- A heavier washer sinks straighter. Hold the string straight up and down when you measure.

Check your work

- I can show how a paddle wheel pushes a boat.
- I can measure water depth with my lead line.
- I can tell what "mark twain" means.

MAP NOTEBOOK

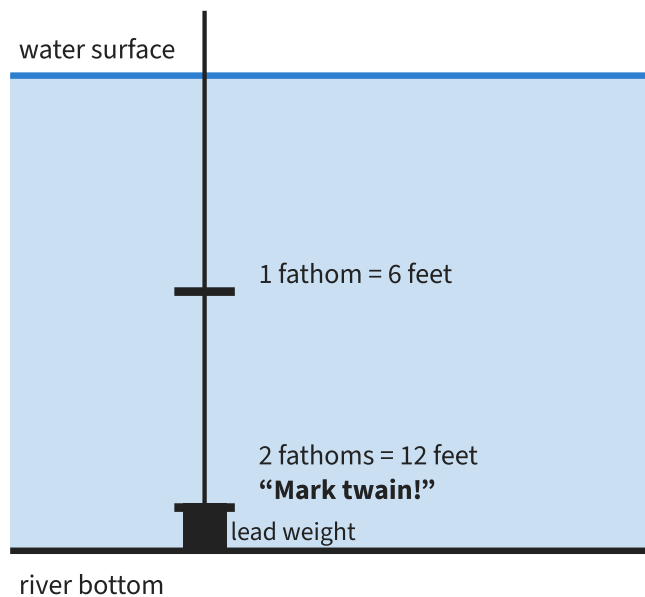
1. Draw a steamboat with two tall smokestacks, a pilothouse on top and a big paddle wheel. Label the paddle wheel and the pilothouse.

2. Draw a leadsman dropping his line into the river. Write “Mark twain = 2 fathoms = 12 feet.”
3. Draw two arrows on a river: one going downstream (labeled “flatboat”) and one going upstream (labeled “steamboat”).

From history. Years after he left the river, Mark Twain wrote a book called *Life on the Mississippi* (1883) about his days as a cub pilot. He told how Mr. Bixby made him learn every point and bend of the river until he knew its shape in the dark. In 1882 he went back and rode the river again, and he found that the railroads were already taking much of the steamboats’ business.

WORKED EXAMPLES

Example 1. One fathom is 6 feet. The leadsman calls “Mark twain!” That means 2 fathoms. How many feet deep is the water?



Each fathom is 6 feet. Two fathoms, “mark twain,” is 12 feet.

1. Look at the lead line picture. Each mark is 1 fathom, which is 6 feet.
2. The first mark is at 6 feet.
3. The second mark is 6 more feet down: $6 + 6 = 12$.
4. So “mark twain” means the water is 12 feet deep.

Answer: 12 feet.

PRACTICE

1. **EASY** Which kind of boat could go upstream: a flatboat or a steamboat?
2. **EASY** What is the name of the town where Mark Twain grew up? Point to it on the map.
(Use the map or drawing “Find Hannibal on the river.” shown earlier in this lesson.)
3. **MEDIUM** On the map, is Hannibal north or south of St. Louis?
4. **MEDIUM** One fathom is 6 feet. How many feet are 3 fathoms?
5. **MEDIUM** Act it out: show how a flatboat goes down the river, then show how a steamboat goes up the river. What makes the steamboat go?

COMMON MISTAKES

- Thinking “Mark Twain” was the writer’s real name. His real name was Samuel Clemens; “mark twain” was a river call meaning two fathoms deep.
- Thinking the pilot was the captain. The captain was in charge of the boat, but the pilot steered it and decided how to get through the river safely.
- Thinking boats could always go upstream easily. Before steamboats, going upstream was slow, hard work.

Make it a game • Leadsman’s Call. A parent is the pilot and the child is the leadsman. The parent holds up fingers to show how many fathoms deep the water is. The child calls out the depth: one finger is “Mark one, 6 feet!”, two fingers is “Mark twain, 12 feet!”, three fingers is “Mark three, 18 feet!” If the parent holds up a fist (no water!), the child shouts “Sandbar! Stop the boat!” Then trade places.

Scripture. “Thy word is a lamp unto my feet, and a light unto my path.” (Psalm 119:105, KJV)

A river pilot had to know the right way even in the dark, or the boat could run aground. God’s Word is like a light that shows us the safe way to go.

Practice answers

1. A steamboat.
2. Hannibal, Missouri.
3. North.
4. 18 feet (6 + 6 + 6).
5. The flatboat floats with the current. The steamboat’s steam engine turns a paddle wheel that pushes it against the current.

3.4 THE COLORADO AND THE GRAND CANYON

OBJECTIVES

- Explain that the Colorado River carved the Grand Canyon by wearing away rock little by little.
- Find the Colorado River and the Grand Canyon on a map of the West.
- Tell the stories of the Spanish explorers who were the first Europeans to see the canyon in 1540 and of John Wesley Powell's boat trip in 1869.

Warm-up. Hold a bar of soap or a small lump of clay under a thin stream of running water for one minute. Look closely. Has the water started to wear a little groove? Talk about it: water moving over and over the same place can slowly carve even hard things.

Video. Coming soon. A short kid-friendly video (under 8 minutes) of the Grand Canyon from the rim and from a boat on the Colorado River, or a simple animation of how a river carves a canyon. Search Smithsonian, SciShow Kids, Homeschool Pop (Alternate), and the National Park Service (Grand Canyon National Park) or USGS (candidates, need vetting).

KEY TERMS

canyon

A deep valley with steep rock walls, often with a river at the bottom.

erosion

The slow wearing away of rock and soil by water, wind or ice.

rim

The top edge of a canyon, where you stand to look down.

rapids

A part of a river where the water rushes fast and rough over rocks.

CORE IDEAS

The story. In 1540, a Spanish captain named García López de Cárdenas and his men walked across the dry land of what is now Arizona. Hopi guides led them to the edge of a huge canyon. Far, far below, the river looked like a tiny stream, only a few feet wide. Three men tried to climb down to get water. Late in the day they came back up, tired and thirsty, having gone only part of the way! They said that rocks which looked as small as a man from the top were really taller than the great tower of their city of Seville in Spain. Things look small when they are very far away. This was the **Grand Canyon**.

How it works. The river at the bottom is the **Colorado River**. It starts high in the Rocky Mountains of Colorado and flows southwest. Its water carries sand and pebbles. Like sandpaper, the sand scrapes the rock of the riverbed again and again. Bit by bit the river cut down deeper and deeper. Rain and ice broke off the walls and made the canyon wider. This

slow wearing away is called **erosion**. Today the Grand Canyon is about 277 miles long along the river and about a mile deep. Its walls show stripes of red, brown and white rock, one layer on top of another.

The brave boat trip. For a long time, no one had followed the river all the way through the canyon. In 1869, John Wesley Powell decided to try. He had lost his right arm as a soldier in the Civil War, but he was not afraid. Powell and nine men set out in four wooden boats on May 24, from Green River, Wyoming. They rode wild **rapids**, lost a boat and much of their food, and drew maps as they went. In late August, Powell and five of the men came out of the canyon alive. They had filled in one of the last big blank spots on the map of the United States.

On the map. Find Colorado and the Rocky Mountains. Follow the Colorado River southwest into Arizona to the Grand Canyon. Then follow it south to Mexico and the Gulf of California. This river does not join the Mississippi. It runs the other way, toward the Pacific side of our country.



The Colorado River flows from the Rocky Mountains through the Grand Canyon toward the Gulf of California.

PICTURE STUDY



The Chasm of the Colorado, Thomas Moran, 1873–1874 · Oil on canvas · Smithsonian American Art Museum, Washington, D.C. (lent by the U.S. Department of the Interior)

In 1873 the painter Thomas Moran traveled with John Wesley Powell's survey to the north rim of the Grand Canyon. He made sketches there and then painted this enormous picture, more than 12 feet wide. In 1874 the United States Congress bought it to hang in the Capitol in Washington.

Moran wanted people back East, who had never seen the West, to feel how huge and wild the canyon was.

Look closely

- Find the storm clouds. What is the weather doing in the canyon?
- Find the colors in the rock walls. How many colors can you name?
- Look for the deepest, darkest part of the canyon. Where might the river be?
- Find something very far away. Does it look big or small?

Talk about it

1. How would you feel standing on the rim of this canyon?
2. Why do you think Congress wanted this painting in the Capitol?
3. What do you think made all those deep cuts in the rock?

PROJECT: CARVE A CANYON IN A SAND TRAY

You will be the Colorado River! With damp sand and a slow stream of water, you will watch water carve a little canyon, just as erosion carved the Grand Canyon.

You will need

- A baking pan, plastic storage bin lid or shallow box lined with a trash bag
- Sand or dirt (enough to fill the pan about 2 inches deep), dampened
- A paper or plastic cup with a small hole poked in the bottom
- A pitcher of water
- A book or block to tilt the pan
- A bucket or towel to catch the water

Steps

1. Work outside or in the bathtub. Pack the damp sand firmly into the pan, smooth and flat on top.
2. If you like, make layers: pack a little dirt, then sand, then dirt, so your canyon walls will have stripes.
3. Set one end of the pan on a book so it tilts gently down.
4. Hold the cup with the hole over the high end and fill it with water. Let it drip and trickle slowly onto the sand.
5. Keep adding water. Watch the water find a path downhill and begin to cut a groove.
6. After a few minutes, look at your canyon. Is it deep or shallow? Can you see layers in the walls?
7. Put a tiny toy or a bean on the rim and look down into the canyon from the side.

Tips

- Slow water works better than fast water. A flood washes everything away; a steady trickle carves a canyon.
- Packed, damp sand holds steep walls better than dry sand.

Check your work

- I can show how moving water carves a channel.
- I can point to the rim and the bottom of my canyon.
- I can explain the word erosion.

MAP NOTEBOOK

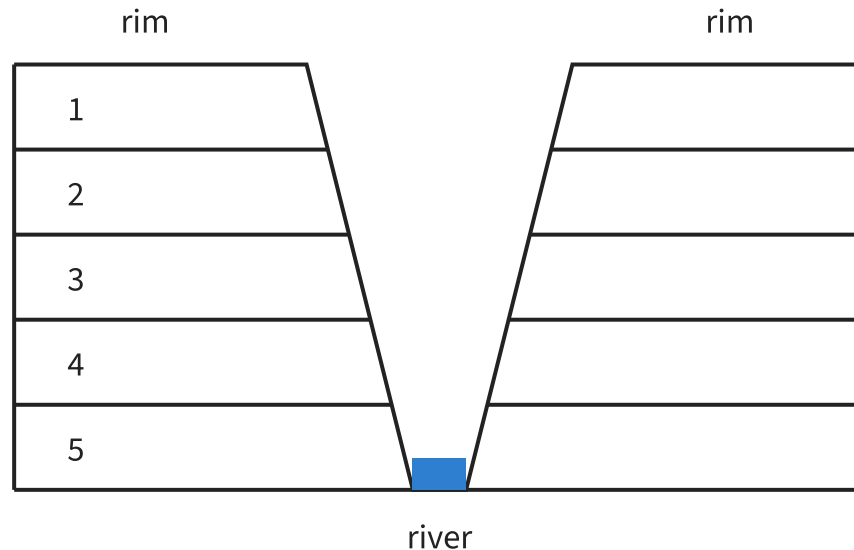
1. Draw the Grand Canyon from the side, like a big V, with stripes of rock and a blue river at the bottom. Label the rim and the river.
2. Draw one of Powell's wooden boats riding through the rapids.
3. Draw a tiny person on the rim and a big rock far below that looks small. Write "Far away looks small."

From history. Of the four men who did not finish Powell's 1869 trip, one left early, near the beginning of the journey. Three more left at a fierce rapid near the end of the canyon, afraid they would drown, and climbed out to walk to safety; they were never seen again.

That rapid is still called Separation Rapid. Two years later Powell made a second trip down the river to make better maps and take photographs.

WORKED EXAMPLES

Example 1. Look at the picture of the canyon wall. How many rock layers can you count? Which is higher, the rim or the river?



The river cut down through the rock layers to make the canyon.

1. Put your finger at the top of the wall, at the rim.
2. Slide your finger down and count each stripe of rock: 1, 2, 3, 4, 5.
3. Your finger ends at the river at the very bottom.
4. The rim is at the top, so the rim is higher than the river.

Answer: There are 5 rock layers. The rim is higher; the river is at the bottom.

PRACTICE

1. **EASY** What river runs through the bottom of the Grand Canyon?
2. **EASY** What do we call the slow wearing away of rock by water?
3. **EASY** Point on the map: In which state is the Grand Canyon?
(Use the map or drawing "Find the Grand Canyon on the Colorado River." shown earlier in this lesson.)
4. **MEDIUM** Powell started with 10 men in his group, counting himself. Only 6 came out at the end of the canyon. How many did not finish the trip?
5. **MEDIUM** Does the Colorado River flow into the Mississippi? Tell where it goes instead.

COMMON MISTAKES

- Thinking the canyon was dug out all at once. The river carved it little by little, by erosion.
- Thinking every big river joins the Mississippi. The Colorado flows the other way, toward the Gulf of California.
- Thinking the river looks big from the rim. From so high up, even a wide river looks like a thin ribbon.

Make it a game • Canyon Echo. Stand on the “rim” (a chair or the top step, with a grown-up close by) and let a partner stand on the “river” at the bottom. The person on the rim calls a word from the lesson: “Colorado!”, “erosion!”, “rapids!”, “Powell!” The person at the river echoes it back and tells what it means. Each right answer earns a pebble. When you have five pebbles, trade places.

Scripture. “He cutteth out rivers among the rocks; and his eye seeth every precious thing.” (Job 28:10, KJV)

When we look into the Grand Canyon, we see how God’s world works: water cutting through rock, layer after layer. Nothing in that great canyon is hidden from His eyes.

Practice answers

1. The Colorado River.
2. Erosion.
3. Arizona.
4. 4 ($10 - 6 = 4$).
5. No. It flows southwest toward Mexico and the Gulf of California.

UNIT 3 REVIEW

This review is worth 20 points. A parent reads each question aloud. The child may answer by speaking, pointing to the map or drawing. Use the map of the Mississippi river system for questions that ask you to point.

1. (3 pts) Where does the Mississippi River begin, and where does it end? Point to both places on the map.
2. (2 pts) Which way does the Mississippi flow: north or south? Why is it bigger at New Orleans than at Lake Itasca?
3. (3 pts) What is a confluence? Name the river that joins the Mississippi from the west and the one that joins from the east.
4. (3 pts) Point on the map to St. Louis. Which river joins the Mississippi near there? What did people call that river?
5. (3 pts) Why could a steamboat go upstream when a flatboat could not?
6. (3 pts) What was Mark Twain's real name? What did the river call "mark twain" mean, and how many feet is that?
7. (3 pts) What river carved the Grand Canyon? Tell how it did it, and name the man with one arm who led the first boat trip through the canyon.

UNIT PROJECT: MY RIVER MODEL AND RIVER MAP

Finish your rain-gutter or foil river model of the Mississippi river system. Label Lake Itasca at the top and the Gulf of Mexico at the bottom, add foil branches for the Missouri (from the west) and the Ohio (from the east), and mark St. Louis, Cairo, Memphis and New Orleans with tape flags. Float a small paper flatboat downstream and push a toy steamboat upstream. Beside the model, show your map notebook page of the river system, colored and labeled, and your sand-tray canyon drawing. Then give a short tour to your family, telling the story of the river from source to sea.

- **Accuracy:** The Mississippi, Missouri and Ohio are in the right places, with the source, the mouth and the two confluences labeled.
- **Hands-on model:** Water runs downhill from the source to the mouth, and the tributaries join the main river.
- **Telling:** The child tells which way the river flows, what a confluence is, and how steamboats went upstream.
- **Care:** The model and map are neat, colorful and easy to read.

Answer key

1. It begins at Lake Itasca in Minnesota and ends at the Gulf of Mexico (below New Orleans). Points to both.
2. South. Many streams and rivers join it along the way.
3. A place where two rivers meet and flow on as one. The Missouri joins from the west; the Ohio joins from the east.

4. The Missouri, called the "Big Muddy."
5. A steam engine turned a paddle wheel that pushed the steamboat against the current. A flatboat could only float with the current.
6. Samuel Clemens. Two fathoms deep, which is 12 feet ($6 + 6$).
7. The Colorado River. Its water and sand wore away the rock little by little (erosion). John Wesley Powell, in 1869.

MOUNTAINS AND PLAINS

Our country has mountains on both sides and wide, open land in between. On the east side stand the Appalachian Mountains, old and low and rounded, covered with trees. On the west side rise the Rocky Mountains, tall and steep and capped with snow. In between lie the Great Plains, a sea of grass under a huge sky, where millions of bison once roamed. In this unit you will cross the country from east to west and learn how each of these lands looks and why.

You will walk with Daniel Boone through the Cumberland Gap in 1775, ride with Stephen Long across the grass he wrongly called a desert, see Pikes Peak rise like a blue cloud before Zebulon Pike, and follow Jedediah Smith's trappers as Crow people show them the way to South Pass. In every story you will ask the traveler's question: **where is the easiest way through?** At the end you will build the whole country in salt dough, from the Atlantic to the Pacific.

God set the mountains and the plains in their places and gave each land its gifts: forests in the Appalachians, grass and grain on the plains, snow and rivers in the Rockies. As the series verse says, He "hath made of one blood all nations of men for to dwell on all the face of the earth, and hath determined the times before appointed, and the bounds of their habitation;" (Acts 17:26).

BEFORE YOU BEGIN

- Can find the United States, the Atlantic Ocean and the Pacific Ocean on a map (Unit 1)
- Knows north, south, east and west on a compass rose
- Can find the Mississippi and Missouri rivers on a map (Unit 3)
- Can count to 100 and add and subtract small numbers

MASTERY CHECKLIST

- I can point to the Appalachian Mountains, the Great Plains and the Rocky Mountains on a U.S. map and put them in order from east to west.
- I can tell why the Appalachians are low and rounded and the Rockies are tall and pointy.
- I can tell what the Great Plains look like and how the bison was saved.
- I can explain the Continental Divide and which way the water flows on each side.
- I can tell what a gap or pass is and how Daniel Boone and Jedediah Smith's trappers found a way through the mountains.

OPTIONAL BOOKS AND RESOURCES

- **Cumberland Gap National Historical Park (National Park Service)**
(<https://www.nps.gov/cuga/>): Free. Photos of the gap and the restored Wilderness Road trail for Lesson 4.1. A parent can show pictures of where three states meet.

- **Rocky Mountain National Park (National Park Service)**
(<https://www.nps.gov/romo/>): Free. Photos of high peaks, the tree line and mountain animals for Lesson 4.3. The park's Trail Ridge Road crosses the Continental Divide.
- **Oregon National Historic Trail (National Park Service)**
(<https://www.nps.gov/oreg/>): Free. Maps and pictures of the wagon trail, including South Pass, for Lesson 4.4 and a look ahead to Unit 7.

4.1 THE APPALACHIANS ★

OBJECTIVES

- Point to the Appalachian Mountains on a map and tell why their tops are low and rounded.
- Tell how Daniel Boone and his axmen marked a road through the Cumberland Gap in 1775.
- Say what a gap is and why travelers look for one.

Warm-up. Lay a bath towel flat on the floor. Push the two ends slowly toward each other until the towel wrinkles up into long, side-by-side ridges. Those ridges look like the Appalachian Mountains from an airplane. Now press one ridge down low in the middle. That low place is a gap. Walk two fingers over a tall ridge, then walk them through the gap. Which way is easier?

Video. Coming soon. Short, kid-friendly clips (under 8 minutes) of the Appalachian Mountains, the Great Smoky Mountains and the Cumberland Gap: search Smithsonian, Drive Thru History (Daniel Boone and the Wilderness Road), Homeschool Pop (Alternate) for mountains and landforms, and the National Park Service for Cumberland Gap National Historical Park (candidate, needs vetting); a picture-book read-aloud about Daniel Boone (Brightly-style read-aloud, candidate, needs vetting). Preview first.

KEY TERMS

mountain range

A long line of mountains joined together, like beads on a string.

Appalachian Mountains

Old, low, rounded mountains in the eastern part of our country.

gap

A low place in a line of mountains where people and animals can walk through.

pioneer

A settler who goes ahead into a new land to make a home there.

CORE IDEAS

The story. In March of 1775, Daniel Boone set out with about thirty men. They carried axes and rifles. They were going to Kentucky, a land of thick forests and green meadows. But a long wall of mountains stood in the way: the **Appalachian Mountains**. Boone knew a door in that wall. He had walked through it before, in 1769. It was a low notch in the mountains called the **Cumberland Gap**. Boone's men chopped trees and marked a trail all the way to the Kentucky River. There they built a fort called Boonesborough. Their trail came to be called the **Wilderness Road**.

An old path. Boone did not find an empty land. Bison and deer had worn a path through the gap long before. Shawnee and Cherokee hunters used it too, and Kentucky was their hunting ground. Many of them did not want settlers to come, and in the years after Boone's road there was hard fighting on both sides. Still the settlers kept coming. Whole families walked through the gap, leading horses and cows. In 1792 Kentucky became a state.

The big idea. The Appalachians are very old mountains. For a long, long time, rain, wind and ice have rubbed them down, the way a creek smooths a rock. So their tops are low and round, and trees grow all the way to the top. The highest one, Mount Mitchell in North Carolina, is about 6,700 feet tall. That is high, but many Rocky Mountains in the West are about twice as tall. A **gap** is a low place between mountains. Travelers always look for a gap, because walking through is much easier than climbing over.

On the map. Find the Appalachians on the map. They run like a long fence from Alabama and Georgia in the south, up through Pennsylvania and New York, and on through New England into Canada. Some parts have their own names, like the Blue Ridge and the Great Smoky Mountains, which look smoky blue from far away. The Cumberland Gap is where three states meet: Virginia, Kentucky and Tennessee. Put your finger there. That was Boone's door to the West.



The Appalachian Mountains run from the South up into Canada. Boone's Wilderness Road went through the Cumberland Gap into Kentucky.

PICTURE STUDY



Daniel Boone Escorting Settlers through the Cumberland Gap, George Caleb Bingham, 1851-52 · Oil on canvas · Mildred Lane Kemper Art Museum, Washington University in St. Louis

George Caleb Bingham grew up in Missouri, the same state where Daniel Boone spent his last years. Bingham painted this picture about seventy-five years after Boone's trip, so he had to imagine the scene. He shows Boone leading a little band of settlers through the Cumberland Gap, with his wife Rebecca riding beside him on a white horse.

Look closely

- Find Daniel Boone. What is he carrying? Which way is he walking?
- Find the woman on the white horse. Why do you think the painter made her so bright?
- Look at the rocks and the broken trees on each side. Is this an easy road or a hard road?
- Look at the sky ahead of the travelers. Is it dark or light?

Talk about it

1. Why did these families walk through the gap instead of climbing over the mountains?
2. What would you want to bring with you on a trip through the mountains to a new home?

PROJECT: OLD MOUNTAINS AND A SECRET GAP

You will make a pointy mountain and turn it into an old, rounded mountain, just as rain and wind did to the Appalachians. Then you will build a ridge of mountains with a gap and lead a little pioneer through it.

You will need

- A lump of play dough or modeling clay the size of a tennis ball
- A small bowl of water
- A bath towel
- A button, bead or small toy person to be Daniel Boone
- A paper plate

Steps

1. On the paper plate, shape the dough into a tall, pointy mountain with a sharp top.
2. Dip your fingers in the water. Be the rain and the wind. Rub the top and sides of the mountain gently for one whole minute.
3. Look at it now. Is the top still sharp? It has become low and rounded, like the Appalachians.
4. Now push the towel into long ridges on the floor, as in the warm-up. Make at least three ridges side by side.
5. Press one place down low in the ridge closest to you. That is your Cumberland Gap.
6. Put Boone on the east side of the ridges (your right side if north is away from you). Walk him west through the gap to Kentucky.

Tips

- If your dough is dry, add a drop more water so it smooths nicely.
- Lay a sheet of paper with an arrow and the letter N above the towel so you always know which way is north.

Check your work

- I can show why old mountains are rounded.
- I can show what a gap is.
- I can walk Boone west through the gap.

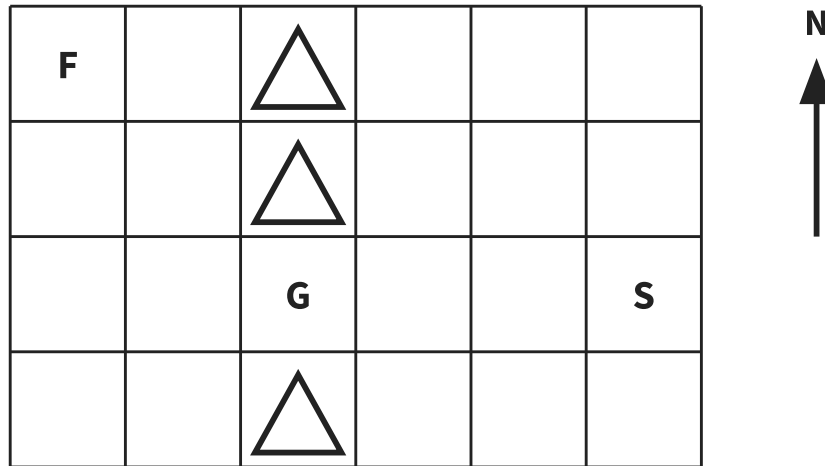
MAP NOTEBOOK

1. Draw a row of low, rounded mountains with trees all the way to the top. Label it "Appalachian Mountains."
2. Draw a gap between two mountains with a little path going through it. Write "Cumberland Gap."
3. Draw Daniel Boone with his ax or his rifle, walking west.

From history. The Cumberland Gap got its name from Dr. Thomas Walker, a Virginia explorer who passed through it in 1750 and named a river nearby the Cumberland, after an English prince, the Duke of Cumberland. For many years a busy highway ran right through the gap. In 1996 a tunnel was opened under the mountain for the cars and trucks, and the old road through the gap was made back into a quiet trail, so today you can walk where Boone walked.

WORKED EXAMPLES

Example 1. Look at the picture map. Daniel Boone starts at S. He walks west to the gap G. How many squares does he walk?



S = start G = gap F = fort ▲ = mountains

Boone starts at S, goes west through the gap G, and heads for the fort F.

1. Find the arrow marked N. North is up, so west is to the left.
2. Put your finger on S.
3. Move your finger one square to the left and say “one.” Keep going: “two,” “three.”
4. Now your finger is on G, the open square between the mountains.

Answer: 3 squares west.

PRACTICE

1. **EASY** Point to the Appalachian Mountains on the map. Are they in the east or the west of our country?
(Use the map or drawing “The Appalachian Mountains.” shown earlier in this lesson.)
2. **EASY** On the picture map, start at the gap G. Walk 2 squares west, then 2 squares north. Where are you? How many squares did you walk in all?
(Use the map or drawing “From the gap to the fort.” shown earlier in this lesson.)
3. **MEDIUM** Draw one old, rounded mountain and one young, pointy mountain. Point to the one that is like the Appalachians.
4. **MEDIUM** Three states meet at the Cumberland Gap. Can you name them? (A parent may help by reading the map.)

5. **HARD** Boone's men marked the Wilderness Road in 1775. Kentucky became a state in 1792. How many years later was that?

COMMON MISTAKES

- Thinking all mountains are tall and pointy. Old mountains like the Appalachians are low and rounded.
- Thinking a gap is a hole through a mountain. A gap is a low place between mountains, open to the sky.
- Thinking Kentucky was empty before the settlers came. Shawnee and Cherokee people hunted there, and bison had already worn a path through the gap.

Make it a game • Find the Gap. A parent builds a “mountain wall” of pillows and couch cushions across the room, high everywhere except for one low place. The child is Daniel Boone and must get to “Kentucky” on the other side without climbing over the tall parts. Each round, the parent moves the gap to a new spot while Boone covers his eyes. Count how many seconds it takes to find the gap and get through.

Scripture. “I will lift up mine eyes unto the hills, from whence cometh my help.” (Psalm 121:1, KJV)

The pioneers looked up at the hills every day of their journey. The next verse tells us where our help really comes from: from the Lord, which made heaven and earth.

Practice answers

1. The east.
2. At the fort F. 4 squares in all.
3. The rounded one.
4. Virginia, Kentucky and Tennessee.
5. 17 years later ($1792 - 1775 = 17$).

4.2 THE GREAT PLAINS

OBJECTIVES

- Point to the Great Plains on a map and tell what they look like: grass as far as you can see and few trees.
- Tell about the bison: how big it is, how Plains peoples used it, and how it was saved.
- Explain why Stephen Long was wrong to call the plains a desert.

Warm-up. Look out a window as far as you can. What stops your eyes: trees, houses, hills? Now lay a sheet of green paper flat on the table. Put your chin right on the table and look across the paper. Nothing stops your eyes! That is how the Great Plains look: grass and sky, as far as you can see.

Video. Coming soon. Short, kid-friendly footage (under 8 minutes) of bison herds and prairie grasslands: search Smithsonian, SciShow Kids (bison), Homeschool Pop (Alternate) for plains and grasslands, and the National Park Service for bison at Yellowstone or Theodore Roosevelt National Park (candidate, needs vetting); a picture-book read-aloud about the prairie or the American bison (Brightly-style read-aloud, candidate, needs vetting). Preview first.

KEY TERMS

plain

Wide land that is flat or gently rolling, with few hills.

prairie

A plain covered with tall or short grass and wildflowers, with very few trees.

bison

A big, shaggy wild animal of the plains, also called a buffalo.

herd

A big group of animals that live and move together.

CORE IDEAS

The story. In the summer of 1820, an army officer named Stephen Long led a small band of explorers west across the middle of our country. They rode for weeks. They saw grass, grass and more grass, and hardly a tree. There was little wood for fires and not much water in the hot summer. When they came home, the explorers said this land was a great desert where farmers could never live. For many years after, maps and schoolbooks called the plains the “Great American Desert.”

The big idea. Long was wrong about farming. The **Great Plains** are not a desert. They are a **plain**: wide land that is flat or gently rolling, covered with grass. Not much rain falls there, so few trees grow. But grass grows well, and its roots go down deep and hold the soil tight.

Later, farmers learned to grow wheat and raise cattle there, and today the plains help feed our whole country. The plains also climb, so slowly that you cannot feel it. By the time you reach the Rocky Mountains, the land is about a mile high.

The bison. The king of the plains was the **bison**, also called the buffalo. A big bull can stand about 6 feet tall at the shoulder and weigh nearly as much as a small car. Once, millions of bison moved across the plains in huge **herds**. Plains peoples hunted them for meat, warm robes and tipi covers. But in the 1870s and 1880s, hunters shot bison by the millions, mostly for their hides, until only a few hundred wild bison were left. Some people worked hard to save them. In 1907, fifteen bison rode a train from the Bronx Zoo in New York to a new home in Oklahoma to start a new herd. Today there are many bison again.

On the map. Find the Great Plains on the map. They lie in the middle of our country, east of the Rocky Mountains. They stretch from Texas in the south all the way north into Canada. Kansas, Nebraska, North Dakota and South Dakota are plains states. Put your finger on the Great Plains, then slide it west until you bump into the Rockies.



Mountains and plains of our country: the Appalachians in the east, the Great Plains in the middle and the Rocky Mountains in the west.

PICTURE STUDY



Emigrants Crossing the Plains, Albert Bierstadt, 1867 · Oil on canvas · National Cowboy & Western Heritage Museum, Oklahoma City

Albert Bierstadt was born in Germany and came to America as a baby. When he grew up, he rode west in 1859 and filled his sketchbooks with mountains, plains and travelers. Back in his studio in the East, he turned his sketches into big, glowing paintings. Here a wagon train of emigrants, families moving to a new home far away, rolls across the plains toward the setting sun.

Look closely

- Find the covered wagons. How many can you count?
- Find the animals. Which ones are pulling the wagons? Which ones are walking along?
- Look at the land. Is it bumpy with mountains or wide and open?
- Look at the sky. The sun sets in the west. Which way are the travelers going?

Talk about it

1. Why do you think Bierstadt painted the sky so bright and golden?
2. If you were in one of these wagons, what would you see when you looked out? What would you hear?
3. Where would the travelers find wood for a fire on the plains?

PROJECT: A PRAIRIE IN A PAN

You will grow your own little prairie and watch how grass roots reach deep into the soil. Then you will make a bison to live on it.

You will need

- A shallow pan, foil tray or clear plastic box
- Potting soil
- Grass seed or wheat berries (wheat berries sprout fast and are the grain plains farmers grow)
- A cup of water
- Brown play dough or clay for a bison

Steps

1. Fill the pan with soil about two fingers deep.
2. Sprinkle the seeds thickly over the top, like rain. Press them down gently with your hand.
3. Sprinkle a thin layer of soil over the seeds and water them until the soil is damp, not soggy.
4. Set the pan in a sunny window. Water it a little each day.
5. While you wait, make a bison from the dough: a big hump on the shoulders, a big shaggy head, short horns and a little tail.
6. When your grass is tall, set the bison on your prairie. After about two weeks, gently pull up one clump at the edge. Look at the roots!

Tips

- Wheat berries often sprout in just a few days. Grass seed may take a week or more.
- A clear box lets you see the roots growing down along the sides.

Check your work

- I can tell what grows on the Great Plains.
- I can show why grass roots hold the soil tight.
- I can make a bison and tell one way Plains peoples used it.

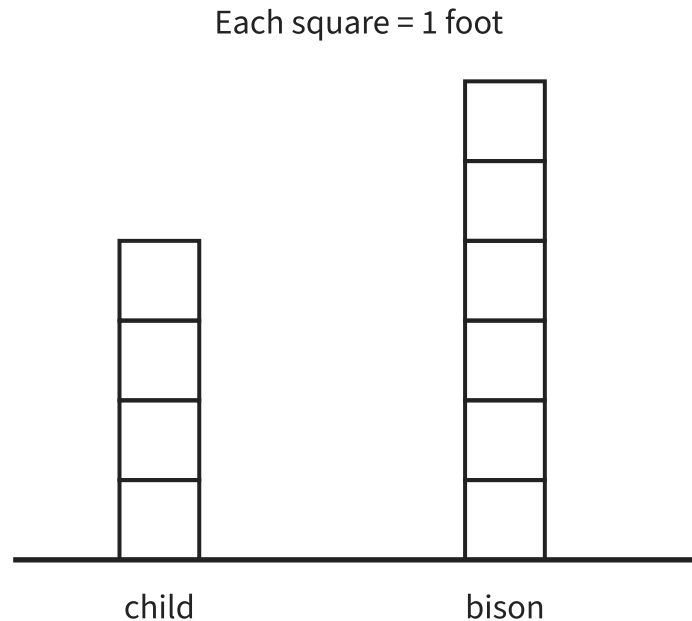
MAP NOTEBOOK

1. Draw a long, flat line across your page. Above it draw a huge sky. Below it draw grass and one bison. Label it "Great Plains."
2. Draw a bison and label its hump, horns and shaggy coat.
3. Draw three things Plains peoples made from the bison.

From history. In 1905, a zookeeper named William Hornaday and his friends started the American Bison Society to save the bison from dying out, and President Theodore Roosevelt helped them. Their work, and the little herd kept safe in Yellowstone National Park, saved the bison. In 2016 the bison was named the national mammal of the United States, so now it stands beside the bald eagle as a symbol of our country.

WORKED EXAMPLES

Example 1. Which is taller at the shoulder, a big bison bull or a second grader? How much taller? Each square in the picture is 1 foot.



Each square is 1 foot. A second grader is about 4 feet tall; a big bison bull stands about 6 feet tall at the shoulder.

1. Count the squares in the child's tower: 1, 2, 3, 4. The child is about 4 feet tall.
2. Count the squares in the bison's tower: 1, 2, 3, 4, 5, 6. The bison is about 6 feet tall at the shoulder.
3. 6 is more than 4, so the bison is taller.
4. Count the extra squares on top of the bison's tower: 5, 6. That is 2 squares. $6 - 4 = 2$.

Answer: The bison is taller, by about 2 feet.

PRACTICE

1. **EASY** Point to the Great Plains on the map. Are they east or west of the Rocky Mountains?
(Use the map or drawing "Mountains and plains." shown earlier in this lesson.)
2. **EASY** Tell two things you would see on the Great Plains.
3. **MEDIUM** In 1907, fifteen bison rode the train to Oklahoma. Draw 15 little bison in rows of 5. How many rows did you make?
4. **MEDIUM** Why do so few trees grow on the Great Plains?

5. **CHALLENGE** Stephen Long crossed the plains in 1820. The bison rode the train in 1907. How many years apart is that?

COMMON MISTAKES

- Thinking the plains are a desert. They are a grassland. Not much rain falls, but grass grows well and farmers grow wheat there.
- Thinking plains are perfectly flat like a table. Many parts roll gently up and down like long, low waves, and the whole plain climbs slowly toward the mountains.
- Thinking a buffalo and a bison are two different animals. In America they are the same animal; scientists call it the bison.

Make it a game • Follow the Herd. One person is the lead bison and walks slowly around the room, the “prairie,” grazing, stomping, rolling in the dust or shaking a shaggy head. Everyone else is the herd and must copy every move. When the leader calls “Storm!” the whole herd bunches up close and turns to face the wind, because bison often face right into a winter storm. Take turns being the leader.

Scripture. “He causeth the grass to grow for the cattle, and herb for the service of man: that he may bring forth food out of the earth;” (Psalm 104:14, KJV)

God made the grass of the plains to feed great herds of bison, and later the same land grew wheat for bread. Every sea of grass is a gift from His hand.

Practice answers

1. East of the Rocky Mountains.
2. Any two: lots of grass, a big sky, very few trees, flat or gently rolling land, bison, prairie dogs, wildflowers, wheat fields, cattle.
3. 3 rows ($5 + 5 + 5 = 15$).
4. Not much rain falls there. Grass can grow with less rain than trees need. (Also accept: strong winds, or prairie fires that burn young trees.)
5. 87 years ($1907 - 1820 = 87$).

4.3 THE ROCKY MOUNTAINS

OBJECTIVES

- Point to the Rocky Mountains on a map and tell how they are different from the Appalachians.
- Explain the Continental Divide: rain on one side flows east, and rain on the other side flows west.
- Tell the story of Zebulon Pike and Pikes Peak.

Warm-up. Fold a sheet of paper in half the long way and stand it up on the table like a little tent or a roof. Drip a few drops of water right on the top fold. Watch closely: some drops run down one side, and some run down the other. Today we will learn about a “roof” as big as our whole country.

Video. Coming soon. Short, kid-friendly clips (under 8 minutes) of the Rocky Mountains, mountain animals and the Continental Divide: search Smithsonian, NASA (views of the Rockies from space), Homeschool Pop (Alternate) for mountains and landforms, the National Park Service for Rocky Mountain National Park (candidate, needs vetting) and USGS (candidate, needs vetting) for a simple animation of a watershed or divide. Preview first.

KEY TERMS

Rocky Mountains

High, steep, pointy mountains that run down the western part of our country.

peak

The pointed top of a mountain.

Continental Divide

The high line along the Rocky Mountains where rain and snow split: on one side the water flows toward the Atlantic side of the country, on the other side toward the Pacific.

tree line

The place high on a mountain where it gets too cold and windy for trees to grow.

CORE IDEAS

The story. In November of 1806, an army officer named Zebulon Pike was exploring the plains with a small band of soldiers. One afternoon he saw something far away to the west. It looked like a little blue cloud. It was a mountain! Pike and a few of his men set out for it, but deep snow and cold turned them back, and they never reached the top. Pike thought no one ever could. He was wrong. In 1820 a young scientist named Edwin James climbed all the way up. Today we call that mountain **Pikes Peak**.

The big idea. Pikes Peak is part of the **Rocky Mountains**, a long chain of high mountains in the West. They run from New Mexico up through Colorado, Wyoming and Montana and far into Canada. People call them the backbone of the continent, because they run down the land like the bones down your back. The Rockies are not low and rounded like the Appalachians. They are tall, steep and pointy. Many peaks are more than 14,000 feet high, so high that snow stays on top much of the year and trees cannot grow near the top. The highest is Mount Elbert in Colorado.

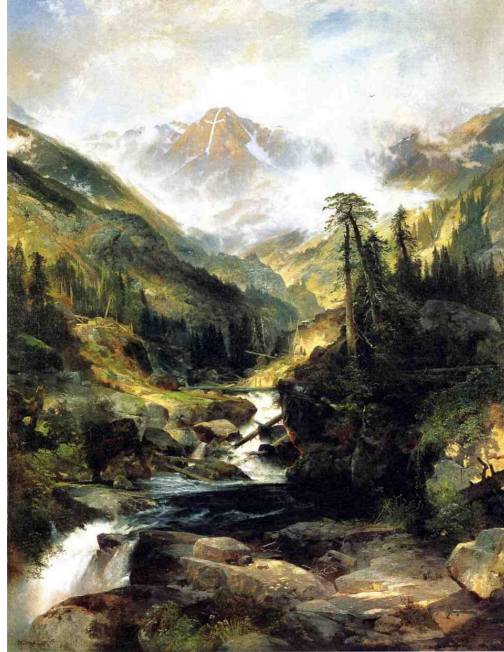
The Continental Divide. High along the Rockies runs a line you cannot see, called the **Continental Divide**. It is like the top of a roof. Rain or snow that falls on the east side runs downhill into streams that flow east, into rivers like the Missouri, then the Mississippi, and on to the Gulf of Mexico. Rain or snow on the west side runs into rivers like the Colorado and the Columbia, which flow west toward the Pacific Ocean. Two snowflakes can land side by side and end up in different oceans!

On the map. Find the Great Plains. Slide your finger west until you bump into the Rocky Mountains. Find Pikes Peak in Colorado, right at the edge where the plains meet the mountains. Then trace the Missouri River. It begins high in the Rockies and carries the melted snow of the east side all the way down to the Mississippi.



Pikes Peak stands right where the Great Plains meet the Rocky Mountains.

PICTURE STUDY



The Mountain of the Holy Cross, Thomas Moran, 1875 · Oil on canvas · Autry Museum of the American West, Los Angeles

Thomas Moran was born in England and came to America as a boy. He loved to paint the wild places of the West. The Mount of the Holy Cross is a real mountain in the Rocky Mountains of Colorado, more than 14,000 feet tall. On its side are two long, deep cracks, one up and down and one across. When they fill with snow, they make a giant white cross. The photographer William Henry Jackson took the first photograph of it in 1873, and Moran's painting helped make it famous.

Look closely

- Find the white cross on the mountain. What is it made of?
- Find the water. Is it still like a pond or rushing like a stream?
- Look at the top of the mountain. Do you see trees up there? Why not?
- Look at the rocks in front. Are they rounded or sharp and broken?

Talk about it

1. How is this mountain different from the rounded Appalachians?
2. When people saw the snowy cross, many thought of Jesus. What does the cross remind you of?

PROJECT: A CONTINENTAL DIVIDE ON THE TABLE

You will build a mountain range out of foil, mark the Continental Divide on its top, and make it rain to see which way the water goes.

You will need

- A baking sheet or a shallow plastic tub
- 3 or 4 cups or small bowls turned upside down
- A large sheet of aluminum foil
- A spray bottle of water with a drop of blue food coloring
- A crayon or a strip of tape
- Two sticky notes

Steps

1. Line up the upside-down cups in a row down the middle of the baking sheet, from top to bottom. These are the Rocky Mountains.
2. Crumple the foil a little, then open it and lay it over the cups. Press it down around them to make peaks and valleys. Press the edges flat on the pan.
3. Find the highest line along the tops of your mountains. Mark it with the crayon or a strip of tape. That is your Continental Divide.
4. Put a sticky note on the left edge of the pan that says “West: to the Pacific.” Put one on the right edge that says “East: to the Gulf of Mexico.”
5. Make it rain! Spray the water over the mountains. Watch where the blue water goes.
6. Spray just a little right on top of the divide. Does some water go each way?

Tips

- Keep the foil crinkly; the little wrinkles make streams and rivers.
- Do this on a towel or outside, because rain can be messy.

Check your work

- I can point to the Continental Divide on my model.
- I can tell which way water flows on each side of the divide.

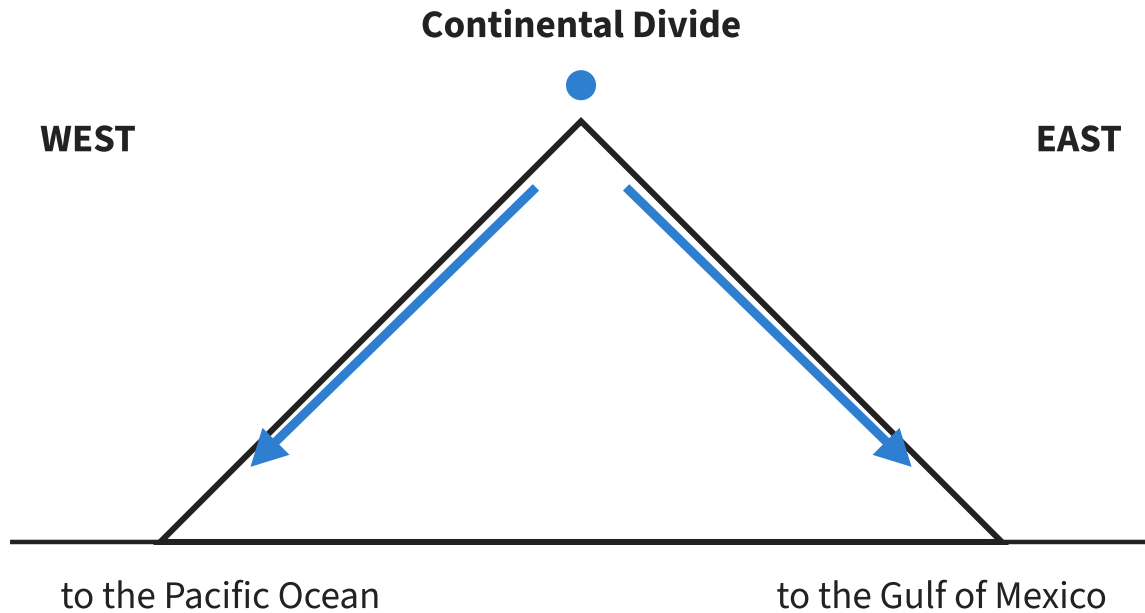
MAP NOTEBOOK

1. Draw a row of tall, pointy mountains with snow on top. Label them “Rocky Mountains.”
2. Draw one mountain with a raindrop on top and two arrows, one going down each side. Write “West” on the left side and “East” on the right side.
3. Draw Zebulon Pike looking at a far-off blue mountain.

From history. In the summer of 1893, a teacher named Katharine Lee Bates rode up to the top of Pikes Peak. She looked east across the Great Plains, all golden with grain, and at the mountains all around. The view filled her with such wonder that she wrote a poem about it, which became the song “America the Beautiful.” Its words about “purple mountain majesties” above “the fruited plain” describe the very mountains and plains you are learning about.

WORKED EXAMPLES

Example 1. A raindrop falls on the east side of the Continental Divide. Which way does it flow, and where does it end up?



The Continental Divide is like the top of a roof. Water on each side runs a different way.

1. Look at the picture. West is on the left and east is on the right.
2. Find the top of the mountain. That is the Continental Divide.
3. Find the east side. The arrow on that side points down to the right.
4. Water always runs downhill, so the raindrop runs east, into streams, then the Missouri and the Mississippi rivers.

Answer: It flows east and ends up in the Gulf of Mexico.

PRACTICE

1. **EASY** Point to the Rocky Mountains on the map. Are they east or west of the Great Plains?
(Use the map or drawing "The Rocky Mountains and the Great Plains." shown earlier in this lesson.)
2. **EASY** A snowflake melts on the west side of the Continental Divide. Which ocean does its water flow toward?
3. **MEDIUM** Draw a Rocky Mountain next to an Appalachian mountain. Which one is taller and pointier?
4. **MEDIUM** What is the name of the line along the top of the Rockies that splits the rain?
5. **HARD** Pike saw his mountain in 1806. Edwin James climbed to the top in 1820. How many years later was that?

COMMON MISTAKES

- Thinking the Continental Divide is a fence or a painted line. It is the high ridge of the mountains; you cannot see it, but the water can “feel” it.
- Mixing up the Rockies and the Appalachians. The Rockies are in the West and are tall and pointy; the Appalachians are in the East and are low and rounded.
- Thinking Pike climbed Pikes Peak. He tried but turned back. Edwin James was the first person we know of to reach the top, in 1820.

Make it a game · Which Ocean? Choose one end of the room to be the Pacific Ocean (west) and the other end to be the Gulf of Mexico (east). A rope or a line of tape down the middle is the Continental Divide. The child stands on the divide as a raindrop. A parent calls “East side!” or “West side!” and the raindrop hops off that side and runs “downhill” to the right ocean. Then switch: the parent is the raindrop and the child gives the orders.

Scripture. “Before the mountains were brought forth, or ever thou hadst formed the earth and the world, even from everlasting to everlasting, thou art God.” (Psalm 90:2, KJV)

The Rocky Mountains are huge and high, but God is greater still. He was there before the first mountain, and He made every one.

Practice answers

1. West of the Great Plains.
2. The Pacific Ocean.
3. The Rocky Mountain.
4. The Continental Divide.
5. 14 years later ($1820 - 1806 = 14$).

4.4 MOUNTAIN PASSES

OBJECTIVES

- Explain what a mountain pass is and why travelers hunt for one.
- Find South Pass in Wyoming and tell how Crow people showed it to Jedediah Smith's trappers in 1824.
- Build a salt-dough cross-section of our country from east to west.

Warm-up. Build a wall of books or pillows across the floor, high everywhere except one low place. Put a toy car on one side and give it a gentle push toward the wall. Try again from different spots. Where can the car get through? Why is that the best place?

Video. Coming soon. Short, kid-friendly clips (under 8 minutes) about mountain passes, covered wagons and South Pass in Wyoming: search Drive Thru History and The Henry Ford (covered wagons), Smithsonian, Homeschool Pop (Alternate) for westward travel, and the National Park Service for the Oregon National Historic Trail (candidate, needs vetting); a picture-book read-aloud about a wagon-train journey (Brightly-style read-aloud, candidate, needs vetting). Preview first.

KEY TERMS

pass

A low, easier way through a range of mountains.

trapper

A man who caught beavers and other animals for their furs.

emigrant

A person who leaves one home to make a new home far away.

wagon train

A long line of covered wagons traveling together.

CORE IDEAS

The story. In the winter of 1824, a band of fur trappers led by Jedediah Smith was stuck in the Wind River Mountains, in what is now Wyoming. The snow was deep and the wind was bitter. The trappers wanted to get to the far side of the mountains, where many beavers lived, but they could not climb over the high, icy peaks. So they asked the Crow people for help. The Crow knew every valley of that land. They spread sand on a buffalo robe and shaped a little map of the mountains. They showed the trappers a low, wide way around the south end. In March, Smith's men crossed it. It was **South Pass**.

The big idea. A **pass** is a low place in a range of mountains, a way through. Mountain travelers always hunt for passes, just as Daniel Boone used the Cumberland Gap. Many passes are narrow, steep and rocky. South Pass is different. It is about 20 miles wide, and it

climbs so gently that wagons could roll right over it. Some travelers hardly knew when they had reached the top! Yet it sits more than 7,000 feet high, right on the Continental Divide.

Why it mattered. Because of South Pass, families could take their wagons all the way across the Rockies to Oregon and California. From the 1840s on, many thousands of **emigrants** rolled over it in long **wagon trains**. Just west of the top they came to a spring called Pacific Springs. Its water ran west, toward the Pacific Ocean. Then they knew they had crossed the backbone of the continent.

On the map. Find Wyoming in the middle of the Rocky Mountains. Find the Wind River Range, and South Pass at its south end. Put your finger on Independence Rock and slide it west along the trail, up and over South Pass. You have crossed the Continental Divide!



Wagon trains climbed west from Independence Rock and crossed the Rockies at South Pass, at the south end of the Wind River Range.

PICTURE STUDY



The Rocky Mountains, Lander's Peak, Albert Bierstadt, 1863 · Oil on canvas · Metropolitan Museum of Art, New York

In 1859 Albert Bierstadt rode west with a government party led by Frederick W. Lander, who was building a wagon road through the Wind River country near South Pass. Bierstadt filled his sketchbooks with mountains and people. Back in New York, he painted this huge picture and named the tall peak for Lander. The camp in front is a Shoshone camp, the people who lived and hunted in these mountains.

Look closely

- Find the tallest, snowiest peak. Is it pointy or rounded?
- Find the waterfall. Where do you think its water comes from?
- Find the tipis and the horses. What are the people doing?
- Look from the front of the picture to the back. Can you find a low place where a traveler might get through?

Talk about it

1. Why would travelers look for a pass instead of climbing these mountains?
2. Bierstadt painted the plains in one picture and the mountains in this one. Which place would you rather visit, and why?

Safety first. An adult should run the oven if you bake the salt dough. Salt dough is not food; do not eat it, and keep it away from pets, because so much salt can make a dog very sick.

PROJECT: OUR COUNTRY IN SALT DOUGH: A CROSS-SECTION FROM EAST TO WEST

A cross-section shows land as if you cut it like a cake and looked at the side. You will build the whole country in one long strip of salt dough, from the Atlantic to the Pacific, with every mountain and plain from this unit. Then you will walk a toy wagon across it from east to west.

You will need

- 2 cups flour, 1 cup salt and about 3/4 cup water (makes one batch; make two for a long strip)
- A long strip of stiff cardboard, about as long as your arm
- Paints (blue, green, brown, white and yellow) and a brush
- Toothpicks and small paper flags for labels
- A button or small toy for a wagon

Steps

1. Mix the flour and salt in a bowl. Add the water a little at a time and knead until the dough is smooth, like play dough.
2. Lay the cardboard in front of you. West is on the left and east is on the right, just like a map. We will build from east to west, the way the travelers went.
3. At the right end, leave a strip flat for the Atlantic Ocean. Next to it, press a low, flat strip of dough for the coast.
4. Make the Appalachians: a few low, rounded hills. Pinch one low place for the Cumberland Gap.
5. Press a little groove for the Mississippi River. Then make the Great Plains: a long strip that slowly gets a little higher as it goes west.
6. Make the Rocky Mountains: tall, pointy peaks. Leave one wide, gentle low place for South Pass.
7. West of the Rockies, make some high, dry land, then one more row of tall mountains (the Sierra Nevada), then leave the left end flat for the Pacific Ocean.
8. Let it dry for two or three days, or have an adult bake it at a low heat until hard. Then paint it: blue water, green and yellow plains, brown mountains, white snowy peaks.
9. Stick in flags: Atlantic Ocean, Appalachians, Cumberland Gap, Mississippi River, Great Plains, Rocky Mountains, South Pass, Continental Divide, Pacific Ocean.
10. Walk your wagon from the Atlantic to the Pacific and tell the story of each place you pass.

Tips

- If the dough is sticky, add a spoonful of flour. If it cracks, add a few drops of water.
- Keep the Appalachians low and the Rockies about twice as tall, so your model shows the real difference.
- This is the unit portfolio project, so take your time and do your best work.

Check your work

- My model goes in order from east to west: Atlantic, Appalachians, Mississippi, Great Plains, Rockies, Pacific.
- My Appalachians are low and rounded and my Rockies are tall and pointy.
- I can point to the Cumberland Gap and South Pass and tell who used them.

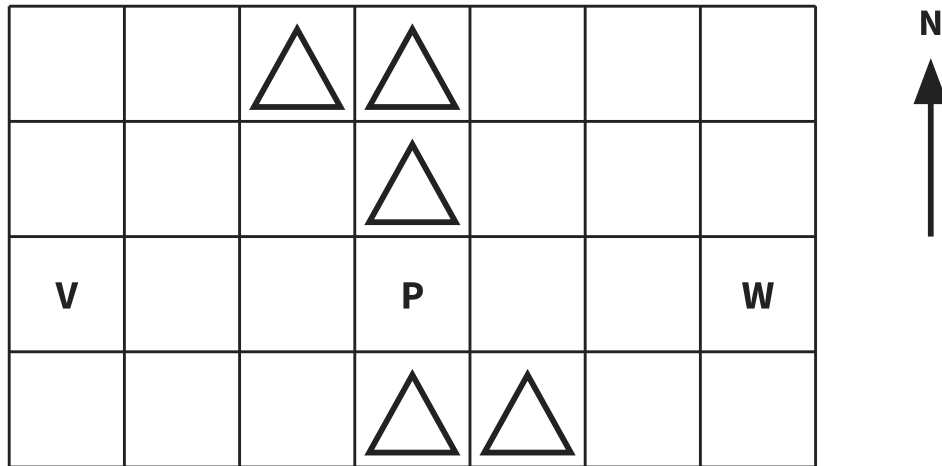
MAP NOTEBOOK

1. Draw a row of tall mountains with a low dip in the middle. Draw a covered wagon going through the dip. Label it "South Pass."
2. Draw the Crow sand map on a buffalo robe: a brown square with little mountain bumps and a path going around them.
3. Draw a long side view of our country from the Atlantic to the Pacific, like your salt-dough model.

From history. Jedediah Smith's men were not the first fur traders to cross South Pass. In 1812, Robert Stuart and a few men carrying news from a fur post on the Pacific coast crossed it going east, but few people heard about it. In 1836, two missionary wives, Narcissa Whitman and Eliza Spalding, rode over South Pass with their husbands on their way to teach and preach in the Oregon country. They were the first white women known to cross the Rocky Mountains, and they showed that whole families could make the trip.

WORKED EXAMPLES

Example 1. The wagon W is going west. It cannot climb over the mountains. Find the pass P and count how many squares the wagon goes to reach it.



W = wagon P = pass V = valley ▲ = mountains

The wagon W must go west through the pass P to reach the valley V.

1. Find the arrow marked N. North is up, so west is to the left.
2. Look down the line of mountains from top to bottom. Find the one square in that line with no mountain. That is the pass P.
3. Put your finger on W and move left one square at a time: “one,” “two,” “three.”
4. Now your finger is on P. The wagon can roll through!

Answer: 3 squares west, to the open square P in the line of mountains.

PRACTICE

1. **EASY** Point to South Pass on the map. Which state is it in?
(Use the map or drawing “South Pass.” shown earlier in this lesson.)
2. **EASY** On the picture map, start at the pass P. Keep going west to the valley V. How many squares is that? How many squares from W to V in all?
(Use the map or drawing “From the pass to the valley.” shown earlier in this lesson.)
3. **EASY** Is a pass a high place or a low place in the mountains?
4. **MEDIUM** Match each traveler to the way through: Daniel Boone, Jedediah Smith’s trappers. The ways: South Pass, Cumberland Gap.
5. **CHALLENGE** Boone marked the Wilderness Road in 1775. Smith’s trappers crossed South Pass in 1824. How many years apart is that?

COMMON MISTAKES

- Thinking a pass goes over the very top of the mountains. A pass is the lowest, easiest way through.
- Thinking South Pass is low. It is lower than the peaks around it, but it is still more than 7,000 feet high.
- Thinking the trappers found the pass by themselves. The Crow people already knew it and showed them the way.

Make it a game · Where Am I? A parent gives clues about one place from this unit, one clue at a time: “I am low and wide. Wagons rolled over me. I am on the Continental Divide.” The child guesses after each clue: the Cumberland Gap, the Great Plains, Pikes Peak, South Pass or the Continental Divide. A right guess after one clue scores 3 points, after two clues 2 points, after three clues 1 point. Then the child gives the clues and the parent guesses.

Scripture. “Every valley shall be exalted, and every mountain and hill shall be made low: and the crooked shall be made straight, and the rough places plain:” (Isaiah 40:4, KJV)

Isaiah tells of a road made ready for the Lord, with the mountains made low. A mountain pass is a little picture of this: God placed in the high Rockies a gentle way through, so families could cross.

Practice answers

1. Wyoming.
2. 3 squares from P to V. 6 squares in all ($3 + 3 = 6$).
3. A low place.
4. Daniel Boone: Cumberland Gap. Jedediah Smith’s trappers: South Pass.
5. 49 years ($1824 - 1775 = 49$).

UNIT 4 REVIEW

A parent reads each question aloud. The child answers out loud, points to a map, or draws. Help with reading as needed. The review is worth 20 points.

1. (3 pts) Point to the Appalachian Mountains on a U.S. map. Are their tops pointy or rounded? Why?
2. (3 pts) How did Daniel Boone and the settlers get through the Appalachian Mountains to Kentucky?
3. (3 pts) Tell two things about the Great Plains.
4. (3 pts) What big, shaggy animal once lived on the plains in huge herds? Tell one way people saved it.
5. (3 pts) Rain falls on the west side of the Continental Divide. Which way does it flow, and toward which ocean?
6. (3 pts) What is a mountain pass? Name the wide pass in Wyoming that the wagon trains used.
7. (2 pts) Put these in order from east to west: Rocky Mountains, Appalachian Mountains, Great Plains.

UNIT PROJECT: OUR COUNTRY IN SALT DOUGH

Build a salt-dough cross-section of the United States from the Atlantic to the Pacific (Lesson 4.4): the coast, the low, rounded Appalachians with the Cumberland Gap, the Mississippi River, the long, slowly rising Great Plains, the tall Rocky Mountains with South Pass, and the Pacific. Paint it and label it with flags. Beside it, show a U.S. map on which you have colored the Appalachians, the Great Plains and the Rockies. Then walk a toy wagon across your model and tell a parent the story of each place.

- **Order:** The lands are in the right order from east to west, with the Atlantic on the east (right) end and the Pacific on the west (left) end.
- **Shapes:** The Appalachians are low and rounded, the plains are long and gently rising, and the Rockies are tall and pointy, with a gap and a pass shown.
- **Labels and map:** Flags name each place correctly, and the U.S. map shows the mountains and plains in the right places.
- **Telling:** The child walks the wagon across and tells about Boone, the bison, the Continental Divide and South Pass in his or her own words.

Answer key

1. They are in the east. Their tops are low and rounded because rain, wind and ice have worn them down for a very long time.
2. Through the Cumberland Gap, a low place in the mountains. In 1775 Boone's men marked the Wilderness Road through it.
3. Any two: lots of grass, few trees, flat or gently rolling, a huge sky, not much rain, bison, wheat farms and cattle, in the middle of the country east of the Rockies.

4. The bison (buffalo). Any one: a herd was kept safe in Yellowstone; small herds were kept safe on ranches and refuges until they grew; people started the American Bison Society; in 1907 fifteen bison rode a train from the Bronx Zoo to Oklahoma to start a new herd.
5. West, toward the Pacific Ocean.
6. A low, easier way through the mountains. South Pass.
7. Appalachian Mountains, Great Plains, Rocky Mountains.

DESERTS, FORESTS AND COASTS

God did not make our country all the same. In the Southwest there are deserts so dry that a whole year brings only a few inches of rain, where saguaro cactus stand like giants and Joshua trees wave their spiky arms. In California the biggest trees in the world grow on the mountainsides, and in the cold North Woods moose wade through the lakes. All along the edges of the land, the sea meets the coast, and in a few special places the land wraps around to make a calm harbor where ships can rest.

In this unit you will walk out of Death Valley with the travelers of 1849, stand with President Lincoln as he protects Yosemite and its giant sequoias, sail through the foggy Golden Gate with the little *San Carlos*, and climb the volcanoes of Hawaii with the missionary Titus Coan. You will build a desert-in-a-box and a forest-in-a-box, make waves in a harbor pan, and grow two kinds of islands in tubs of water. As Moses told Israel, the Lord brings His people “into a good land, a land of brooks of water, of fountains and depths that spring out of valleys and hills” (Deuteronomy 8:7). Each land has its own gifts.

BEFORE YOU BEGIN

- Can find north, south, east and west on a map
- Can find the Pacific and Atlantic Oceans on a map of the United States
- Knows the regions of the country, especially the Southwest, the West and the Northeast (Unit 2)
- Can count and add small numbers

MASTERY CHECKLIST

- I can tell what a desert is and name the Mojave and the Sonoran Deserts.
- I can tell about Death Valley, the lowest place in North America.
- I can describe the giant sequoias and the North Woods and find them on a map.
- I can explain why ships love a sheltered harbor, and find Boston and San Francisco.
- I can tell how a volcano island and a coral island are made, and find Hawaii and the Florida Keys.

OPTIONAL BOOKS AND RESOURCES

- **Death Valley National Park (National Park Service)** (<https://www.nps.gov/deva/>): Free. Photos of Badwater Basin, sand dunes and desert wildflowers to look at together in Lesson 5.1.
- **Sequoia and Kings Canyon National Parks (National Park Service)** (<https://www.nps.gov/seki/>): Free. Photos of the General Sherman Tree and the giant sequoia groves for Lesson 5.2.
- **Hawaii Volcanoes National Park (National Park Service)** (<https://www.nps.gov/havo/>): Free. Photos of Kilauea and Mauna Loa and lava meeting

the sea for Lesson 5.4.

5.1 AMERICAN DESERTS ★

OBJECTIVES

- Tell what a desert is: a place that gets very little rain.
- Find the Mojave Desert, the Sonoran Desert and Death Valley on a map of the Southwest.
- Name one plant and one animal God made to live in the desert, and tell how it finds or saves water.

Warm-up. Get two kitchen sponges. Soak one in water and leave one dry. Squeeze the wet one over a bowl. Where did the water go when it soaked in? Today you will meet a giant cactus that works like a sponge: it drinks up rain when it comes and saves it for the long dry months.

Video. Coming soon. Kid-friendly desert videos under about 8 minutes: a read-aloud of the picture book *Cactus Hotel* by Brenda Z. Guiberson; short footage of saguaros, Joshua trees and Death Valley from Smithsonian or SciShow Kids; National Park Service Death Valley clips (candidate, needs vetting); Homeschool Pop (Alternate) on deserts.

KEY TERMS

desert

A place that gets very little rain, less than about 10 inches in a whole year.

cactus

A desert plant with a thick green stem that stores water and sharp spines instead of leaves.

sea level

The height of the top of the ocean. We measure how high or low land is from there.

CORE IDEAS

The story. In the winter of 1849, some families in covered wagons were heading to California to look for gold. They tried a shortcut. It led them into a deep, dry valley with salt on the ground and bare mountains all around. Their food ran low and the oxen grew weak. Two young men, William Lewis Manly and John Rogers, walked out across the desert to find help. Many days later they came back with food and a little mule, just as they had promised, and led the families out on foot. As the travelers climbed out of the valley, one of them looked back and said good-bye to Death Valley. The name stuck.

The big idea. A **desert** is a place that gets very little rain, less than about 10 inches in a whole year. Death Valley gets only about 2 inches! Most American deserts are in the Southwest. Tall mountains to the west catch the rain clouds blowing in from the Pacific Ocean. The clouds drop their rain on the mountains, and the land on the other side stays dry.

Not every desert is sand dunes. Most of our deserts are rocky, with mountains, dry riverbeds and wide flat valleys.

On the map. Two great deserts lie side by side. The **Mojave Desert** is mostly in California and Nevada. Its special plant is the Joshua tree, with shaggy, spiky arms. Death Valley is in the Mojave. Its lowest spot, Badwater Basin, is 282 feet *below* sea level, the lowest place in North America. In July 1913 a thermometer in Death Valley read 134 degrees! The **Sonoran Desert** is in Arizona, California and Mexico. It is the only place where the giant saguaro cactus grows wild. A saguaro can grow taller than a four-story house. Its folds stretch out like an accordion to store rain, and it may not grow its first arm until it is 50 years old or more.

God's gifts in the desert. The desert is not empty. Gila woodpeckers peck holes in saguaros for nests, and tiny elf owls move in later. Desert tortoises dig burrows to stay cool. Many animals come out at night, when the air is cooler. And after a spring rain, the desert floor can bloom with yellow, orange and purple wildflowers. The prophet Isaiah wrote that the desert shall rejoice and blossom as the rose. God made even the driest land full of life.



The Mojave and Sonoran Deserts. Death Valley is in the Mojave.

PICTURE STUDY



Desert Sand Hills near Sink of Carson, Nevada, Timothy H. O'Sullivan, 1867 · Albumen print photograph from a glass negative · J. Paul Getty Museum, Los Angeles (other prints are held in other collections)

Timothy O'Sullivan was a photographer who traveled with government teams that explored and mapped the West. In 1867 he camped among the sand dunes of the Carson Desert in Nevada, a desert north of the Mojave. In those days a photographer had to make his pictures on glass plates and develop them right away, so O'Sullivan carried a little darkroom with him in a wagon.

Four years later, in 1871, O'Sullivan traveled with another survey team that crossed Death Valley itself. His photographs showed people back East what the dry lands of the West really looked like.

Look closely

- Find the wagon. What is pulling it?
- Look at the sand. Can you see ripples made by the wind? Can you find footprints?
- Is there a single tree in this picture? What does that tell you about the rain here?
- Look far away. What is at the edge of the sand?

Talk about it

1. If you were with O'Sullivan, what would you need to bring in your wagon to stay safe in the desert?
2. How is this desert different from the saguaro desert in our lesson? How is it the same?

PROJECT: DESERT-IN-A-BOX

Build a little Sonoran or Mojave desert in a shoebox. You will add the land, the plants and the animals God made to live there. Keep your box, because in the next lesson you will build a forest-in-a-box to stand beside it.

You will need

- A shoebox or a small baking pan
- Sand or cornmeal, and some small pebbles
- Green clay or play dough
- Toothpicks, broken in half (for cactus spines)
- Brown paper or cardboard for mountains, and yellow paper for the sun
- Small toy animals, or animals you draw and cut out (lizard, tortoise, roadrunner, owl, jackrabbit)
- Glue or tape and crayons

Steps

1. Paint or color the inside back of the box a bright blue sky. Glue on a big yellow sun.
2. Cut brown mountains from paper and tape them along the back.
3. Pour a thin layer of sand over the bottom. Add pebbles so it looks rocky, the way most of our deserts do.
4. Roll a fat green clay snake and stand it up for a saguaro. Add one or two arms. Poke in toothpick spines.
5. Make a Joshua tree from a twig with little bunches of green clay at the ends of its branches.
6. Add your animals. Put one in a burrow made from a scooped-out hole in the sand.
7. Make a small sign: "Mojave" or "Sonoran." Tell your family which desert you made and how your plants save water.

Tips

- Use only a little green. Deserts are mostly brown, tan and gray, with green plants spread far apart.
- Cut a little paper wildflower or two to show the desert after a spring rain.

Check your work

- My desert has very little green and lots of rock and sand.
- I made a cactus that stores water.
- I can tell how one of my desert animals keeps cool.

MAP NOTEBOOK

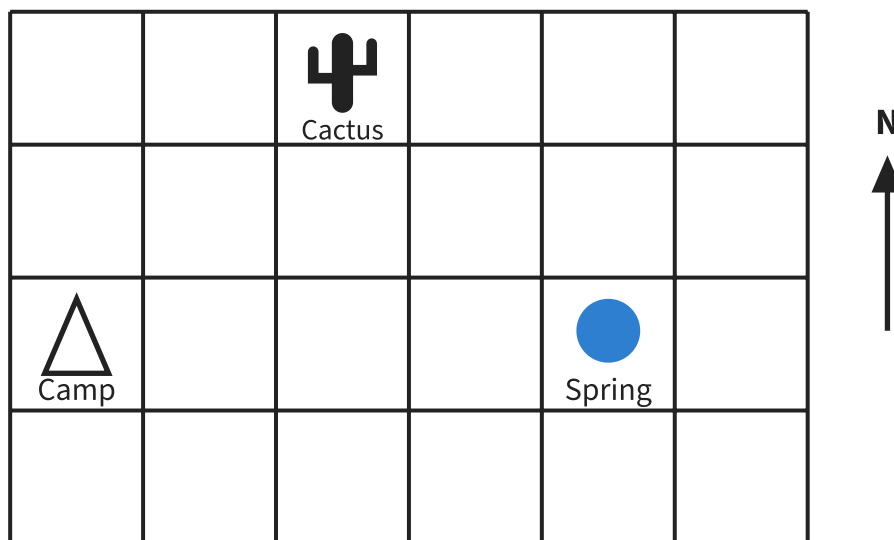
1. Draw a saguaro cactus taller than a house. Draw a Gila woodpecker at its nest hole.

2. Trace a map of California, Nevada and Arizona. Color the Mojave Desert and the Sonoran Desert in two colors and put a dot for Death Valley.
3. Draw a rain cloud stopping at a mountain. Draw rain on one side and a dry desert on the other side.

From history. In the 1880s, workers dug borax, a white mineral used for cleaning and making things, from the floor of Death Valley. Big wagons pulled by teams of twenty mules (really eighteen mules and two horses) hauled it about 165 miles across the desert to the railroad at the town of Mojave. The trip took about ten days each way, and a big water tank rode along behind so the animals could drink.

WORKED EXAMPLES

Example 1. Look at the desert camp map. North is up. How many squares do you walk east to get from the camp to the spring?



A desert camp map. Each square is one step on the map.

1. Find the arrow marked N. North is up, so east is to the right.
2. Put your finger on the tent. That is the camp.
3. Slide your finger to the right, one square at a time, and count: 1, 2, 3, 4.
4. Your finger lands on the blue spring.

Answer: 4 squares east.

PRACTICE

1. **EASY** Does a desert get lots of rain or very little rain?
2. **EASY** Match each plant to its desert: saguaro cactus, Joshua tree. Deserts: Mojave, Sonoran.
3. **MEDIUM** On the deserts map, point to Death Valley. Which desert is it in?
(Use the map or drawing "Find Death Valley." shown earlier in this lesson.)
4. **MEDIUM** On the desert camp map, walk from the camp to the cactus. How many squares east? How many squares north?
(Use the map or drawing "Walk from the tent to the cactus." shown earlier in this lesson.)
5. **HARD** Death Valley gets about 2 inches of rain in a year. A rainy town might get 40 inches. How many more inches does the rainy town get?

COMMON MISTAKES

- Thinking every desert is sand dunes. Most American deserts are rocky, with mountains and dry, flat valleys.
- Thinking deserts are always hot. Desert nights can be cold, and snow can fall on desert mountains in winter. A desert is dry, not always hot.
- Thinking the desert is empty. Cactus, Joshua trees, tortoises, owls, lizards and wildflowers all live there.

Make it a game • Desert or Not?. A parent calls out things: saguaro, moose, lizard, snow sled, Joshua tree, canoe, tortoise, roadrunner, umbrella. If it belongs in the desert, crawl low like a lizard. If it does not, stand tall and freeze. Get it right and you score a point. Five points wins.

Scripture. "The wilderness and the solitary place shall be glad for them; and the desert shall rejoice, and blossom as the rose." (Isaiah 35:1, KJV)

A desert looks empty and dry, but God can make it bloom. After a spring rain, the Mojave and Sonoran Deserts are covered with flowers, a little picture of how God brings life where we least expect it.

Practice answers

1. Very little rain (less than about 10 inches a year).
2. Saguaro cactus: Sonoran. Joshua tree: Mojave.
3. The Mojave Desert.
4. 2 squares east and 2 squares north.
5. 38 inches more ($40 - 2 = 38$).

5.2 FORESTS

OBJECTIVES

- Tell what a forest is and why forests grow where there is plenty of rain.
- Describe the giant sequoias of California and find them on a map.
- Find the North Woods on a map and name three animals that live there.

Warm-up. Hold your arms out wide and have someone measure from fingertip to fingertip with a tape measure or string. Write the number down. In this lesson you will find out how many children holding hands it would take to reach around the biggest tree in the world.

Video. Coming soon. Kid-friendly forest videos under about 8 minutes: a read-aloud of *Redwoods* by Jason Chin or *A Log's Life* by Wendy Pfeffer; short giant sequoia footage (General Sherman Tree, Mariposa Grove) from Smithsonian or National Park Service (candidate, needs vetting); North Woods moose, loon and beaver clips from SciShow Kids or National Geographic Kids (candidate, needs vetting); Homeschool Pop (Alternate) on forests.

KEY TERMS

forest

A large piece of land covered with many trees growing close together.

evergreen

A tree that stays green all year, like a pine, spruce or sequoia. It has needles or scales instead of wide leaves.

giant sequoia

A huge evergreen tree that grows wild only in the Sierra Nevada mountains of California. It is the biggest kind of tree in the world.

North Woods

The great cold forests of pine, spruce and birch in the far north of states like Minnesota, Wisconsin, Michigan and Maine.

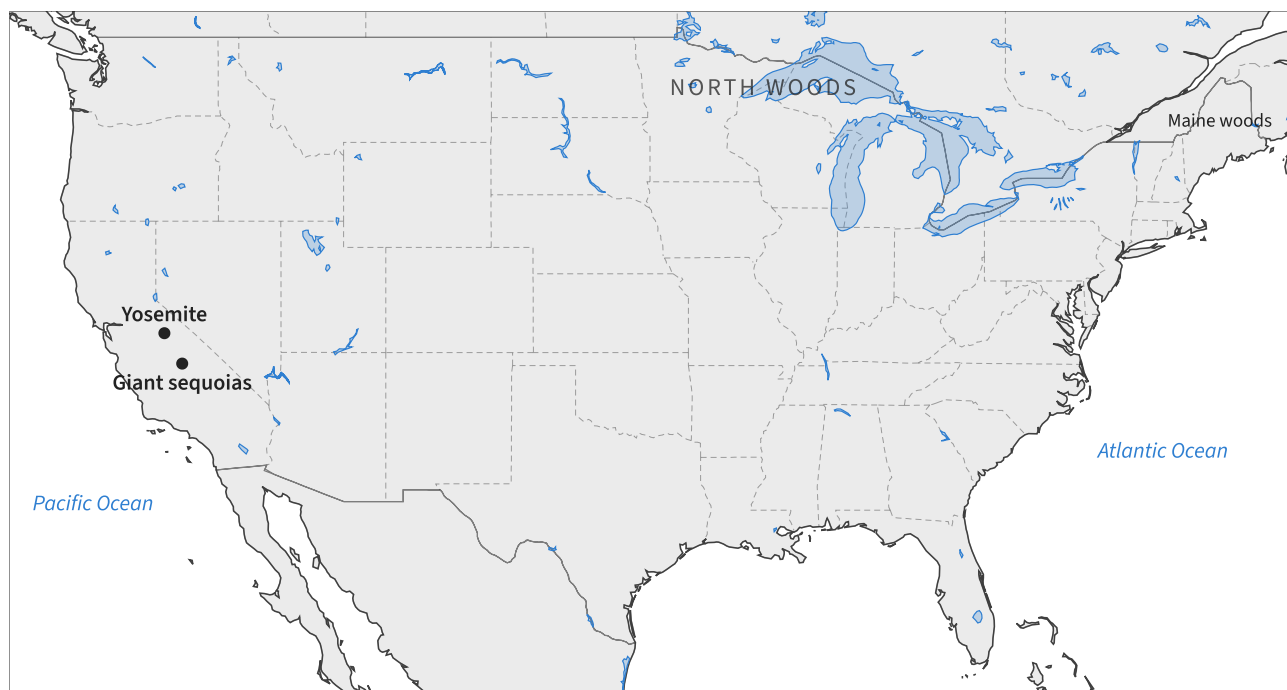
CORE IDEAS

The story. On June 30, 1864, in the middle of the Civil War, President Abraham Lincoln signed a law about a faraway valley in California. It gave Yosemite Valley and the Mariposa Grove of giant sequoia trees to the state of California, to be kept safe for people to visit and enjoy for all time. It was the first time the United States set aside wild land like this. A year later, the painter Albert Bierstadt finished a huge painting of Yosemite Valley, which you will study in this lesson.

The giant sequoias. Giant sequoias grow wild only on the western side of the Sierra Nevada mountains in California. They are the biggest trees in the world. The largest one, the General Sherman Tree, is about 275 feet tall. Its trunk is more than 100 feet around at the bottom. It would take about twenty-five children holding hands to reach all the way around it. Some sequoias are more than 3,000 years old. Their red bark is soft, spongy and more than a foot thick, so it helps protect them from fire. And their cones are tiny, only about the size of a chicken egg! The heat of a forest fire helps the cones open and drop their seeds.

The North Woods. Far away, in the cold north of Minnesota, Wisconsin and Michigan, and on into Maine, lie the North Woods. Here grow tall pines, spruce and fir, and white-barked birch trees. Winters are long and snowy. Moose, black bears, wolves and beavers live in these woods, and loons call across the lakes. In the 1800s, lumberjacks cut the tall white pines in winter. In spring they floated the logs down the rivers to sawmills. That lumber built houses and towns all across the Midwest.

On the map. Forests grow where God sends plenty of rain and snow. A desert gets less than 10 inches of rain a year, but a forest gets much more. Find the sequoias in California, near the Pacific Ocean. Then find the North Woods, far to the north and east. Forests give us wood for houses, paper for books and homes for animals. Psalm 104 says the trees of the Lord are full of sap. He planted them, and we are to care for them well.



The giant sequoias grow in California. The North Woods are far to the north and east.

PICTURE STUDY



Looking Down Yosemite Valley, California, Albert Bierstadt, 1865 · Oil on canvas · Birmingham Museum of Art, Birmingham, Alabama

Albert Bierstadt was born in Germany in 1830 and came to America with his family when he was a small child. He grew up to paint the mountains and valleys of the West. In 1863 he rode to Yosemite Valley in California and made many sketches there. Back in his studio in New York, he painted this picture in 1865, just one year after President Lincoln signed the law to protect Yosemite and its giant sequoias.

The painting is enormous, about 5 feet tall and 8 feet wide. Bierstadt wanted people in the East, who had never seen the West, to feel as if they were standing at the edge of the valley themselves.

Look closely

- Find the river. Follow it with your finger as it winds through the valley.
- Find the tall gray cliffs. Are they rounded or steep?
- Look at the trees on the valley floor. How big do they look next to the cliffs? Remember that real pine trees in Yosemite can be many times taller than a house!
- Look at the light and the sky. What time of day do you think it is?

Talk about it

1. How does this painting make you feel? Would you want to walk down into this valley?
2. Why do you think President Lincoln wanted to keep this valley and its giant trees safe for everyone?
3. What would you have to bring to hike in this forest that you would not need in the desert?

PROJECT: FOREST-IN-A-BOX

Now build a forest to stand beside your desert-in-a-box. When you set them side by side, you will see right away what a difference rain makes.

You will need

- A shoebox the same size as your desert box
- A thin layer of potting soil or brown paper
- Twigs, pine cones, leaves and a little moss (gathered outside with a parent)
- Green and brown paper, clay or play dough
- Paper towel tubes (for tall tree trunks)
- Small toy animals, or animals you draw and cut out (moose, bear, beaver, loon, owl)
- A small piece of blue paper or foil for a lake
- Glue or tape and crayons

Steps

1. Color the back of the box a pale blue sky with gray clouds. Forests get lots of rain!
2. Cover the bottom with soil or brown paper. This is the forest floor. Scatter fallen leaves, little twigs and moss on it.
3. Make tall trees: stand up paper towel tubes for trunks. Glue green paper cut in a zigzag on top for pines, or tape on a pine cone.
4. Make one tree much taller and fatter than the others with red-brown paper. This is your giant sequoia.
5. Lay a blue paper lake in one corner. Put a loon on the lake and a beaver lodge of tiny sticks at its edge.
6. Add a moose, a bear and an owl among the trees.
7. Set your forest box next to your desert box. Tell your family three ways they are different and why.

Tips

- Crowd your trees close together. A forest is thick with trees, while desert plants grow far apart.
- Tuck one tiny pine cone at the foot of your sequoia. Remember, giant sequoia cones are only egg-sized!

Check your work

- My forest has many trees growing close together.
- I made a giant sequoia taller than the other trees.
- I can name three North Woods animals in my box.
- I can tell why the forest is green and the desert is brown.

MAP NOTEBOOK

1. Draw a giant sequoia and a house beside it. Make the tree many times taller than the house.
2. Trace a map of the United States. Draw little green trees on the Sierra Nevada in California and on the North Woods in Minnesota, Wisconsin, Michigan and Maine.
3. Draw a moose in the snowy North Woods, and a loon on a lake.

From history. John Muir was a young man who walked into Yosemite in 1868 and fell in love with its cliffs, waterfalls and giant sequoias. He spent years climbing and exploring there and wrote books and articles telling people how wonderful the Sierra Nevada was. In 1890 Congress made Yosemite National Park, and that same year it also made Sequoia National Park, home of the General Sherman Tree.

WORKED EXAMPLES

Example 1. Look at the forests map. North is up. Are the North Woods north or south of the giant sequoias? Are they east or west?

(Use the map or drawing “Compare where the two forests are.” shown earlier in this lesson.)

1. Put one finger on the giant sequoias in California.
2. Put another finger on the North Woods near the Great Lakes.
3. The North Woods finger is higher on the map. Higher means north.
4. The North Woods finger is also to the right. Right means east.

Answer: The North Woods are north and east of the giant sequoias.

PRACTICE

1. **EASY** Which is taller: a giant sequoia or your house?
2. **EASY** A giant sequoia cone is about the size of what: a chicken egg, a basketball or a car?
3. **MEDIUM** On the forests map, point to the giant sequoias. Which ocean is closer to them, the Atlantic or the Pacific?
(Use the map or drawing “Find the giant sequoias.” shown earlier in this lesson.)
4. **MEDIUM** A tree grows one ring in its trunk each year. A stump in the North Woods has 35 rings. How old was the tree? If it had lived 10 more years, how old would it be?
5. **MEDIUM** Which of these live in the North Woods: moose, loon, beaver, saguaro cactus, black bear?

COMMON MISTAKES

- Mixing up giant sequoias and coast redwoods. Both grow in California. Coast redwoods grow near the ocean and are the tallest trees; giant sequoias grow in the Sierra

Nevada mountains and are the biggest around.

- Thinking the biggest tree must have the biggest cones. Giant sequoia cones are only about the size of an egg.
- Thinking all forests are the same. The North Woods are cold and snowy, full of pine, spruce and birch, while the sequoia groves are high in the mountains of sunny California.

Make it a game • Grow a Sequoia. Everyone crouches down small like a seed. A parent calls out forest things one at a time: sun, rain, snow, a moose walking by, a fire that opens the cones. Each time the parent says “rain” or “sun,” grow a little taller. When the parent says “3,000 years!” stretch up as tall as you can on your tiptoes and spread your arms wide. Then join hands with everyone in the room and see how far around your “trunk” you can reach.

Scripture. “The trees of the LORD are full of sap; the cedars of Lebanon, which he hath planted;” (Psalm 104:16, KJV)

The psalm says God Himself planted the great trees. A sequoia that began as a tiny seed thousands of years ago reminds us how patient and great our Creator is, and how carefully we should look after the forests He gave us.

Practice answers

1. The giant sequoia, by far. The biggest is about 275 feet tall.
2. A chicken egg.
3. The Pacific Ocean.
4. 35 years old. With 10 more years it would be 45.
5. Moose, loon, beaver and black bear. The saguaro cactus lives in the Sonoran Desert.

5.3 COASTS AND HARBORS

OBJECTIVES

- Tell what a coast is and what makes a good harbor.
- Explain why ships love a sheltered harbor, with land around it to block wind and waves.
- Find Boston on the Atlantic coast and San Francisco on the Pacific coast.

Warm-up. Fill a baking pan halfway with water and float a bottle cap in the middle. Blow hard across the water. What happens to the bottle cap? Now stand a book in the water like a wall between you and the cap and blow again. Which way kept the little “ship” calm?

Video. Coming soon. Kid-friendly harbor videos under about 8 minutes: a read-aloud of *Little Toot* by Hardie Gramatky (a tugboat in a busy harbor); short footage of ships passing through the Golden Gate and of Boston Harbor and Boston Light from Smithsonian or National Park Service (candidate, needs vetting); Homeschool Pop (Alternate) on coasts and landforms such as bays and harbors.

KEY TERMS

coast

The land along the edge of the sea.

bay

A part of the sea that reaches into the land, with land on three sides.

harbor

A place of deep, calm water where ships can stay safe from wind and waves.

port

A town or city at a harbor where ships load and unload people and goods.

CORE IDEAS

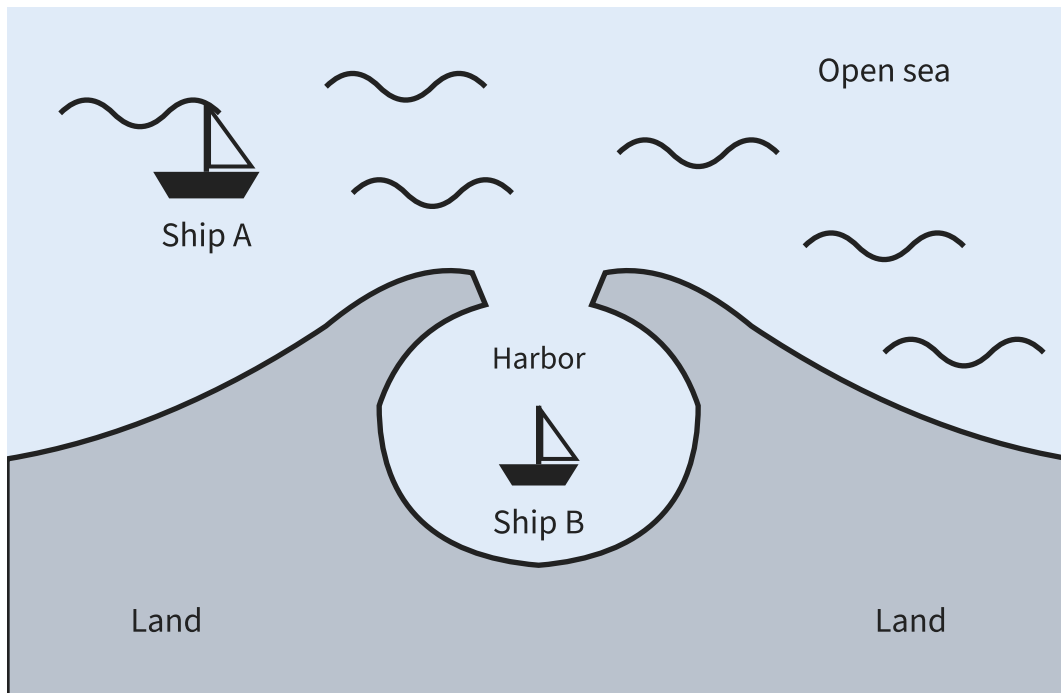
The story. On August 5, 1775, a little Spanish ship called the *San Carlos* sailed slowly toward the rocky coast of California. Its captain, Juan Manuel de Ayala, steered through a narrow gap between high cliffs. Earlier sailors along this coast had sailed right past the gap, partly because thick fog so often hides it. Inside, Ayala’s crew found a huge, calm bay with islands in it, big enough to hold many ships. They spent weeks rowing around it and drew the first map of San Francisco Bay. Today that gap is called the Golden Gate. It is only about a mile wide.

The big idea. A **coast** is the land along the edge of the sea. Some coasts have long sandy beaches. Others have rocky cliffs where waves crash all day. Out on the open sea, storms and big waves can toss a ship around. So sailors look for a **harbor**, a place of deep, calm water. The best harbors are *sheltered*. Land wraps around them like two arms, or islands stand in

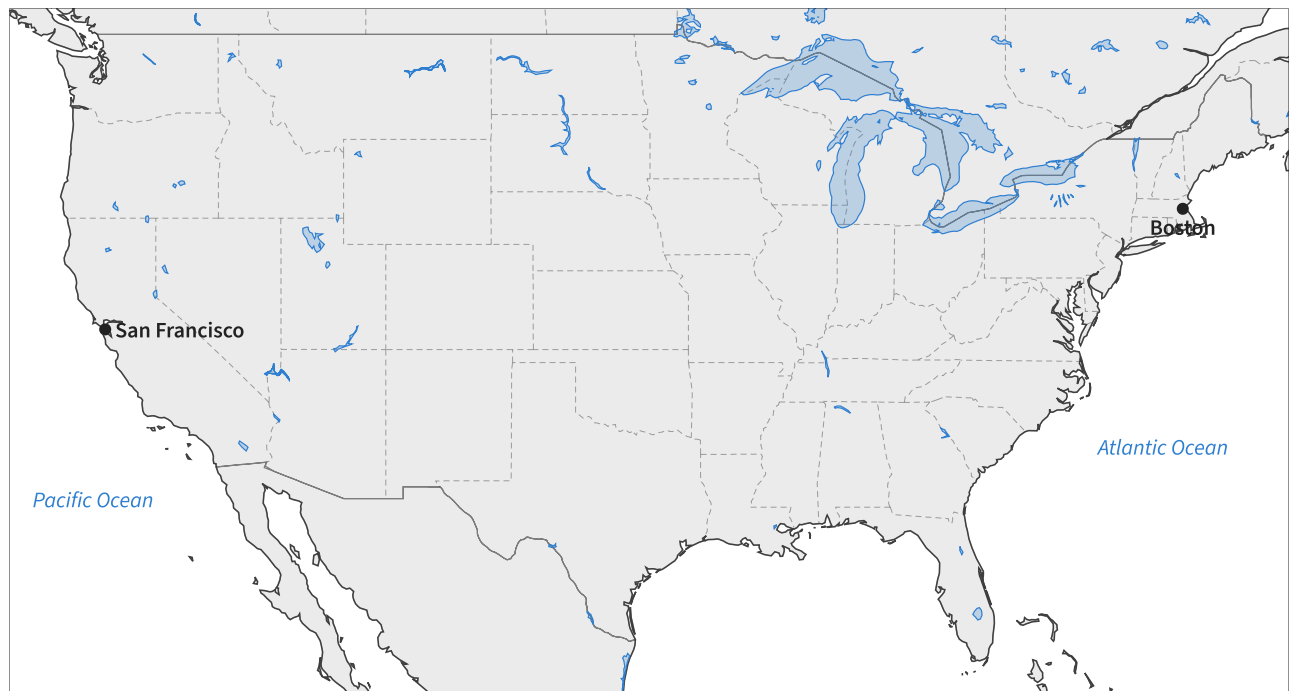
front of them like a wall. The land blocks the wind and stops the big waves. The water is deep, so big ships do not scrape the bottom. A narrow way in is easy to guard.

On the map. Boston sits on a good harbor on the Atlantic coast in the Northeast. In 1630, Puritans led by John Winthrop built their town there. Boston Harbor has dozens of small islands that break the ocean waves. Ships sailed from Boston to England, the West Indies and around the world. In 1773, colonists dumped chests of tea into this very harbor at the Boston Tea Party. San Francisco sits on the Pacific coast in the West, beside the Golden Gate. One great harbor on each coast: coast to coast!

Why cities grow at harbors. Ships bring people, food, tools and news. So towns grow up where ships can land safely, and the best harbors became great cities and **ports**. God made the shape of every coast. Psalm 107 tells of sailors caught in a storm who cried to the Lord. He calmed the sea and brought them to their desired haven, which is an old word for a safe harbor.



A sheltered harbor: land on both sides blocks the wind and waves.



Two great harbors, one on each coast.

PICTURE STUDY



Boston Harbor, Fitz Henry Lane, about 1850-1855 · Oil on canvas · Museum of Fine Arts, Boston

Fitz Henry Lane was born in 1804 in Gloucester, Massachusetts, a fishing town on the coast north of Boston. When he was a little boy he became sick and could not walk well for the rest of his life, so he used crutches. But he loved ships, and he became one of the best painters of ships and harbors in America.

In this painting Lane shows Boston Harbor on a quiet evening. He painted the ropes and sails with great care. Sailors who looked at his pictures could tell that he knew ships well.

Look closely

- Count the big sailing ships. Then count the small boats.
- Look at the water. Is it rough or calm? Can you see the ships reflected in it like a mirror?
- Look along the far shore. What can you see of the city?
- Find the brightest part of the sky. Where is the light coming from?

Talk about it

1. Why do you think the water in this harbor is so calm?
2. Would you rather be on one of these ships tonight or out on the open ocean in a storm? Why?

PROJECT: HARBOR IN A PAN

Build a coast with a sheltered harbor and test it with real waves. You will see with your own eyes why sailors love a harbor.

You will need

- A large baking pan or plastic storage tub
- Water
- Clay or play dough (a good handful)
- Two corks, bottle caps or small toy boats
- A paper fan or a piece of cardboard
- A toilet paper tube and red and white paper (for a lighthouse)

Steps

1. Press clay along one end of the pan to make a coast.
2. Shape two clay arms that reach out into the water and curve toward each other. Leave a small gap between them. This is your harbor and its narrow entrance.
3. Pour in water, about two fingers deep.
4. Put one boat inside the harbor and one boat out in the open water.
5. Fan hard across the water, or gently tap the far end of the pan to make waves. Watch both boats.
6. Which boat rocked the most? Which stayed calm?
7. Make a lighthouse from the paper tube with red and white stripes and stand it on one of the arms to guide ships in at night.

Tips

- Put a towel under the pan. Waves can splash!

- Try making the gap wider. Does the harbor stay as calm?

Check your work

- I built a harbor with land around it.
- I can tell which boat stayed calm and why.
- I can name a harbor city on each coast.

MAP NOTEBOOK

1. Draw a coast with a sheltered harbor shaped like a horseshoe. Put a ship safe inside and a lighthouse at the entrance.
2. On a map of the United States, put a star on Boston and a star on San Francisco. Write “Atlantic” and “Pacific” in the right oceans.
3. Draw the *San Carlos* sailing through the narrow Golden Gate in the fog.

From history. Boston built the first lighthouse in the American colonies. Boston Light was first lit in 1716 on Little Brewster Island at the entrance to Boston Harbor, to help ships find their way in safely at night. The British blew up that tower during the War for Independence, and a new tower was built in 1783. It still stands and still shines today.

WORKED EXAMPLES

Example 1. Look at the harbor picture. Which ship is in calm water, Ship A or Ship B? Why?

(Use the map or drawing “Which ship is safer?” shown earlier in this lesson.)

1. Find Ship A. Look at the water around it. There are big waves.
2. Find Ship B. It is inside the curve of the land.
3. Look at the land. It reaches out like two arms on both sides of Ship B, with only a narrow opening.
4. The land blocks the wind and the big waves, so the water around Ship B is calm.

Answer: Ship B, because it is in a sheltered harbor with land around it to block the wind and waves.

PRACTICE

1. **EASY** What do we call a place of deep, calm water where ships can stay safe?
2. **EASY** On the harbors map, point to Boston and San Francisco. Which one is on the Atlantic coast? Which one is on the Pacific coast?
(Use the map or drawing “One harbor on each coast.” shown earlier in this lesson.)
3. **MEDIUM** Match each word to its meaning: coast, bay, port. (a) a city where ships load and unload, (b) the land along the edge of the sea, (c) sea with land on three sides.

4. **MEDIUM** Spanish explorers on land first saw San Francisco Bay in 1769. The *San Carlos* sailed in during 1775. Count up on your fingers from 1769 to 1775. How many years later did the ship come?
5. **HARD** Draw a good harbor. Show three things that make it safe for ships.

COMMON MISTAKES

- Thinking any spot on the coast is a good harbor. An open beach with crashing waves is a coast, but not a safe harbor.
- Mixing up the two coasts. Boston is on the Atlantic, in the east. San Francisco is on the Pacific, in the west.
- Thinking the Golden Gate is only the bridge. The Golden Gate is the narrow water entrance to the bay. The famous bridge was built across it much later and is named after it.

Make it a game · Find the Harbor. One person is the ship and closes their eyes. The others stand in a curve like two arms to make a harbor, with a narrow opening. Others whoosh and wave their arms like wind and waves. A “lighthouse” helper calls out “This way!” to guide the ship in through the opening without touching the arms. When the ship is safe inside, everyone says, “Welcome to the harbor!” Then trade places.

Scripture. “Then are they glad because they be quiet; so he bringeth them unto their desired haven.” (Psalm 107:30, KJV)

A haven is a safe harbor. After the storm, the sailors in this psalm are glad when the sea grows quiet and God brings them in. A sheltered harbor is one of God’s good gifts to people who go down to the sea in ships.

Practice answers

1. A harbor.
2. Boston is on the Atlantic coast. San Francisco is on the Pacific coast.
3. Coast: (b). Bay: (c). Port: (a).
4. 6 years later.
5. Answers will vary. A good drawing shows land wrapped around the water (or islands in front of it), a narrow entrance, and deep water or a lighthouse to guide ships.

5.4 ISLANDS: HAWAII AND THE FLORIDA KEYS

OBJECTIVES

- Tell what an island is, and tell how a volcano island and a coral island are made.
- Find Hawaii in the Pacific Ocean and the Florida Keys at the tip of Florida.
- Tell one way volcano islands and coral islands look different.

Warm-up. Fill a clear bowl with water. Drop in spoonfuls of wet sand or small pebbles, one spoonful at a time, all in the same spot. Count the spoonfuls. How many did it take before your pile poked up above the water? You just made an island! In this lesson you will learn two ways God makes real islands grow up out of the sea.

Video. Coming soon. Kid-friendly island videos under about 8 minutes: a read-aloud of *Coral Reefs* by Jason Chin; short footage of lava flowing into the sea at Kilauea from NASA, Smithsonian or USGS (candidate, needs vetting); Florida Keys coral reef and Seven Mile Bridge clips from National Park Service or NOAA (candidates, need vetting); SciShow Kids on volcanoes or coral; Homeschool Pop (Alternate) on islands.

KEY TERMS

island

Land with water all around it.

volcano

An opening in the earth where hot melted rock comes up. Layer after layer of it can build a mountain.

lava

Hot, melted rock that pours out of a volcano. It cools into hard black rock.

coral

Tiny sea animals that build hard stony cups around themselves. Millions of them together build a reef.

CORE IDEAS

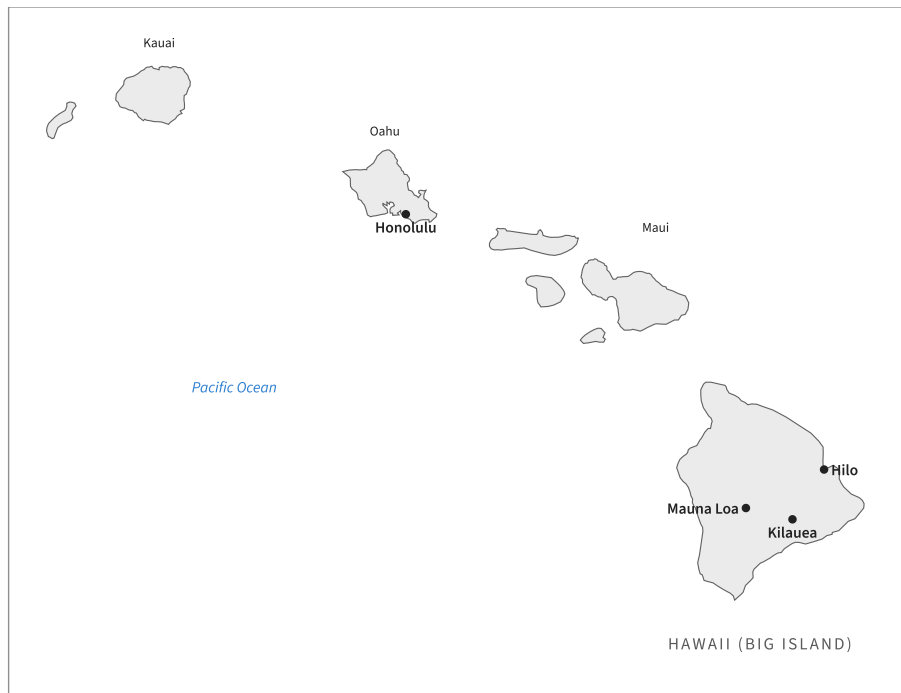
The story. In 1835 a missionary named Titus Coan came with his wife, Fidelia, to live in the town of Hilo on the island of Hawaii. He preached and taught there for the rest of his life, and he often walked for days across the island to visit the villages. Behind Hilo rise two great volcanoes, Mauna Loa and Kilauea. When they erupted, Coan climbed up to see the rivers of glowing red lava for himself, and he wrote letters telling people far away what he saw.

Volcano islands. The Hawaiian Islands are the tops of huge volcanoes that rise from the bottom of the Pacific Ocean. Lava poured out on the sea floor over and over, layer upon layer, until the mountains poked up above the waves. There are eight main islands. The biggest and youngest is the island of Hawaii, often called the Big Island. It is still growing! When

lava from Kilauea flows into the sea, it cools into new black rock. Volcano islands are often tall and steep, with black rock and even black sand beaches.

Coral islands. The Florida Keys are a long, curving chain of small islands off the southern tip of Florida. They are made a different way. **Coral** are tiny sea animals that build hard, stony cups around themselves. Millions of them together build a reef. Most of the Keys are made of rock from an old coral reef that grew long ago, and a living reef still grows in the shallow sea beside them. Coral islands are low and flat, only a few feet above the waves. Today a highway hops from key to key all the way to Key West, crossing 42 bridges.

On the map. Hawaii is far out in the Pacific Ocean, more than 2,000 miles from California. That is why it sits in a little box on most maps of the United States. The Florida Keys are at the bottom of the map, where Florida points south. One state is all islands, and the other ends in a string of islands! The psalm says, “let the multitude of isles be glad.” God made islands of fire and islands of coral.



The Hawaiian Islands: tops of giant volcanoes.



The Florida Keys: islands made from an old coral reef.

PICTURE STUDY



Key West, Hauling Anchor, Winslow Homer, 1903 · Watercolor over graphite on paper · National Gallery of Art, Washington, D.C.

Winslow Homer was one of America's greatest painters of the sea. He lived on the rocky coast of Maine, but in some winters he traveled south to warm places like Florida and the islands of the Caribbean. There he painted quick, bright watercolors of boats, sailors and sparkling water.

In 1903 Homer visited Key West, the last island at the end of the Florida Keys. In this picture, sailors are pulling up the anchor so their boat can sail away.

Look closely

- Find the sails. Are they full of wind or hanging loose?
- Look for the sailors. What are they doing?
- Look at the colors of the water. How are they different from the dark water in a picture of a stormy sea?
- Look at the sky. Does this look like a warm place or a cold place?

Talk about it

1. Why do you think people who live on an island need boats so much?
2. If you sailed away from Key West in this boat, what might you see under the water near the coral reef?

PROJECT: TWO WAYS TO MAKE AN ISLAND

Make a volcano island and a coral island in tubs of water, and see how different they look.

You will need

- Two clear plastic tubs or large bowls
- Water
- Dark clay or play dough (black, brown or gray), and a little red or orange
- Small shells, pebbles, or dry pasta shapes (for coral)
- White sand or salt
- A ruler

Steps

1. **Volcano island.** In the first tub, press a flat circle of dark clay on the bottom. This is the sea floor.
2. Add a smaller circle on top, then a smaller one, then a smaller one. Each layer is a new flow of lava. Keep going until your mountain is tall and pointy.
3. Pour in water carefully. Is the top of your volcano above the water? If not, add more layers until it pokes out. Put a little red clay on top for hot lava.
4. **Coral island.** In the second tub, build a low, wide pile of shells and pebbles. This is the reef.
5. Sprinkle white sand on top so the reef just barely peeks out. Pour in water so the island is only a tiny bit above the top.
6. Measure how high each island sticks up above the water with your ruler. Which island is taller? Which is flat and low?
7. Make a little flag for each one: “Hawaii, a volcano island” and “Florida Keys, coral islands.”

Tips

- Pour the water slowly down the side of the tub so you do not knock over your islands.
- Remember that real coral is alive. When people visit a reef, they look but do not touch, so the coral can keep growing.

Check your work

- My volcano island is tall and steep, built layer by layer.
- My coral island is low and flat.
- I can tell how each kind of island was made.

MAP NOTEBOOK

1. Draw a volcano under the sea, growing layer by layer until it pokes above the waves. Number the layers.
2. Trace the eight main Hawaiian Islands and color the Big Island red for its volcanoes.
3. Draw the Florida Keys as a string of little islands with a long bridge hopping from one to the next.

From history. Henry Flagler, a businessman who built railroads and hotels in Florida, decided to build a railroad all the way across the Florida Keys to Key West. Workers built long bridges over the sea from one island to the next. On January 22, 1912, Flagler, who was 82 years old, rode the first train into Key West. A great hurricane in 1935 wrecked much of the railroad, and a highway for cars was later built along its path.

WORKED EXAMPLES

Example 1. Look at the map of the Hawaiian Islands. Which island is the biggest? Is it at the east end or the west end of the chain?

(Use the map or drawing “Find the biggest island.” shown earlier in this lesson.)

1. Look at all the islands and find the one that takes up the most space on the map.
2. It is the island with Mauna Loa and Kilauea on it, called Hawaii, or the Big Island.
3. Find the compass directions. East is to the right.
4. The Big Island is at the right end of the chain, so it is at the east end.

Answer: The island of Hawaii (the Big Island) is the biggest, and it is at the east end of the chain.

PRACTICE

1. **EASY** Is Hawaii made of volcano islands or coral islands? What about the Florida Keys?
2. **EASY** Which kind of island is usually tall and steep, and which is low and flat?

3. **MEDIUM** On the Hawaii map, point to Kilauea. Which island is it on?
(Use the map or drawing “Find Kilauea.” shown earlier in this lesson.)
4. **MEDIUM** The road to Key West crosses 42 bridges. A family has crossed 30 bridges so far. How many more bridges until they reach Key West?
(Use the map or drawing “The road hops from key to key.” shown earlier in this lesson.)
5. **MEDIUM** True or false: coral is a kind of rock that was never alive.

COMMON MISTAKES

- Thinking islands float on the water. Every island is joined to the sea floor underneath, like the top of an underwater mountain or reef.
- Thinking coral is a plant or just a rock. Coral are tiny animals that build stony homes.
- Thinking Hawaii is near Mexico or Florida because of where it sits in the box on a map. Hawaii is far out in the middle of the Pacific Ocean.

Make it a game • Island Hop. Lay pillows or sheets of paper across the floor in a long curving line. These are the Florida Keys. Hop from one “key” to the next, counting each one as a bridge. When you reach the last one, shout “Key West!” Then pile pillows in a tall heap to make a volcano island and climb carefully to the top. Which island was easier to build up high?

Scripture. “The LORD reigneth; let the earth rejoice; let the multitude of isles be glad thereof.” (Psalm 97:1, KJV)

The Bible calls islands “isles.” God rules over every island, from the fiery volcanoes of Hawaii to the low coral keys of Florida, and He calls all of them to be glad in Him.

Practice answers

1. Hawaii: volcano islands. Florida Keys: coral islands.
2. Volcano islands are tall and steep. Coral islands are low and flat.
3. The island of Hawaii (the Big Island).
4. 12 more bridges ($42 - 30 = 12$).
5. False. Coral are tiny sea animals. They build the stony cups that make up a reef.

UNIT 5 REVIEW

A parent reads each question aloud. The child may answer by talking, pointing to a map or drawing. The review is worth 20 points.

1. (3 pts) What is a desert? Name the two great deserts of the Southwest.
2. (3 pts) What is special about Death Valley? Tell one thing.
3. (3 pts) Which is the biggest kind of tree in the world, and in which state does it grow wild?
4. (3 pts) Name two animals that live in the North Woods.
5. (3 pts) Why do ships love a sheltered harbor?
6. (3 pts) On a map of the United States, point to Boston and San Francisco. Which ocean is each one on?
7. (2 pts) Hawaii is made of ____ islands, and the Florida Keys are made of ____ islands.

UNIT PROJECT: DESERT, FOREST AND HARBOR DISPLAY

Set your desert-in-a-box and your forest-in-a-box side by side. Beside them, lay a big hand-drawn map of the United States. On it, color the Mojave and Sonoran Deserts tan, draw green trees for the giant sequoias and the North Woods, put an anchor on Boston and San Francisco, and circle Hawaii and the Florida Keys. Then give your family a short tour: tell what lives in each place, how much rain it gets, and one gift God gave each land.

- **Map:** Deserts, forests, the two harbors and the two island groups are in the right places and labeled.
- **Boxes:** The desert box is dry and rocky with plants far apart; the forest box is green and crowded with trees; each has fitting animals.
- **Telling:** The child explains why the desert is dry, why the forest is green and why ships need a sheltered harbor.
- **Care:** The work is neat, colorful and finished with care.

Answer key

1. A place that gets very little rain (less than about 10 inches a year). The Mojave and the Sonoran.
2. Any one: it is the lowest place in North America (282 feet below sea level); it is very hot (134 degrees in 1913); it gets only about 2 inches of rain a year; the travelers lost there in 1849-1850 named it as they left.
3. The giant sequoia, in California (in the Sierra Nevada mountains).
4. Any two: moose, black bear, wolf, beaver, loon, owl.
5. The land around it blocks the wind and big waves, so the water is calm and deep and the ships are safe.
6. Boston: Atlantic Ocean. San Francisco: Pacific Ocean.
7. Volcano; coral.

THE FIRST PEOPLES AND THE LAND

Long before there were states on the map, many nations of people already lived on this land. In this unit we visit four of them. We walk into a bark longhouse in the Eastern Woodlands, follow the bison across the Great Plains, climb ladders into the adobe and stone homes of the Southwest, and paddle a cedar canoe on the Northwest Coast. In every place we ask the same question: **how did the land shape the home?**

We will meet real people along the way: Mohawk leaders who sailed to London in 1710, the painter George Catlin on his steamboat trip up the Missouri in 1832, two cowboys who found Cliff Palace in the snow in 1888, and Captain James Cook at Nootka Sound in 1778. The paintings of George Catlin, now at the Smithsonian American Art Museum, help us see the Plains as he saw them in the 1830s.

The Bible tells us that God “hath made of one blood all nations of men for to dwell on all the face of the earth” (Acts 17:26). Each land He made has its own gifts: trees, grass, clay, stone, fish. Each people used those gifts in wise and clever ways. We will also tell the truth plainly when these peoples were wronged, as when the bison were killed off and families were moved from their lands.

BEFORE YOU BEGIN

- Can find north, south, east and west on a map with north at the top
- Knows the regions of the United States and the Great Plains from Units 2 and 4
- Can count and add numbers up to 50
- Can use glue, tape and child-safe scissors with a little help

MASTERY CHECKLIST

- I can tell how the Haudenosaunee built longhouses and grew the Three Sisters in the Eastern Woodlands.
- I can tell how the Plains peoples followed the bison and lived in tipis.
- I can tell what adobe is and describe the cliff dwellings of Mesa Verde.
- I can tell how the Northwest Coast peoples used cedar and salmon, and what a totem pole is.
- I can point to the four lands on a map and say how each land shaped its homes.

OPTIONAL BOOKS AND RESOURCES

- **Mesa Verde National Park (National Park Service)** (<https://www.nps.gov/meve/>): Free. Photographs of Cliff Palace and the other cliff dwellings, plus information for planning a visit. A parent can pick a few photos to show during Lesson 6.3.
- **National Museum of the American Indian (Smithsonian)** (<https://americanindian.si.edu/>): Free. Photographs of objects and homes from Native

nations across America, useful for all four lessons. A parent should choose what to show.

- **Smithsonian American Art Museum** (<https://americanart.si.edu/>): Free. Search the collection for George Catlin to see many more of his Plains portraits and scenes from the 1830s (Lesson 6.2).

6.1 PEOPLES OF THE EASTERN WOODLANDS ★

OBJECTIVES

- Tell how the Haudenosaunee (Iroquois) used the trees and good soil of the Eastern Woodlands to build longhouses and grow corn, beans and squash.
- Find the lands of the Five Nations on a map and name the nation at the eastern door and the western door.
- Explain in one sentence how the land shaped the home.

Warm-up. Lie down on the floor in a long row with everyone in the family, head to toe. Is your row longer than your couch? Now imagine one house long enough to hold your family, your grandparents, your aunts, your uncles and all your cousins under one roof. That is the kind of house you will learn about today.

Video. Coming soon. Short kid-friendly videos (under 8 minutes) showing an Iroquois longhouse inside and out and a Three Sisters garden of corn, beans and squash: search Smithsonian (National Museum of the American Indian), Homeschool Pop (Alternate), and National Park Service or New York State living-history villages (candidates, need vetting); preview first.

KEY TERMS

Haudenosaunee

Say it “hoe-dee-no-SHOW-nee.” It means “People of the Longhouse.” Many books call them the Iroquois.

longhouse

A long house made of bent young trees covered with sheets of bark, where several families lived together.

Three Sisters

Corn, beans and squash planted together in the same little hill so they help each other grow.

woodlands

Land covered with forests of tall trees, with rain for crops and rivers and lakes for fish.

CORE IDEAS

The story. In the spring of 1710, four men from the forests of New York sailed across the ocean to London. Three of them were Mohawk leaders, and one of their names was Hendrick. They had come to meet Queen Anne of England. Crowds of people in London came to see them, and the queen had their portraits painted. Then the travelers sailed home again, to their villages beside the rivers and the forests. What kind of homes were waiting for them there?

How they lived. The Mohawk belonged to five nations who lived side by side: the Mohawk, Oneida, Onondaga, Cayuga and Seneca. Together they called themselves the **Haudenosaunee**, the “People of the Longhouse.” A **longhouse** was a long building made of bent young trees tied together and covered with big sheets of elm bark. Some were longer than a whole row of ten cars! Inside, many families lived together, all from the same clan, and each pair of families shared a fire down the middle. Around the village the women planted the **Three Sisters**: corn, beans and squash. The corn grew tall, the beans climbed up the corn, and the big squash leaves covered the ground and kept the weeds away. The men hunted deer, fished and cleared new fields.

The big idea. The land shaped the home. The Eastern Woodlands had many tall trees, so people built with wood and bark. It had good soil and enough rain, so people could farm and stay in one village for many years. When the soil got tired and the firewood ran low, the whole village moved and built new longhouses nearby. God gave this land its gifts, and the people used them wisely.

On the map. The five nations lived in a line from east to west across what is now New York. They said their land was like one great longhouse. The Mohawk, in the east, kept the eastern door. The Seneca, in the west, kept the western door. The Onondaga, in the middle, kept the council fire, where leaders met to talk and make peace. Later a sixth nation, the Tuscarora, joined them. Haudenosaunee families still live in New York and Canada today.



The Five Nations lived in a row from east to west, like one great longhouse.

PICTURE STUDY



Tee Yee Neen Ho Ga Row, Emperor of the Six Nations, John Verelst, 1710 · Oil on canvas · Library and Archives Canada, Ottawa

John Verelst was a Dutch painter living in London. When three Mohawk leaders and one Mahican leader visited Queen Anne in 1710, the queen asked him to paint each of them. This one shows the Mohawk leader the English called Hendrick. The painter placed him in a forest, like the woodlands of his home, and painted an animal behind him that stood for his clan.

Look closely

- Look at the trees behind the man. What kind of land do they show?
- Find the animal. What animal do you think it is?
- Look at what he is holding up in his hand. It is a wampum belt made of tiny shell beads, a gift for the queen.
- Look at his clothes. Which parts look like they came from England, and which from his home?

Talk about it

1. How do you think Hendrick felt so far from home, in a big city across the ocean?
2. Why do you think the painter put trees in the picture?

PROJECT: A SHOEBOX LONGHOUSE AND A THREE SISTERS CUP

You will build a small longhouse with a curved roof and plant your own Three Sisters, just like a Haudenosaunee family. Do the longhouse in the first session and the planting in the second.

You will need

- A shoebox (or a long cereal box) with the lid removed
- 4 or 5 pipe cleaners, or strips of cardstock
- Brown paper bags torn into “bark” pieces
- Glue stick and tape
- A clear plastic cup, potting soil, and a few seeds each of popcorn (or field corn), bush beans and squash

Steps

1. Turn the shoebox on its side or set it upright so it is long and low.
2. Bend the pipe cleaners into arches and tape them over the top of the box from one long side to the other. These are the bent young trees.
3. Glue torn brown paper “bark” all over the arches and the sides. Overlap the pieces like shingles so rain would run off.
4. Cut a small door at each end. Cut one or two small holes in the roof for smoke from the fires.
5. Draw a line of little fires down the middle of the floor. Count how many families your longhouse can hold if each fire is shared by two families.
6. For the Three Sisters cup: fill the cup with soil. Plant 2 corn seeds in the middle, 2 bean seeds near them and 1 squash seed at the edge. Water a little and set it in a sunny window.
7. Watch for a week. Which sister sprouts first?

Tips

- A real longhouse had a door at each end, just like the Five Nations’ eastern and western doors.
- Plant the corn a few days before the beans if you can, so the corn is tall enough for the beans to climb.

Check your work

- I can show where the bark, the doors and the smoke holes are on my longhouse.
- I can name the Three Sisters and tell how they help each other.

MAP NOTEBOOK

1. Draw a longhouse with its curved roof, its two doors and smoke rising from the roof.
2. Draw the Three Sisters growing together: tall corn, beans climbing up it, and big squash leaves on the ground.
3. Draw five boxes in a row and write the names of the Five Nations from east to west. Put a little fire in the Onondaga box.

From history. The Haudenosaunee played a fast ball game with long sticks that had small nets at the end. Players ran across big fields to throw the ball into the other team's goal. French visitors gave the game a French name, and today we still call it lacrosse. Children all over America play it, and the Haudenosaunee still have their own team that plays against other countries.

WORKED EXAMPLES

Example 1. Look at the map of the Five Nations. North is at the top. Start at the Mohawk, who kept the eastern door. Walk west, taking one step for each nation you come to. How many steps does it take to reach the Seneca at the western door? Which nation is in the middle?

(Use the map or drawing "Walk west from the eastern door to the western door." shown earlier in this lesson.)

1. North is at the top of the map, so west is to the left.
2. Put your finger on the Mohawk. Move left to the Oneida: that is 1.
3. Keep going left: Onondaga is 2, Cayuga is 3, Seneca is 4.
4. Count all five names: Mohawk, Oneida, Onondaga, Cayuga, Seneca. The third one, in the middle, is the Onondaga.

Answer: 4 steps west from the Mohawk to the Seneca. The Onondaga are in the middle, where the council fire burned.

PRACTICE

1. **EASY** Point to the Mohawk on the map. Are they in the east or the west?
(Use the map or drawing "The Five Nations." shown earlier in this lesson.)
2. **EASY** Name the Three Sisters.
3. **EASY** What was a longhouse covered with?
4. **MEDIUM** A longhouse has 6 fires down the middle. Two families share each fire. How many families live in this longhouse?
5. **MEDIUM** Finish the sentence: "The Eastern Woodlands had many trees, so the people built their homes out of ____."

COMMON MISTAKES

- Thinking every Native family lived in a tipi. The Haudenosaunee lived in longhouses of bark, because their land was full of trees.
- Thinking a longhouse was for one small family. Many related families lived together in one longhouse.
- Thinking the Iroquois were one tribe. They were five nations (later six) who agreed to live in peace together.

Make it a game · Eastern Door, Western Door. Line up five chairs or pillows across the room from east to west and label them Mohawk, Oneida, Onondaga, Cayuga and Seneca. A parent calls out a name, and the child runs to the right spot. If the parent calls “Eastern door!” run to the Mohawk; “Western door!” run to the Seneca; “Council fire!” run to the Onondaga in the middle. Play until every name is quick and easy.

Scripture. “While the earth remaineth, seedtime and harvest, and cold and heat, and summer and winter, and day and night shall not cease.” (Genesis 8:22, KJV)

Every spring the women of the longhouse planted their seeds, and every fall they gathered the harvest. God keeps the seasons coming, year after year, so that people everywhere can plant and eat.

Practice answers

1. The east (on the right side of the map). They kept the eastern door.
2. Corn, beans and squash.
3. Sheets of bark (often elm bark).
4. 12 families ($6 + 6 = 12$).
5. Wood and bark.

6.2 PEOPLES OF THE PLAINS

OBJECTIVES

- Tell how the Plains peoples followed the bison and used it for food, clothing and homes.
- Explain why a tipi was a good home for people who moved often across a land of grass with few trees.
- Count squares on a map grid to find how far the camp is from the herd.

Warm-up. Pretend your family must move today, and you can only take what you can carry or drag on a blanket. Pack a pillowcase with the five things you need most. Could you carry your whole house? The Plains peoples found a way to carry theirs.

Video. Coming soon. Short kid-friendly videos (under 8 minutes) of bison herds on the prairie and of a tipi being set up: search Smithsonian (National Museum of the American Indian and Smithsonian American Art Museum on George Catlin), National Park Service footage of bison in Yellowstone or Theodore Roosevelt National Park (candidate, needs vetting), and a read-aloud of Paul Goble’s picture books about the Plains (Brightly Storytime-style read-alouds, need vetting); preview first.

KEY TERMS

bison

A huge, shaggy animal of the grasslands, also called a buffalo. Great herds once covered the Plains.

tipi

A cone-shaped tent of long wooden poles covered with bison hides. It could be taken down and moved in a short time.

travois

Say it “tra-VOY.” Two poles tied together to make a sled with no wheels, pulled by a dog or a horse to carry loads.

herd

A big group of animals that live and travel together.

CORE IDEAS

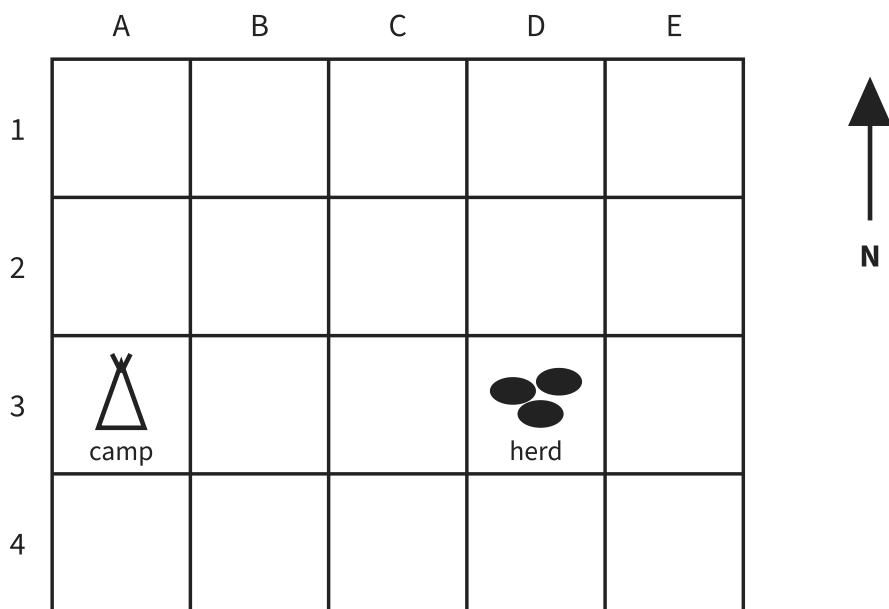
The story. In the spring of 1832, a painter named George Catlin climbed aboard a steamboat called the *Yellow Stone* in St. Louis. He rode it far up the Missouri River, all the way to Fort Union, near where the Yellowstone River comes in. Catlin wanted to paint the peoples of the Plains before their way of life changed. He painted chiefs in feathered headdresses, villages of tipis, and hunters chasing great herds of bison across the grass.

How they lived. Many Plains peoples, like the Lakota, the Cheyenne and the Comanche, lived by following the **bison**. Where the herds went, the people went. They used almost

every part of the animal. The meat was food, eaten fresh or dried for winter. The hides became robes, blankets and the covers of their homes. Bones became tools, and sinew became strong thread. Their home was the **tipi**, a cone of long poles wrapped in bison hides. It could be taken down quickly, and the poles made a **travois** to drag everything to the next camp. Long ago dogs pulled the travois. After the Spanish brought horses to America, the Plains peoples became some of the finest riders in the world.

The big idea. The land shaped the home. The Great Plains are a sea of grass with few trees, cold winters and strong winds. There was not enough wood for longhouses, but there were millions of bison eating the grass God made. A home made of bison hides that could move with the herd was just right. The tipi's cone shape stood up well in the wind, and a fire inside kept it warm. Not every Plains people moved about. Along the Missouri River, Catlin also visited the Mandan, who farmed and lived in round earth lodges.

On the map. The Great Plains stretch through the middle of our country, from Texas north into Canada, between the Mississippi River country and the Rocky Mountains. You learned about them in Unit 4. Now picture them dotted with tipis and dark herds of bison moving slowly across the grass.



A picture map of a Plains camp and a bison herd.

PICTURE STUDY



Buffalo Hunt under the Wolf-skin Mask, George Catlin, 1832-1833 · Oil on canvas · Smithsonian American Art Museum, Washington, D.C.

George Catlin was a painter from Pennsylvania who traveled the West in the 1830s and painted hundreds of pictures of the Plains peoples. Many of them now hang in the Smithsonian American Art Museum.

In this picture two hunters have covered themselves with the skins of white wolves. Bison were not afraid of a lone wolf, so the hunters could creep close enough to shoot their arrows.

Look closely

- Find the two hunters. What are they hiding under?
- Count the bison you can see.
- Look at the land. Do you see many trees, or mostly grass?
- Look at the sky. Is it big or small in this picture?

Talk about it

1. Why did the hunters need to be so quiet and so clever?
2. What does this painting tell you about the land of the Plains?

PROJECT: A PAPER TIPI VILLAGE

You will make tipis from paper and straws and set them up in a camp. Then you will “move camp” like a Plains family following the herd.

You will need

- Brown paper bags or tan construction paper
- A dinner plate to trace, and scissors
- 3 drinking straws, chopsticks or twigs for each tipi
- Tape, crayons or markers
- A towel or blanket for the prairie, and a few toy animals or cotton-ball “bison”

Steps

1. Trace half of a dinner plate on the paper to make a half circle, and cut it out. A parent can help.
2. Crumple the paper and smooth it out again so it looks like soft hide.
3. Draw pictures on it with crayons: a bison, a horse, the sun, or a pattern of your own. Plains families painted their tipis too.
4. Tie or tape 3 straws together near the top and spread their feet to make a cone.
5. Wrap the half circle around the straws and tape it. Leave a small door flap at the bottom and an opening at the top for smoke.
6. Make 3 tipis and set them up in a camp on your blanket prairie.
7. Put the “bison” across the room. Now move camp: take the tipis down, lay the straws and covers on a folded paper “travois” and drag it to the herd. Set the camp up again.

Tips

- Count how long it takes to take down and set up your camp. Could a family in a house move that fast?
- Many Plains peoples set the tipi door facing east, toward the rising sun.

Check your work

- I can show the poles, the hide cover, the door and the smoke opening on my tipi.
- I can explain why a tipi was a good home for people who followed the bison.

MAP NOTEBOOK

1. Draw a bison. Around it, draw three things the people made from it: food, a robe and a tipi.
2. Draw a dog or a horse pulling a travois loaded with tipi poles.
3. Draw the Great Plains: a long flat line of grass, a big sky, tipis and a herd in the distance.

From history. When Catlin traveled the Plains, tens of millions of bison still roamed there. Fifty years later, hunters had killed almost all of them for their hides, often leaving the meat to rot. Without the bison, the Plains peoples lost their food and their homes, and the United States government moved them onto reservations. It was a sad and real wrong. A few people worked hard to save the last bison, and today thousands of them live again in places like Yellowstone National Park.

WORKED EXAMPLES

Example 1. Look at the picture map. The camp is in square A3. The bison herd is in square D3. North is up. How many squares must the hunters ride to reach the herd, and which way do they go?

(Use the map or drawing “Count the squares from the camp to the herd.” shown earlier in this lesson.)

1. Find the camp: go to column A and row 3. There are the tipis.
2. Find the herd: column D, row 3.
3. Both are in row 3, so the hunters ride straight across the row.
4. Count the squares from A to D: B is 1, C is 2, D is 3.
5. North is up, so east is to the right. The hunters ride to the right.

Answer: 3 squares east.

PRACTICE

1. **EASY** Name three things the Plains peoples made from the bison.
2. **EASY** What animal pulled the travois long ago, before horses came?
3. **MEDIUM** On the picture map, the herd moves from D3 to D1. How many squares did it move, and which way?
(Use the map or drawing “The camp and the herd.” shown earlier in this lesson.)
4. **MEDIUM** A camp has 8 tipis. The family puts up 4 more. How many tipis are in the camp now?
5. **MEDIUM** Tell a grown-up why the Plains peoples did not build longhouses of bark.

COMMON MISTAKES

- Thinking the Plains peoples always had horses. Horses came with the Spanish; before that, dogs pulled the travois and people walked.
- Thinking a tipi was a weak tent. Its cone shape stood strong in the wind, and a fire inside kept it warm in winter.
- Thinking every Plains people moved about. Some, like the Mandan along the Missouri River, farmed and lived in earth lodges.

Make it a game • Follow the Herd. One player is the bison herd and walks slowly around the yard or room, stopping to “graze.” The others are a Plains family with a blanket and a few pillows for their camp. Each time the herd stops, the family must pack up the pillows, drag them on the blanket like a travois, and set up camp close to the herd before a parent counts to 20. Take turns being the herd.

Scripture. “He causeth the grass to grow for the cattle, and herb for the service of man: that he may bring forth food out of the earth;” (Psalm 104:14, KJV)

God made the grass of the Plains grow, the grass fed the bison, and the bison fed the people. Everything on the Plains was tied together, and all of it came from His hand.

Practice answers

1. Any three: food (meat), robes or blankets, tipi covers, tools from bones, thread from sinew.
2. Dogs.
3. 2 squares north (up).
4. 12 tipis.
5. The Plains had few trees, so there was not much bark or wood. The people also moved often to follow the bison, so they needed a home they could carry, the tipi.

6.3 PEOPLES OF THE SOUTHWEST

OBJECTIVES

- Tell how the Pueblo peoples built homes of adobe and stone in the dry Southwest.
- Describe the cliff dwellings of Mesa Verde and tell how they were found in 1888.
- Count the rooms of a pueblo in a picture and build a model pueblo.

Warm-up. Put one hand on a sunny window and one hand on a thick wall of your house or a brick outside. Which feels hotter? Thick walls of earth and stone stay cool on a hot day. Keep that in mind as we visit the hot, dry Southwest.

Video. Coming soon. Short kid-friendly videos (under 8 minutes) of Cliff Palace at Mesa Verde and of adobe bricks being made and dried in the sun: search National Park Service (Mesa Verde National Park; candidate, needs vetting), Smithsonian (National Museum of the American Indian), and Homeschool Pop (Alternate); preview first.

KEY TERMS

pueblo

A Spanish word for a town. It also means the Pueblo peoples and their homes of many rooms built side by side and stacked up like blocks.

adobe

Say it “uh-DOE-bee.” Mud mixed with straw, shaped into bricks and dried hard in the hot sun.

cliff dwelling

A home of stone built under the overhang of a cliff, like a house in a giant shelf of rock.

mesa

Say it “MAY-sah.” A Spanish word for table. A hill with steep sides and a flat top, like a table.

CORE IDEAS

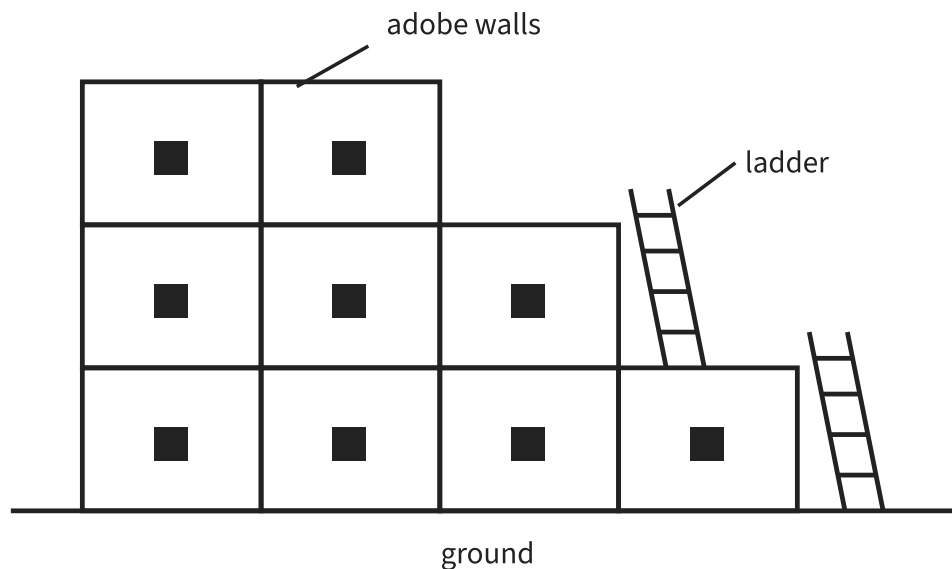
The story. On a snowy day in December 1888, two cowboys named Richard Wetherill and Charlie Mason rode across a high mesa in Colorado looking for lost cattle. They came to the edge of a deep canyon and looked across. There, tucked under a great overhang of rock in the far cliff, was a whole town of stone! It had towers, walls and windows, and no one was living in it. They named it Cliff Palace. It has about 150 rooms. People had built it more than six hundred years before.

How they lived. The people who built Cliff Palace are called the Ancestral Puebloans. They farmed corn, beans and squash on the flat top of the mesa and climbed down the cliff on handholds and toeholds cut into the rock. Their stone homes sat safe under the overhang, out of the rain and snow. Then, around the year 1300, they moved south. Their children’s

children are the **Pueblo** peoples of New Mexico and Arizona, such as the Hopi, the Zuni and the people of Taos. They built towns of **adobe**, bricks of mud and straw dried in the sun. The rooms were stacked up like steps, and people climbed ladders from roof to roof. At Taos Pueblo in New Mexico, families have lived in the same adobe town for hundreds of years.

The big idea. The land shaped the home. The Southwest is dry, with little rain and few big trees, but it has plenty of mud, clay and stone. So the people built with earth and rock. Thick adobe and stone walls stay cool in the hot day and hold warmth through the cold desert night. Rain was precious, so the people farmed carefully and saved water.

On the map. Mesa Verde is in the southwest corner of Colorado, near the place where four states meet: Colorado, Utah, Arizona and New Mexico. Taos Pueblo is in northern New Mexico. Today Mesa Verde is a national park, and you can climb ladders into the cliff dwellings yourself.



A pueblo is built like steps. People climbed ladders from roof to roof.

PICTURE STUDY



*Cliff Palace, Mesa Verde, Gustaf Nordenskiöld, 1891 · Photograph · Published in his book *The Cliff Dwellers of the Mesa Verde* (1893)*

Gustaf Nordenskiöld was a young scientist from Sweden. In 1891, only three years after Cliff Palace was found, he came to Mesa Verde with a heavy camera on a tripod. He worked with the Wetherill family to measure the ruins and take careful photographs. His book was one of the first to show the world the cliff dwellings.

Look closely: this whole village was built by hand, stone by stone, under a giant shelf of rock.

Look closely

- Find the great overhang of rock above the village. What does it keep off the houses?
- Find a tall tower. Is it square or round?
- Find some small doorways. Are they big or little compared to the walls?
- Look at the stones in the walls. How do you think the builders carried them there?

Talk about it

1. Why do you think the people built their homes under the cliff instead of on top of the mesa?
2. How would you feel climbing down the cliff to get home?

Safety first. An adult should do any cutting of boxes with a craft knife. Wash hands after working with clay or mud.

PROJECT: A MODEL PUEBLO

This is the unit project. You will build a pueblo of many rooms stacked up like steps, with ladders from roof to roof. Use small boxes, or use clay, or both.

You will need

- 6 to 10 small boxes (tea boxes, jewelry boxes, milk cartons cut down), or air-dry clay
- Tan or brown paint mixed with a spoonful of sand, or brown paper to cover the boxes
- Glue or tape
- Craft sticks or toothpicks and glue for ladders
- A piece of cardboard for the base

Steps

1. Set out the bottom row of rooms side by side on the cardboard base. Glue them down.
2. Glue a smaller row on top, set back so part of each bottom roof is left open like a porch.
3. Add a third, even smaller row on top. Your pueblo should look like a set of steps.
4. Paint everything with sandy brown paint so it looks like adobe. (If you use clay, press small clay bricks together to make each room.)
5. Cut or draw a few small doors and windows. In many old pueblos, people went in through a hole in the roof.
6. Make ladders: glue two long sticks with three or four short sticks between them. Lean them from the ground to the first roof and from roof to roof.
7. Count your rooms and write the number on the base.

Tips

- A sprinkle of sand in the paint makes the walls look like real adobe.
- To make a cliff dwelling instead, set your pueblo inside a big box turned on its side, so the top of the box is the overhang of rock.

Check your work

- My pueblo has at least three levels that step back like stairs.
- My pueblo has ladders, and I can tell how many rooms it has.
- I can explain why the people built with mud and stone.

MAP NOTEBOOK

1. Draw a mesa: a hill with a flat top like a table. Draw corn growing on top and a cliff dwelling tucked under the rock below the rim.
2. Draw an adobe brick and write what it is made of: mud, straw and sun.
3. Draw Wetherill and Mason on horseback, looking across the canyon at Cliff Palace in the snow.

From history. People soon began carrying away pots and tools from the cliff dwellings and even knocking down walls. Many Americans wanted to protect them. On June 29, 1906, President Theodore Roosevelt signed the law that made Mesa Verde a national park. It was the first national park set aside to protect the works of people, not just the wonders of nature.

WORKED EXAMPLES

Example 1. Look at the picture of the pueblo. How many rooms does it have in all?

(Use the map or drawing “Count the rooms row by row.” shown earlier in this lesson.)

1. Count the bottom row: 1, 2, 3, 4. There are 4 rooms.
2. Count the middle row: 1, 2, 3. There are 3 rooms.
3. Count the top row: 1, 2. There are 2 rooms.
4. Add them: $4 + 3 = 7$, and $7 + 2 = 9$.

Answer: 9 rooms.

PRACTICE

1. **EASY** What is adobe made of?
2. **EASY** In the pueblo picture, how many ladders do you see?
(Use the map or drawing “A pueblo with ladders.” shown earlier in this lesson.)
3. **MEDIUM** A family adds 3 new rooms to the 9-room pueblo. How many rooms are there now?
4. **MEDIUM** Point up for higher and down for lower: Where did the cliff dwellers grow their corn, on top of the mesa or at the bottom of the canyon?
5. **MEDIUM** Finish the sentence: “The Southwest is dry and has few big trees, so the people built their homes out of ____ and ____.”

COMMON MISTAKES

- Thinking the cliff dwellers simply disappeared. They moved south around 1300, and their descendants are the Pueblo peoples who still live in New Mexico and Arizona.
- Thinking adobe is baked in an oven like a brick from a factory. Adobe bricks are dried by the sun.
- Thinking Wetherill and Mason built or were first to live in Cliff Palace. They only found it, long after the builders had gone.

Make it a game · Ladder Up, Ladder Down. Make a “pueblo” of three steps with sofa cushions, a low stool and the floor (or chalk three boxes on the sidewalk). A parent calls out a room: “Top floor!” “Bottom floor!” “Middle floor!” Climb or hop to that level as

quickly and safely as you can. For a harder round, the parent calls a number of rooms, like “4 and 3,” and you shout the total before you climb.

Scripture. “Therefore whosoever heareth these sayings of mine, and doeth them, I will liken him unto a wise man, which built his house upon a rock:” (Matthew 7:24, KJV)

The stone houses of Mesa Verde have stood on their rock for hundreds of years. Jesus says that a person who hears His words and does them is like a builder who chose a strong rock to build on.

Practice answers

1. Mud and straw, dried in the sun.
2. 2 ladders.
3. 12 rooms.
4. On top of the mesa (point up). Their homes were tucked in the cliff below the rim.
5. Mud (adobe) and stone.

6.4 PEOPLES OF THE NORTHWEST COAST

OBJECTIVES

- Tell how the peoples of the Northwest Coast used giant cedar trees and the salmon of the rivers and sea for homes, canoes and food.
- Explain what a totem pole is: a carved cedar pole that tells a family's story.
- Point to the four lands of this unit on a map and tell how each land shaped its homes.

Warm-up. Hold a piece of wood (a block, a ruler or a spoon) and sniff it. Then think of the biggest tree you have ever seen. On the Northwest Coast grow cedar trees so tall that one tree could become a whole canoe or the walls of a house. Today we sail to that coast.

Video. Coming soon. Short kid-friendly videos (under 8 minutes) of salmon swimming upstream, a dugout cedar canoe being carved or paddled, and a totem pole being carved and raised: search Smithsonian (National Museum of the American Indian), National Park Service (Sitka National Historical Park totem poles; candidate, needs vetting), and nature footage of salmon runs from NOAA (candidate, needs vetting); preview first.

KEY TERMS

cedar

A tall, sweet-smelling tree that grows on the rainy Northwest Coast. Its wood is easy to split and carve, and it does not rot quickly.

salmon

A big fish that lives in the ocean and swims up the rivers each year to lay its eggs.

totem pole

A tall cedar pole carved with animals and people that tell a family's story, like a family crest. It is not something to worship.

plank house

A big house made of wide, flat boards split from cedar logs, where several families lived.

CORE IDEAS

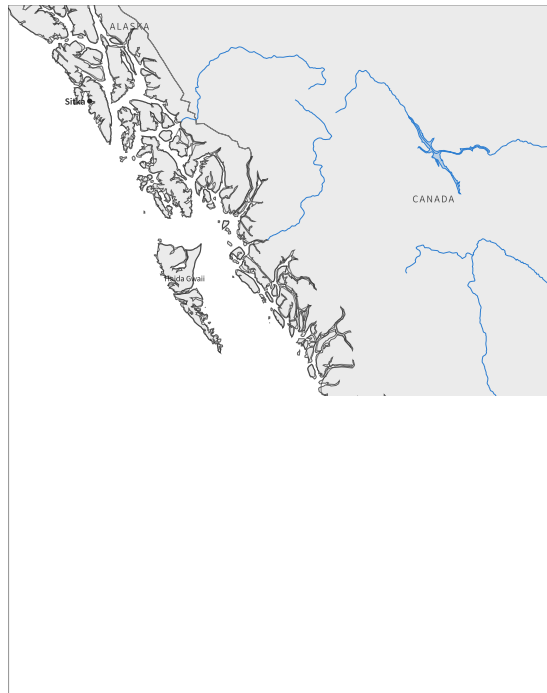
The story. In the spring of 1778, the English explorer Captain James Cook sailed two ships into a quiet bay on the coast of what is now Canada. It is called Nootka Sound. Soon long wooden canoes came gliding out to meet the ships. They were full of people who lived along that shore. Some stood up and made speeches, and some sang. Then they began to trade: they offered soft furs of the sea otter, and Cook's sailors gave them metal tools and buttons. Cook's artist, John Webber, went ashore and drew their great houses of cedar boards.

How they lived. The peoples of the Northwest Coast, like the Nuu-chah-nulth whom Cook met, the Haida and the Tlingit, lived between the forest and the sea. From the giant **cedar** trees they split wide boards for **plank houses** and carved whole canoes from a single log.

Some canoes were longer than a school bus! Every year the rivers filled with **salmon** swimming home from the ocean. Families caught them, then smoked and dried them to eat all winter. Carvers made **totem poles** of cedar, with eagles, ravens, bears and whales stacked one on top of another. A totem pole was like a family's crest or a story carved in wood. It told who the family was and what had happened to them.

The big idea. The land shaped the home. The Northwest Coast is cool and very rainy, so giant cedar forests grow there. The rivers and sea are full of fish. With so much food close by, people did not need to follow herds. They stayed in big villages of plank houses facing the water, and they traveled by canoe instead of on foot.

On the map. The Northwest Coast runs along the Pacific Ocean from Oregon and Washington north through Canada to southeast Alaska. Look at the big map of this unit. Each people used the gifts of its own land: bark and good soil in the Eastern Woodlands, bison and grass on the Plains, mud and stone in the Southwest, and cedar and salmon on the Northwest Coast. God set each land in its place and gave each one its gifts.

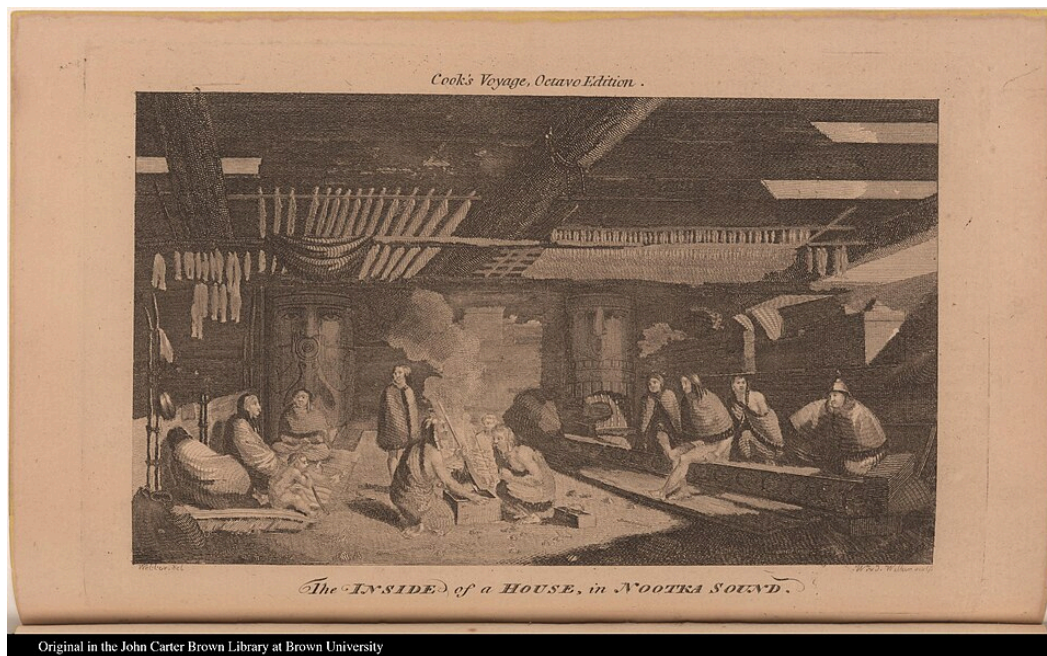


The Northwest Coast, between the forests and the Pacific Ocean.



The four lands of this unit. Each land shaped the homes its people built.

PICTURE STUDY



The Inside of a House in Nootka Sound, John Webber, Drawn in 1778; engraved and published in 1784 ·
Engraving after a drawing made on the spot · Published in the official account of Captain Cook's third voyage, *A Voyage to the Pacific Ocean* (London, 1784)

John Webber was the artist who sailed with Captain Cook on his third voyage. His job was to draw what the explorers saw, because there were no cameras yet. At Nootka Sound in 1778 he stepped inside a big cedar house and drew the family living there. Back in England, his drawing was carved into a metal plate and printed in the book about the voyage.

Look closely

- Look up at the beams of the roof. What is hanging there to dry?
- Find the fire. What are the people doing around it?
- Find the two big carved figures at the back of the house. What are they made of?
- Look at the walls. Can you see the wide boards?

Talk about it

1. Why would a family hang fish up high near the smoke of the fire?
2. How is this house like a longhouse? How is it different from a tipi?

PROJECT: MY FAMILY TOTEM POLE

Northwest Coast families carved poles to tell who they were. You will make a small pole from a paper towel tube that tells the story of your own family.

You will need

- A paper towel tube
- Paper, crayons or markers, scissors and glue
- A small lump of clay or play dough for a stand

Steps

1. Talk with your parent about your family. Choose three animals or pictures that fit your family: maybe a dog you love, a fish because you like to fish, or a cross because your family follows Jesus.
2. Cut a piece of paper to wrap around the tube. Draw a line to split it into three parts, top, middle and bottom.
3. Draw one picture in each part. Use bold black outlines and bright red, black and blue-green, the colors many Northwest Coast carvers used.
4. Wrap the paper around the tube and glue it.
5. Cut out two wings from paper and glue them near the top, like a spread-winged eagle or raven.
6. Press the bottom into the clay so the pole stands up.
7. Stand your pole up and tell your family's story to someone, from the bottom to the top.

Tips

- Real poles were carved from one tall cedar log and could be taller than a house.
- Remember, a totem pole is a story and a sign of the family, not an idol to pray to.

Check your work

- My pole has three pictures that stand for my family.
- I can tell what each picture means.

- I can say what totem poles are made of and why people carved them.

MAP NOTEBOOK

1. Draw a salmon swimming up a river, with a cedar forest on each bank.
2. Draw a cedar canoe full of paddlers coming out to meet Captain Cook's tall sailing ship.
3. Draw four small homes in four boxes and label them: longhouse, tipi, pueblo, plank house.

From history. Captain Cook's sailors took some of the sea otter furs they got at Nootka Sound across the Pacific to China, and they were amazed at the high prices the furs sold for there. When the book of the voyage was printed in 1784, traders from England and America rushed to the Northwest Coast to buy furs. Within a few years, ships from Boston were sailing all the way around South America to trade there.

WORKED EXAMPLES

Example 1. Look at the map of the Northwest Coast. Captain Cook's ships came into Nootka Sound. North is at the top. Is the Pacific Ocean east or west of Nootka Sound? Which is farther north, Nootka Sound or Sitka?

(Use the map or drawing "Use north at the top to find east and west." shown earlier in this lesson.)

1. North is at the top, so west is to the left and east is to the right.
2. Find Nootka Sound. The blue ocean is to its left. So the ocean is to the west.
3. Find Sitka. It is higher up on the map than Nootka Sound.
4. Higher on the map means farther north.

Answer: The Pacific Ocean is west of Nootka Sound. Sitka is farther north.

PRACTICE

1. **EASY** Name two things the Northwest Coast peoples made from cedar.
2. **EASY** What fish swims up the rivers every year and fed the Northwest Coast peoples all winter?
3. **MEDIUM** Match each home to its land: longhouse, tipi, pueblo, plank house. Lands: Plains, Northwest Coast, Eastern Woodlands, Southwest.
4. **MEDIUM** On the big map of this unit, point to the Northwest Coast and then to the Eastern Woodlands. Which ocean is beside each one?
(Use the map or drawing "The four lands of this unit." shown earlier in this lesson.)
5. **MEDIUM** A family smoked 20 salmon on Monday and 15 on Tuesday. How many salmon did they smoke in all?

COMMON MISTAKES

- Thinking a totem pole is an idol. It is a carved family crest or story, a bit like a family's coat of arms.
- Thinking all the peoples of the coast had to hunt and move like the Plains peoples. With so much salmon close by, they lived in big villages that stayed in one place.
- Mixing up the coasts. The Northwest Coast is on the Pacific Ocean, not the Atlantic.

Make it a game • Four Lands, Four Homes. Put four signs in the four corners of a room: Woodlands, Plains, Southwest, Northwest Coast. A parent calls out a clue, like “bark,” “bison,” “adobe,” “salmon,” “canoe,” “ladder,” “Three Sisters” or “totem pole.” Run to the right corner and act it out: paddle a canoe, climb a ladder, ride after the bison or plant corn. A correct corner earns a point; play to 10.

Scripture. “And hath made of one blood all nations of men for to dwell on all the face of the earth, and hath determined the times before appointed, and the bounds of their habitation;” (Acts 17:26, KJV)

God made every nation, and He knows where each one lives: the longhouse people of the woods, the tipi people of the Plains, the pueblo people of the desert and the canoe people of the coast. All of them are of “one blood,” one human family made by Him.

Practice answers

1. Any two: plank houses, canoes, totem poles, boxes, bowls (also clothing and mats from cedar bark).
2. Salmon.
3. Longhouse: Eastern Woodlands. Tipi: Plains. Pueblo: Southwest. Plank house: Northwest Coast.
4. The Northwest Coast is beside the Pacific Ocean. The Eastern Woodlands are near the Atlantic Ocean.
5. 35 salmon.

UNIT 6 REVIEW

A parent reads each question aloud. The child answers out loud, points or draws. The review is worth 20 points.

1. (3 pts) What kind of house did the Haudenosaunee (Iroquois) live in, and what was it covered with?
2. (2 pts) Name the Three Sisters.
3. (3 pts) Why did the Plains peoples live in tipis that could be packed up and moved?
4. (2 pts) On a map grid, the camp is in square A2 and the herd is in square E2. How many squares apart are they?
5. (3 pts) What is adobe made of? Why was it a good way to build in the Southwest?
6. (2 pts) A pueblo has 5 rooms on the bottom, 4 in the middle and 2 on top. How many rooms in all?
7. (3 pts) Name the big tree and the fish that the Northwest Coast peoples depended on. What is a totem pole?
8. (2 pts) Point on the big map of this unit (or any U.S. map): Which land is beside the Pacific Ocean, the Eastern Woodlands or the Northwest Coast?

UNIT PROJECT: MY MAP OF THE FIRST PEOPLES AND THEIR HOMES

On a large sheet of paper, draw or trace an outline map of the United States. Mark the four lands of this unit: Eastern Woodlands, Great Plains, Southwest and Northwest Coast. In each land, draw its home (longhouse, tipi, pueblo, plank house) and one gift of the land (trees and corn, bison, clay and stone, cedar and salmon).

Set your model pueblo from Lesson 6.3 beside the map, along with your longhouse, tipis and family totem pole if you made them. Then give a short “museum tour” to your family, telling how the land shaped each home.

- **Map:** All four lands are in the right places, and each is labeled.
- **Homes and gifts:** Each land shows the right home and one gift of the land.
- **Model pueblo:** The pueblo has at least three levels that step back, ladders, and the number of rooms written on it.
- **Telling:** The child can tell, in their own words, how the land shaped the home in each place.

Answer key

1. A longhouse, covered with sheets of bark (often elm bark).
2. Corn, beans and squash.
3. They followed the bison herds across the Plains, and there were few trees for building, so they needed a home of hides they could pack up quickly and carry. (Full credit for following the herds plus a home that could be moved; mentioning few trees is a bonus.)
4. 4 squares (B, C, D, E).

5. Mud and straw dried in the sun. The Southwest is dry with few big trees but plenty of mud, and thick earth walls stay cool in the day and warm at night.
6. 11 rooms.
7. Cedar and salmon. A totem pole is a tall carved cedar pole that tells a family's story, like a family crest.
8. The Northwest Coast.

TRAILS AND TRAVELERS

For a long time, the West was a big blank on American maps. This unit follows the travelers who filled it in. In 1804 Meriwether Lewis and William Clark rowed up the Missouri River, crossed the Rocky Mountains with help from Sacagawea, and reached the Pacific Ocean. Clark's great **map of the West**, printed in 1814, showed the next travelers the way. Then, beginning in the 1840s, thousands of families loaded **covered wagons** and walked about 2,000 miles on the **Oregon Trail**, a trip of about five months, watching for landmarks like Chimney Rock and Independence Rock.

Next your child meets the riders of the **Pony Express** (1860–1861), who carried the mail from Missouri to California in about ten days by changing to fresh horses at station after station, until the telegraph wire beat them all. Last, we learn why every trail stop, camp and fort stood by a **river or spring**: travelers and their animals needed water, grass and wood. This is our technology thread in action: months by wagon, days by pony, minutes by wire. God “hath determined the times before appointed, and the bounds of their habitation” (Acts 17:26), and He watched over the travelers on every mile.

All through the unit, your child builds pieces for the capstone: an **Oregon Trail board game** with a shoebox wagon, a river-and-fort stop, and landmarks to land on.

BEFORE YOU BEGIN

- Knows the four directions and that west is on the left of most maps
- Can find the Mississippi and Missouri Rivers and the Rocky Mountains on a U.S. map
- Can count by tens and add $15 + 15$
- Can roll a die and move a game piece

MASTERY CHECKLIST

- I can tell who Lewis and Clark were and why William Clark's map was important.
- I can trace the Oregon Trail from Missouri to Oregon and name three landmarks along it.
- I can tell how a covered wagon was pulled and about how long the trip took.
- I can explain how the Pony Express used a relay of fresh horses, and why the telegraph ended it.
- I can tell why travelers stopped and built forts by rivers and springs.

OPTIONAL BOOKS AND RESOURCES

- **Lewis and Clark National Historic Trail (National Park Service)**
(<https://www.nps.gov/lecl/>): Free. Maps, photos and short stories about the Corps of Discovery for Lesson 7.1. A parent can choose pictures of the Missouri River and the mountains to look at together.

- **Oregon National Historic Trail (National Park Service)**
(<https://www.nps.gov/oreg/>): Free. Photos of Chimney Rock, Independence Rock, wagon ruts and trail forts for Lessons 7.2 and 7.4. Good for choosing landmarks for the board game.
- **Pony Express National Historic Trail (National Park Service)**
(<https://www.nps.gov/poex/>): Free. Maps and pictures of Pony Express stations and riders for Lesson 7.3.

7.1 LEWIS AND CLARK'S MAP ★

OBJECTIVES

- Tell how Meriwether Lewis and William Clark traveled west up the Missouri River and over the mountains to the Pacific Ocean (1804–1806).
- Explain that William Clark drew a map of what they saw, and that his map was printed in 1814 so others could use it.
- Trace the route on a map from St. Louis to the Pacific and say which way it goes.

Warm-up. Take a pencil and a piece of paper outside, or to a window. Draw only what you can see: a tree, a path, a fence, a neighbor's house. Do not guess about the parts you cannot see. Leave them blank. This is how an explorer makes a map: one step at a time, drawing only what he has really seen.

Video. Coming soon. A short kid-friendly video (under 8 minutes) on Lewis and Clark and the Corps of Discovery, such as a simple animation or a picture book read aloud, ideally showing Clark's maps and journals. Search Homeschool Pop (Alternate), Drive Thru History, Smithsonian, Library of Congress, and the National Park Service (candidate, needs vetting) or Brightly-style read-alouds (candidate, needs vetting).

KEY TERMS

explorer

A person who travels to a place he does not know in order to find out what is there.

expedition

A long trip made by a group of people for a special purpose, like exploring.

journal

A notebook where you write and draw what happens each day.

mapmaker

A person who draws maps. William Clark was the mapmaker of his expedition.

CORE IDEAS

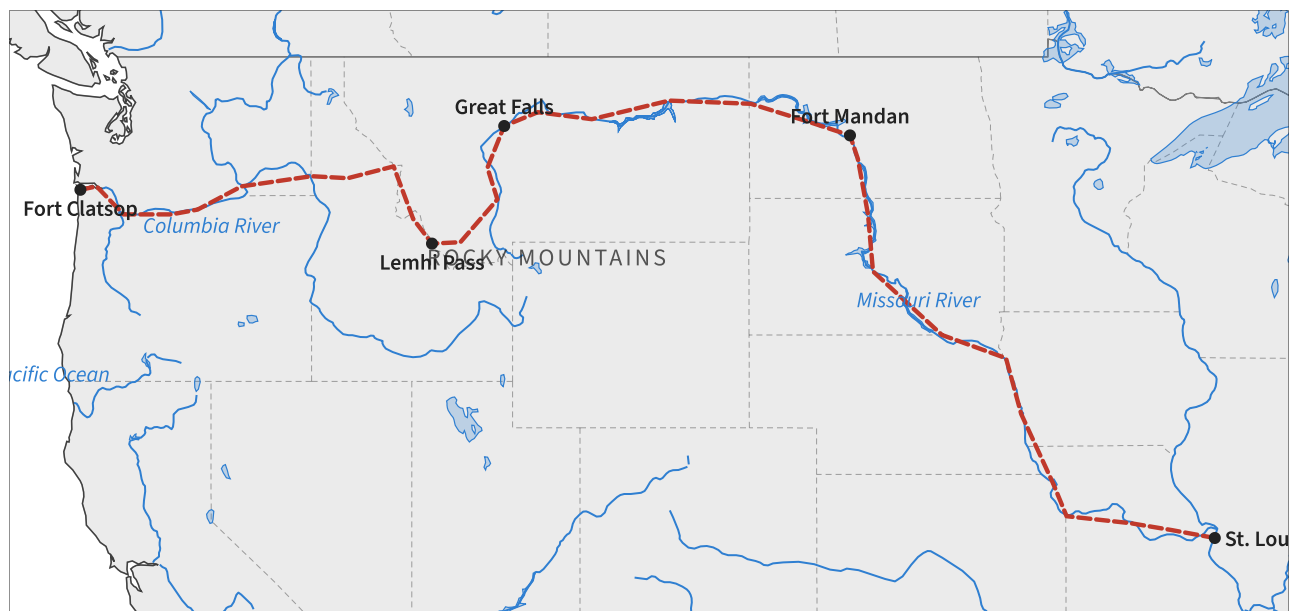
The story. In 1803 President Thomas Jefferson had a big question. What was out in the West? No one in the United States had a good map of it. So he sent two brave men, Meriwether Lewis and William Clark. In May 1804, their group, called the Corps of Discovery, set out in boats from near St. Louis. They rowed and pulled their boats up the Missouri River, against the current, all summer long. A young Shoshone woman named Sacagawea joined them that winter, and in the spring she carried her new baby boy along. She helped them talk with her people and trade for horses to cross the mountains.

How they did it. Every day Clark used a compass to see which way the river bent. He guessed how many miles they had gone. He wrote it all in his journal and drew little maps.

At last, in November 1805, they came near the Pacific Ocean. Clark was so happy that he wrote in his journal, "Ocian in view! O! the joy." (He spelled ocean in his own way!) Then they turned around and came home to St. Louis in September 1806.

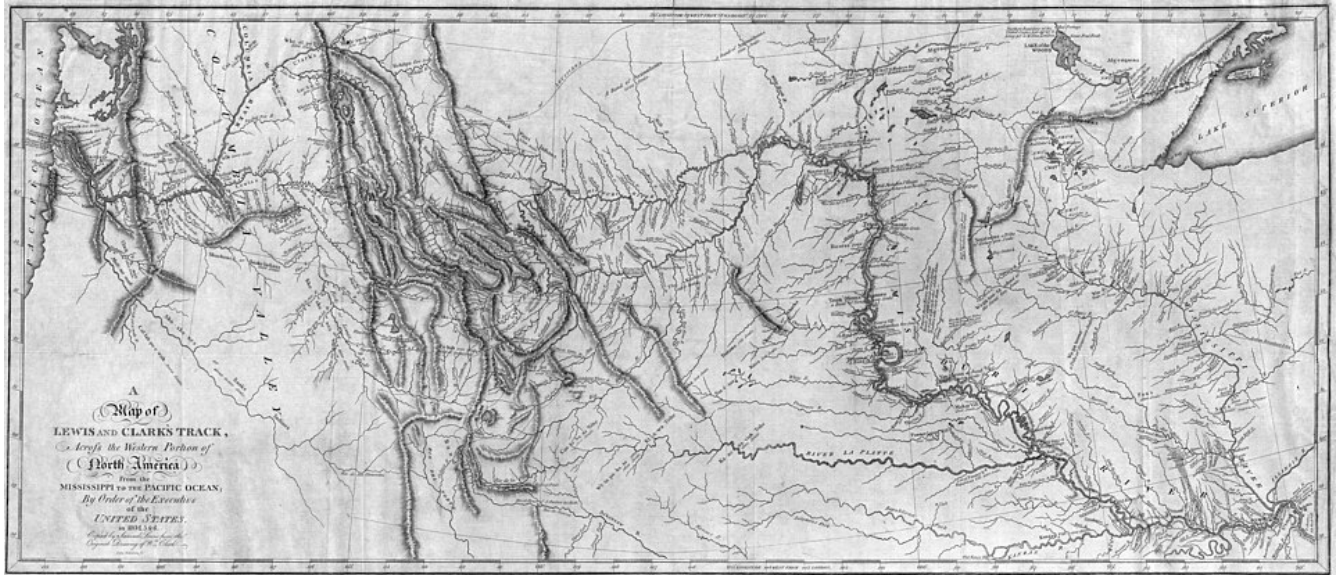
The big idea. Clark put all his little maps together into one big map of the West. It was printed in 1814. For the first time, people could see where the Missouri River really went. They could see that the Rocky Mountains were not one small ridge. They were many, many mountains, wide and hard to cross. A good map helps the next travelers. Soon fur traders, and later families in wagons, would follow.

On the map. Put your finger on St. Louis, near the middle of our country. Move it up the Missouri River, north and west, into the mountains. Now cross the mountains and follow the Columbia River west to the Pacific Ocean. That is the way Lewis and Clark went. Most of the trip went **west**.



The route of Lewis and Clark, 1804-1806.

PICTURE STUDY



A Map of Lewis and Clark's Track, Across the Western Portion of North America from the Mississippi to the Pacific Ocean, William Clark (copied by Samuel Lewis, engraved by Samuel Harrison), 1814 · Engraved map, printed in ink on paper · Library of Congress, Washington, D.C. (and other libraries)

This is the map that William Clark drew after he came home. A Philadelphia mapmaker named Samuel Lewis copied it neatly, and an engraver named Samuel Harrison cut it into a metal plate so it could be printed. It came out in 1814 in a book about the expedition. There were no cameras or airplanes. Every river and mountain on it came from what Clark and his men saw with their own eyes, wrote down, and measured.

Look closely

- Find the long rivers that wiggle across the map. Which one do you think is the Missouri?
- Find the rows of tiny bumps. Those are mountains. Are there a few or a lot?
- Find the ocean on the left side of the map. What is it called?
- Look at the parts with only a few marks. Why might Clark leave some places almost empty?

Talk about it

1. Clark drew the rivers very carefully. Why would rivers be the most important thing to draw?
2. How is this old map different from a map you could see on a phone today?
3. If you were a traveler in 1814, how would this map help you?

PROJECT: MY EXPLORER'S JOURNAL AND MAP

You will be an explorer like William Clark. You will walk a short route, check which way you are going, and draw a map of only what you see.

You will need

- A small notebook, or paper folded and stapled into a book
- A pencil and crayons
- A compass, or a phone compass a parent holds
- A yard, park or hallway to explore

Steps

1. On the cover of your journal, write “Journal of the Corps of Discovery” and your name.
2. With a parent, stand at your starting place. Find north with the compass. Draw a small arrow that says N at the top of your page.
3. Walk to the first thing you see, like a tree. Count your steps. Draw a line on your map and the tree at the end of it. Write how many steps.
4. Turn and walk to a second thing, like a fence or a mailbox. Check the compass. Draw it on your map in the right direction.
5. Do this four or five times. Draw a little “river” if you cross a puddle, a hose or a crack in the sidewalk.
6. At the end, write one sentence in your journal about what you found, the way Clark did.

Tips

- Draw only what you see. Explorers did not make things up.
- If you get mixed up, look at the compass again. North never moves.

Check your work

- I can draw a map of a short trip.
- I can show north on my map.
- I can tell why explorers wrote and drew in a journal.

MAP NOTEBOOK

1. Draw the Corps of Discovery’s boat on the Missouri River, with men pulling it upstream.
2. Draw a compass rose and label N, E, S and W. Draw an arrow pointing the way Lewis and Clark mostly went (west).
3. Write “Oceania in view! O! the joy.” and draw the waves of the Pacific Ocean under it.

From history. William Clark carried a small pocket compass in a wooden case on the trip. Clark’s compass is kept today at the Smithsonian’s National Museum of American History in Washington, D.C. After the expedition, Clark lived in St. Louis for many years and kept working on maps of the West.

WORKED EXAMPLES

Example 1. Look at the map. Lewis and Clark started at St. Louis and ended at Fort Clatsop by the Pacific Ocean. Which way did they mostly travel: north, south, east or west?

(Use the map or drawing “Right to left on this map is east to west.” shown earlier in this lesson.)

1. On this map, north is at the top. So west is on the left and east is on the right.
2. Find St. Louis. It is on the right side of the map.
3. Find Fort Clatsop. It is on the far left side, by the ocean.
4. Going from the right side to the left side means going west.

Answer: They mostly traveled west (and a little north).

PRACTICE

1. **EASY** Who drew the map of the West after the trip?
2. **EASY** Point on the map to the river Lewis and Clark followed up from St. Louis. What is its name?
(Use the map or drawing “Follow the route from St. Louis.” shown earlier in this lesson.)
3. **EASY** What ocean did they reach at the end of their trip west?
4. **MEDIUM** They left in 1804 and came home in 1806. How many years apart are those numbers?
5. **MEDIUM** Tell a grown-up one way Sacagawea helped the expedition.

COMMON MISTAKES

- Thinking Lewis and Clark had a map before they went. They went to make the map, because there was not a good one.
- Thinking the Rocky Mountains were one small hill to step over. Clark’s map showed they were many wide ranges.
- Mixing up left and right with west and east. When north is at the top, west is on the left.

Make it a game • Explorer, Which Way?. Put a paper sign on each wall of a room: N, E, S and W (use a compass to get them right). A parent calls out a place from the lesson, such as “the Pacific Ocean!” or “back home to St. Louis!” You run and touch the wall that points that way from the middle of the country. Pacific is west. St. Louis, coming home, is east. Mountains are west. Take turns being the caller.

Scripture. “If I take the wings of the morning, and dwell in the uttermost parts of the sea; Even there shall thy hand lead me, and thy right hand shall hold me.” (Psalm 139:9–10, KJV)

Lewis and Clark went where no American had traveled over land before, all the way to the edge of the sea. But no place is too far for God. He leads and holds us wherever we go.

Practice answers

1. William Clark.
2. The Missouri River.
3. The Pacific Ocean.
4. 2 years ($1806 - 1804 = 2$).
5. Any true answer, such as: she helped them talk with her Shoshone people and trade for horses to cross the mountains; she found plants to eat; or having a woman and baby along showed other tribes the group came in peace.

7.2 THE OREGON TRAIL ★ ⚙️

OBJECTIVES

- Tell how families crossed about 2,000 miles from Missouri to Oregon in covered wagons pulled by oxen, a trip of about five months.
- Name three landmarks along the trail: Chimney Rock, Independence Rock and South Pass.
- Count how far a wagon could go in a few days, at about 15 miles a day.

Warm-up. Get a pillowcase. Pretend it is your family's covered wagon. You may pack only five things for a trip that will last all summer and into the fall. Choose carefully! Then walk around the house carrying it. Is it heavy? What did you choose, and what did you leave behind?

Video. Coming soon. A short kid-friendly video (under 8 minutes) about pioneer families on the Oregon Trail, such as a simple animation, a covered-wagon museum tour, or a picture book read aloud, ideally showing oxen, wagons and Chimney Rock. Search Homeschool Pop (Alternate), Drive Thru History, Smithsonian, The Henry Ford, and the National Park Service (candidate, needs vetting) or Brightly-style read-alouds (candidate, needs vetting).

KEY TERMS

pioneer

One of the first people to go and live in a new place.

covered wagon

A wooden wagon with a cloth cover stretched over hoops, used to carry a family's things west.

oxen

Big, strong, patient cattle trained to pull wagons and plows.

landmark

Something easy to see and remember, like a tall rock, that helps travelers know where they are.

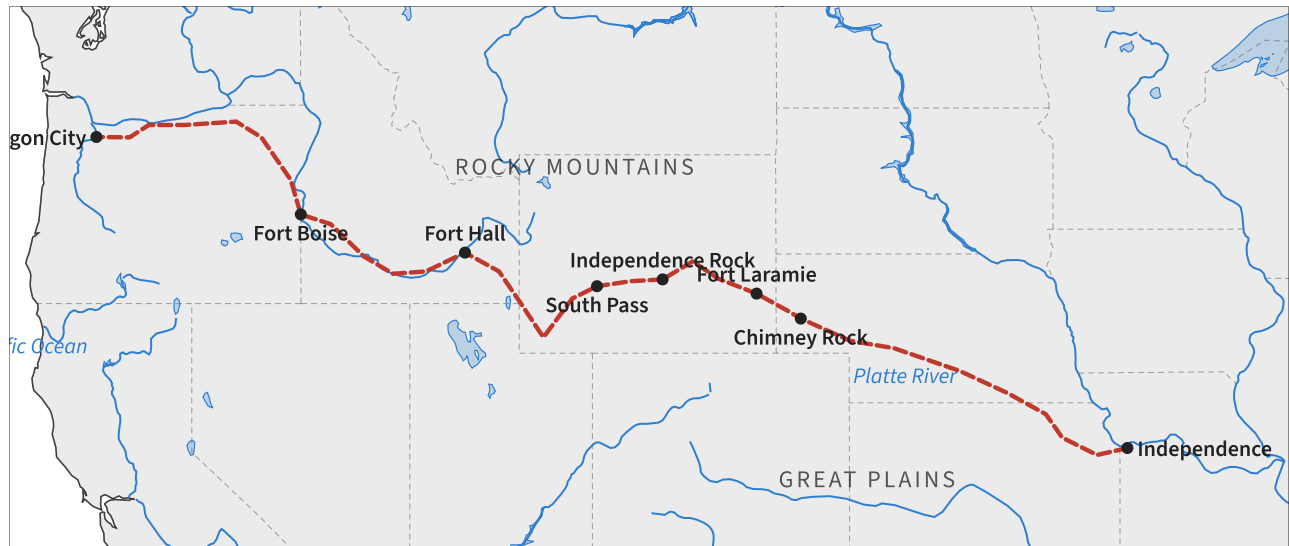
CORE IDEAS

The story. In May 1843, about a thousand people gathered near Independence, Missouri. They had wagons, oxen and cows. They wanted to go to Oregon, where people said the land was green and good for farms. It was about 2,000 miles away! The trip took about five months. Most people did not ride. They walked beside the wagon all day, because the wagon was full of food, tools and seeds.

How it worked. A covered wagon was the best tool they had. It was strong wood, with a cloth cover to keep out rain. Oxen pulled it, slowly and steadily. A good day was about 15 miles. Families had to leave in spring, when the grass was green for the animals. They had to cross the mountains before the snow came in the fall. The trip was hard. Wagons broke, rivers were deep, and many people got sick. Some did not make it. Many travelers prayed and sang hymns along the way.

On the map. The trail went west along the Platte River across the Great Plains. Travelers looked for **landmarks**. First came Chimney Rock in Nebraska, a tall stone tower they could see for days. Next came Independence Rock in Wyoming. Families hoped to reach it by the Fourth of July, and many carved their names on it. Then they crossed the Rocky Mountains at South Pass, a wide, gentle gap. At last they came down the Columbia River to Oregon.

Technology overcoming geography. Wide plains, deep rivers and tall mountains stood in the way. Oxen and wagons got the families through, but it took about five months. Later, the railroad would make a trip west take only about a week. People kept finding faster ways to cross the land God made.



The Oregon Trail and its landmarks.

PICTURE STUDY



The Oregon Trail, Albert Bierstadt, 1869 · Oil on canvas · Butler Institute of American Art, Youngstown, Ohio

Albert Bierstadt came to America from Germany as a little boy. When he grew up, he traveled west in 1859 with a government party along the Oregon Trail, and again in 1863, when he passed a long train of pioneer wagons. He made sketches of what he saw. Later, in his studio, he painted big, glowing pictures of the West. In this one, he shows a wagon train on its long road west.

Look closely

- Find the wagons. What color are their covers?
- Find the animals. Which ones are pulling, and which ones are walking along?
- Look at the sky. What time of day does it look like? Which way is the sun, if the travelers are going west?
- Find the people. Are they riding or walking?

Talk about it

1. How do you think the families feel at the end of a long day?
2. Where is the brightest light in the painting? Why do you think Bierstadt put it there?
3. Would you like to walk beside a wagon all the way to Oregon? Why or why not?

PROJECT: A SHOEBOX COVERED WAGON

You will build a small covered wagon and pack it the way a pioneer family did. Keep it! It can be a playing piece for your Oregon Trail board game at the end of the unit.

You will need

- A small box (a shoebox or a smaller box)
- White paper or a piece of an old white sheet or napkin
- Three pipe cleaners or strips of thin cardboard for hoops
- Four bottle caps or cardboard circles for wheels
- Glue or tape, crayons
- Small things to pack: beans for food, a toothpick for tools, a bead for a water barrel

Steps

1. Color the box brown like wood.
2. Bend the pipe cleaners into upside-down U shapes. Tape them inside the box, one at the front, one in the middle and one at the back. These are the hoops.
3. Lay the white paper or cloth over the hoops and tape it on. Now it is a covered wagon!
4. Glue on four wheels. Wagon wheels in back were often bigger than wheels in front.
5. Pack your wagon. Put in “food” (beans), “tools” (a toothpick), “water” (a bead) and one special thing from home.
6. Draw two oxen on cardboard, cut them out, and stand them in front of the wagon.
7. Tell a grown-up what is in your wagon and why you need each thing.

Tips

- Do not pack too much. Pioneers who overloaded their wagons often had to throw things out along the trail.
- Oxen walked slowly, about as fast as a person. That is why people walked beside them.

Check your work

- I can show the parts of a covered wagon: box, hoops, cover and wheels.
- I can tell what animals pulled the wagon.
- I can tell why a family had to pack carefully.

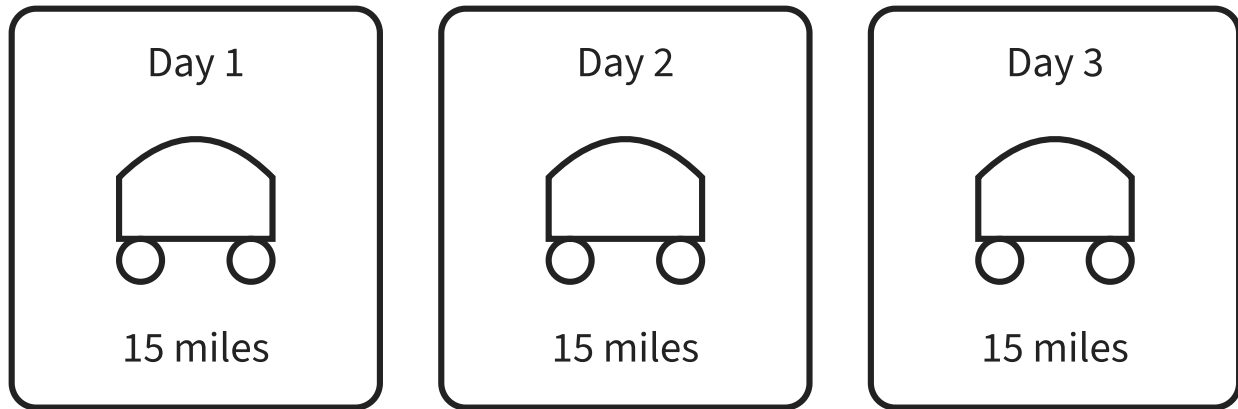
MAP NOTEBOOK

1. Draw a covered wagon with two oxen pulling it. Label the cover, the wheels and the oxen.
2. Draw Chimney Rock standing tall on the plains, with a little wagon below it so you can see how big it is.
3. Draw Independence Rock and write your own name on it, the way the pioneers did.

From history. Independence Rock in Wyoming is a big rounded rock beside the Sweetwater River. Thousands of travelers painted or carved their names on it, and many of those names can still be read today. Some people call it the “Great Register of the Desert,” because it is like a giant guest book of the Oregon Trail.

WORKED EXAMPLES

Example 1. A wagon goes about 15 miles in one day. How far does it go in 3 days?



Each day the wagon went about 15 miles.

1. Look at the picture. There is one box for each day.
2. Day 1 is 15 miles. Day 2 is 15 more miles: $15 + 15 = 30$.
3. Day 3 is 15 more miles: $30 + 15 = 45$.

Answer: About 45 miles in 3 days.

PRACTICE

1. **EASY** What animals usually pulled the covered wagons?
2. **EASY** Point to the start and the end of the Oregon Trail on the map. Name them.
(Use the map or drawing "Find the start and the end." shown earlier in this lesson.)
3. **MEDIUM** Put these landmarks in order, from first to last for a family going west: South Pass, Chimney Rock, Independence Rock.
4. **MEDIUM** A wagon goes about 15 miles a day. How far does it go in 2 days?
5. **MEDIUM** Why did families leave in the spring and not in the fall?

COMMON MISTAKES

- Thinking the pioneers rode in the wagons all day. Most people walked, because the wagons were full and the oxen were slow.
- Thinking the trip took a few days or weeks. It took about five months.
- Thinking the wagons were pulled mostly by horses. Most families used oxen, which were strong, calm and could eat the prairie grass.

Make it a game · Wagons, Ho!. Lay out a path of pillows or paper plates across the room, with one plate marked Chimney Rock, one Independence Rock and one South Pass, and the far end marked Oregon. Roll one die and move your wagon that many steps. If

you land on a landmark, shout its name. If you roll a 1, your wagon wheel broke: say “Fix the wheel!” and skip a turn. First family to Oregon wins.

Scripture. “The LORD shall preserve thy going out and thy coming in from this time forth, and even for evermore.” (Psalm 121:8, KJV)

Pioneer families left their old homes and did not know what was ahead. They trusted God to watch over them on the long road, and we can trust Him on every trip we take.

Practice answers

1. Oxen.
2. It starts at Independence, Missouri, and ends at Oregon City, Oregon.
3. Chimney Rock, then Independence Rock, then South Pass.
4. About 30 miles ($15 + 15 = 30$).
5. In spring the grass was green for the oxen to eat, and they needed time to cross the mountains before the snow came.

7.3 THE PONY EXPRESS ⚙️

OBJECTIVES

- Tell how Pony Express riders carried mail nearly 2,000 miles from Missouri to California in about ten days (1860–1861).
- Explain a relay: fresh horses waited at stations, so the mail never had to stop.
- Count stations, horses and miles on a simple relay picture.

Warm-up. Hold a race in the hallway or yard. First, one person runs back and forth four times alone. Then four people each run one time, handing a sock “letter” to the next runner. Which way was faster? Why? Today we meet riders who used this same trick to cross the West.

Video. Coming soon. A short kid-friendly video (under 8 minutes) about the Pony Express, such as a simple animation, a Smithsonian National Postal Museum clip, or a picture book read aloud, showing riders, relay stations and the mochila. Search The History Guy (preview first), Drive Thru History, Smithsonian, Homeschool Pop (Alternate), and the National Park Service (candidate, needs vetting) or Brightly-style read-alouds (candidate, needs vetting).

KEY TERMS

Pony Express

A mail service of fast riders on horseback who carried letters across the West in 1860 and 1861.

relay

A way of going fast by taking turns: one runner or horse passes the job to a fresh one.

station

A stopping place along a route. Pony Express stations kept fresh horses ready.

mochila

A leather cover that fit over the saddle, with four pockets for the mail. (Say it: mo-CHEE-lah.)

CORE IDEAS

The story. On April 3, 1860, a crowd waited in St. Joseph, Missouri. A rider jumped onto his horse with a bag of mail and galloped off toward the west. At the same time, another rider set out from California going east. This was the very first day of the **Pony Express**. Before then, a letter to California could take weeks or even months. The Pony Express could carry it nearly 2,000 miles to Sacramento in about ten days!

How it worked. The secret was a **relay**. Along the trail there were many small **stations**, often about 10 to 15 miles apart. A horse can gallop fast, but not all day. So at each station, a

fresh horse stood waiting. The rider leaped off his tired horse and onto the new one. He flung the **mochila** with the mail over the new saddle. In about two minutes he was gone! After many stations, a new rider took over. Riders were young and light, so the horses could run fast. They rode in sun, rain, snow and dark of night.

On the map. The Pony Express started at St. Joseph, Missouri. It went west along the Platte River, the same way as the Oregon Trail. It crossed the Rockies at South Pass. Then it turned toward Salt Lake City, crossed the deserts of Utah and Nevada, climbed over the Sierra Nevada mountains, and came down to Sacramento, California.

Technology overcoming geography. The Pony Express was fast, but it lasted only about a year and a half. In October 1861, workers finished a telegraph line across the country. A telegraph sent messages along a wire in minutes! No horse could beat that. So the Pony Express stopped. Ten days had become a few minutes.



The Pony Express route, 1860-1861.

PICTURE STUDY



The Coming and Going of the Pony Express, Frederic Remington, 1900 · Oil on canvas · Gilcrease Museum, Tulsa, Oklahoma

Frederic Remington loved to paint horses and riders of the Old West. He was born in 1861, the year the Pony Express ended, so he never saw it. But he studied horses so carefully that his paintings look full of motion. The title tells us what he shows: the most exciting moment of the Pony Express, when the mail comes in to a station and goes out again on a fresh horse.

Look closely

- Find the riders and horses. Which one is coming, and which one is going?
- Look at the horses' legs. Are any hooves off the ground? How can you tell they are moving fast?
- Find the station. Who works there?
- Look at the ground and the sky. Does this place look green and wet, or dry and dusty?

Talk about it

1. Why did the rider need a fresh horse at each station?
2. How do you think the rider feels, riding alone across the West?
3. If you could send one letter by Pony Express, who would you send it to?

PROJECT: MAKE A MOCHILA AND RUN THE RELAY

You will make a paper mochila with four mail pockets, write tiny letters, and run a Pony Express relay with your family.

You will need

- A large sheet of brown paper, a paper grocery bag, or a piece of felt
- Four envelopes or small folded paper pockets
- Tape or glue, crayons
- Small slips of paper for letters
- A broom, stick horse or pillow for a “horse” (optional)
- A watch or timer

Steps

1. Cut the brown paper into a big rectangle. Cut a slit in the middle so it can hang over the back of a chair, like a saddle.
2. Tape one envelope near each corner. These are the four mail pockets.
3. Write four tiny letters, such as “Hello from Missouri!” Put one in each pocket.
4. Set up four “stations” around the yard or house, with a family member at each one.
5. Run from station to station with the mochila. At each station, hand it to the next runner, or switch to a fresh stick horse.
6. Time the relay. Then have one person run the whole route alone. Which was faster?
7. At the last station, open the pockets and read the letters out loud.

Tips

- The real riders changed horses in about two minutes. Practice handing off the mochila quickly!
- Keep the mochila light. The Pony Express charged a lot to send a letter, so people wrote on very thin paper.

Check your work

- I can show what a mochila is and how it carried mail.
- I can explain what a relay is.
- I can tell why fresh horses made the mail go faster.

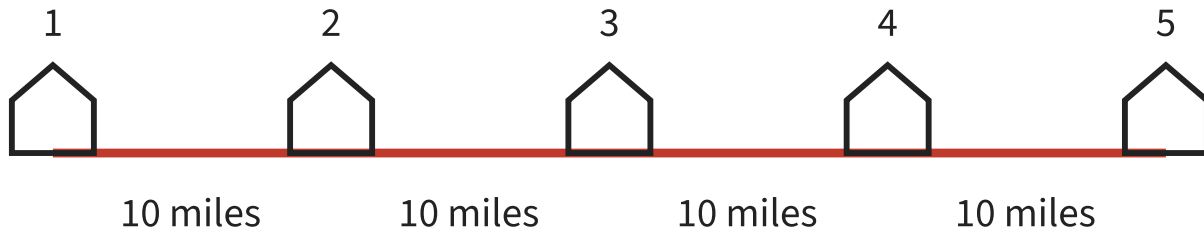
MAP NOTEBOOK

1. Draw a Pony Express rider galloping on a horse, with the mochila over the saddle.
2. Draw a small station with a fresh horse waiting outside.
3. Draw a race: a horse on one side and a telegraph wire on the other. Write under it: “The wire won.”

From history. In March 1861, the Pony Express carried the words of Abraham Lincoln’s first speech as President across the West. Riders raced from the end of the telegraph wire in Nebraska to the next telegraph wire in Nevada in less than eight days, one of the fastest runs the Pony Express ever made. From there the wire sent the words on to California. People in California were eager for news, because the country was close to war.

WORKED EXAMPLES

Example 1. Look at the picture. A rider starts at Station 1 and rides to Station 5. He gets a fresh horse at every station. How many horses does he ride? How many miles does he go?



Stations along a Pony Express route, 10 miles apart.

1. Count the parts of the ride between stations: 1 to 2, 2 to 3, 3 to 4, 4 to 5. That is 4 parts.
2. He rides one horse for each part, so he rides 4 horses.
3. Each part is 10 miles. Count by tens: 10, 20, 30, 40.

Answer: He rides 4 horses and goes 40 miles.

PRACTICE

1. **EASY** What did Pony Express riders carry?
2. **EASY** Point on the map to the city where the Pony Express started and the city where it ended.
(Use the map or drawing "Find the start and the end." shown earlier in this lesson.)
3. **MEDIUM** Look at the relay picture. If a rider goes from Station 1 to Station 3, how many miles is that?
(Use the map or drawing "Count the miles between stations." shown earlier in this lesson.)
4. **MEDIUM** Which was faster for getting a message to California: a wagon, the Pony Express, or the telegraph?
5. **MEDIUM** Why did the Pony Express stop in 1861?

COMMON MISTAKES

- Thinking one rider and one horse went the whole way. Many riders and hundreds of horses passed the mail along in a relay.
- Thinking the Pony Express lasted a long time. It ran only from April 1860 to October 1861.

- Thinking the mail stopped at night. Riders and horses took turns resting, but the mail kept moving day and night.

Make it a game • Mochila Pass. Stand in a line or a circle with family members as stations. Pass the paper mochila from person to person as fast as you can without dropping it. Time each round and try to beat your record. Then one person pretends to be the telegraph: they just whisper “Mail’s here!” to the last person. Who wins? Talk about why the telegraph ended the Pony Express.

Scripture. “As cold waters to a thirsty soul, so is good news from a far country.”
(Proverbs 25:25, KJV)

Families who had moved west missed their loved ones back home. A letter from far away was like a cool drink of water on a hot day. The best news of all is the good news of Jesus, and it has gone to every far country.

Practice answers

1. The mail (letters and news).
2. It started at St. Joseph, Missouri, and ended at Sacramento, California.
3. 20 miles ($10 + 10 = 20$).
4. The telegraph (minutes). The Pony Express took about ten days, and a wagon took months.
5. The telegraph line across the country was finished, and it sent messages much faster.

7.4 RIVERS AND FORTS ON THE TRAIL

OBJECTIVES

- Explain why travelers camped by rivers and springs: water to drink, grass for the animals and wood for fires.
- Tell how Fort Laramie, beside the Laramie and North Platte Rivers, was a resting place on the trail.
- Count squares on a picture map to find the closest water.

Warm-up. Put a cup of water on one side of the room and a cracker on the other. Ask: if you were very thirsty and very tired after walking all day, where would you want to sit down? Next to the water, of course! Today we find out why the trail always stayed close to water.

Video. Coming soon. A short kid-friendly video (under 8 minutes) touring Fort Laramie or an Oregon Trail river crossing or spring, ideally with real footage of the Platte River, wagon ruts and the old fort buildings. Search Drive Thru History, Smithsonian, Homeschool Pop (Alternate), and the National Park Service (candidate, needs vetting).

KEY TERMS

spring

A place where clean water comes up out of the ground by itself.

fort

A strong place with walls. On the trail, forts were also stores and resting places.

campsite

A place where travelers stop to sleep for the night.

river crossing

A place where travelers get wagons and animals from one side of a river to the other.

CORE IDEAS

The story. In 1834, fur traders built a little fort of logs where the Laramie River runs into the North Platte River, in what is now Wyoming. It was a trading post. Plains peoples such as the Lakota came there to trade buffalo robes for cloth, pots and tools. Later, Oregon Trail families came by the thousands. In 1849 the United States Army bought the fort and named it Fort Laramie. Tired travelers rested there, fixed their wagons, bought supplies and sent letters home.

Why water? Every evening, the wagon party looked for a good **campsite**. The best ones had three things. First, water to drink, for people and for the thirsty oxen. Second, grass, because the animals ate grass all the way to Oregon, and grass grows best near water. Third,

wood for cooking fires. On the plains, trees grew mostly along rivers. Where there were no trees at all, children gathered dried buffalo droppings, called buffalo chips, to burn!

The big idea. So the trail followed rivers like a string follows beads. It went along the Platte, then the Sweetwater, then the Snake and the Columbia. A **spring** of cold, clean water was a happy find, because river water was often muddy. At Soda Springs, in what is now Idaho, the water even came up fizzy, like soda pop! Forts were built by rivers too, because the traders and soldiers needed water just like the travelers did.

On the map. Find Fort Laramie, Fort Hall and Fort Boise on your Oregon Trail map. Each one sits right beside a river. Wherever people travel, they look for water. God made water to give life, and the travelers were thankful for every stream and spring.

PICTURE STUDY



Interior of Fort Laramie, Alfred Jacob Miller, 1858-1860 (from sketches made in 1837) · Watercolor on paper
· Walters Art Museum, Baltimore, Maryland

Alfred Jacob Miller was an artist from Baltimore. In 1837 he traveled west with a fur-trading party and stopped at this fort, which was then a log trading post. He made quick sketches of what he saw. Years later he painted them carefully in watercolor. This is one of the only pictures of the first fort, made by someone who was really there.

Look closely

- Find the high walls all around. Why would a fort need walls?
- Find the tall gate or tower. What could a person see from up high?
- Find the people in the yard. What do you think they came to do?
- Look for tents or lodges. Were people staying for a while?

Talk about it

1. Why was this fort built right beside a river?
2. If you came here after weeks on the trail, what would you want first?
3. How is this fort like a store and a town at the same time?

PROJECT: A FORT BY THE RIVER

You will build a small trail stop: a river, a spring, some grass and a fort. You can use it as a stop on your Oregon Trail board game.

You will need

- A piece of cardboard for the base
- Aluminum foil or blue paper for the river and spring
- Craft sticks, twigs or pretzel sticks for the fort walls
- Green paper, yarn or real grass for grass
- Glue or play dough to stand things up
- Your shoebox wagon from Lesson 7.2 (or a small toy)

Steps

1. Lay a strip of foil or blue paper across the cardboard. This is the river.
2. Make a small blue circle a little way from the river. This is a spring.
3. Glue green grass along both sides of the river and around the spring. Remember, grass grows best near water.
4. Stand twigs or craft sticks in a square on one side of the river to make the fort walls. Leave a gap for a gate.
5. Put a few small twigs by the river for firewood.
6. Roll your wagon up to camp. Tell a grown-up why you chose that spot.

Tips

- Put the fort close to the river, the way real traders did.
- Where would the oxen graze? Where would the family get water? Point to each one.

Check your work

- I can name three things travelers needed at a campsite: water, grass and wood.
- I can show why forts were built near rivers.
- I can tell what a spring is.

MAP NOTEBOOK

1. Draw a campsite with a river, green grass, a campfire and a wagon. Label water, grass and wood.
2. Draw a fort with high walls next to a river. Draw a wagon coming to the gate.

3. Draw a spring bubbling out of the ground, and a child holding a cup to catch the water.

From history. Fort Laramie is still standing as a National Historic Site in Wyoming. You can walk through old buildings from the Army days. Not far away, near the town of Guernsey, the wagon wheels wore deep ruts into soft rock, and you can still see them today.

WORKED EXAMPLES

Example 1. Look at the picture map. The wagon is in square D2. Which is closer to the wagon: the river or the spring? How many squares away is it?

	A	B	C	D	E	F
1						
2				 Wagon		 Spring
3	River					
4						

Count the squares from the wagon to the water.

1. Find the wagon in row 2, column D.
2. Count squares to the left to reach the river in column A: C2, B2, A2. That is 3 squares.
3. Count squares to the right to reach the spring in F2: E2, F2. That is 2 squares.
4. 2 is less than 3.

Answer: The spring is closer. It is 2 squares away.

PRACTICE

1. **EASY** Name three things travelers needed at a good campsite.
2. **EASY** What is a spring?

3. **MEDIUM** On the picture map, how many squares is it from the wagon in D2 to the river in A2?
(Use the map or drawing "Count left to the river." shown earlier in this lesson.)
4. **MEDIUM** On the plains there were few trees. What did travelers burn when there was no wood?
5. **MEDIUM** Fort Laramie was built where two rivers meet. Name one of the rivers.

COMMON MISTAKES

- Thinking a fort was only for soldiers. Many trail forts began as trading posts and were also stores, post offices and resting places.
- Thinking travelers could camp anywhere. They needed water, grass and wood, so they stopped by rivers and springs.
- Thinking all river water was clean. River water was often muddy, so a clear spring was a special find.

Make it a game • Find the Water. A parent hides three blue paper circles (springs) around a room. Children are thirsty wagon families. The parent says "Warmer!" or "Colder!" as they look. When a family finds a spring, they shout "Water!" and set up camp there with a pillow. Then hide green paper (grass) and sticks (wood) too. The first family to find water, grass and wood for its camp wins.

Scripture. "For the LORD thy God bringeth thee into a good land, a land of brooks of water, of fountains and depths that spring out of valleys and hills;" (Deuteronomy 8:7, KJV)

God told Israel that the good land He was giving them had brooks and springs. On the trail, every brook and spring was a gift, and travelers gave thanks to God for water in a dry land.

Practice answers

1. Water, grass (for the animals) and wood (for fires).
2. A place where clean water comes up out of the ground by itself.
3. 3 squares.
4. Dried buffalo droppings, called buffalo chips.
5. The Laramie River or the North Platte River.

UNIT 7 REVIEW

Read each question aloud. Your child may answer by speaking, pointing or drawing. Keep the Oregon Trail map from Lesson 7.2 and a U.S. map handy. The review is worth 20 points.

1. (3 pts) Who were Lewis and Clark? Which way did they mostly travel, and what ocean did they reach?
2. (2 pts) What did William Clark make that helped later travelers?
3. (3 pts) What pulled the covered wagons on the Oregon Trail? About how long did the trip take?
4. (3 pts) Point to the Oregon Trail on the Oregon Trail map from Lesson 7.2. Name one landmark the travelers looked for.
5. (3 pts) A wagon goes about 15 miles a day. How far does it go in 3 days?
6. (3 pts) How did the Pony Express carry the mail so fast? Why did it stop?
7. (3 pts) Why did travelers camp and build forts by rivers and springs? Name two reasons.

UNIT PROJECT: MY OREGON TRAIL BOARD GAME

Make a board game of the Oregon Trail on a large piece of cardboard or poster board. Draw a winding path of about 30 squares from Independence, Missouri, on the right (east) to Oregon City on the left (west), with a compass rose in the corner. Mark at least five landmark or stop squares: Chimney Rock, Fort Laramie, Independence Rock, South Pass and a river crossing. Add blue rivers and springs along the path, and a few “trouble” squares (broken wheel: go back 2) and “help” squares (fresh water at a spring: go ahead 2). Use your shoebox wagon or a small toy as a playing piece, roll a die, and play the game with your family. Tell them the story of each landmark when someone lands on it.

- **Accuracy:** The trail goes from Missouri in the east to Oregon in the west, and the landmarks are in the right order.
- **Map features:** The board has a compass rose, rivers, at least one spring and at least one fort beside water.
- **Telling the story:** The child can tell something true about each landmark and why stops were by water.
- **Care:** The board is colorful, neat and easy to play.

Answer key

1. Two explorers sent by President Jefferson to explore the West. They mostly traveled west and reached the Pacific Ocean.
2. A map of the West (printed in 1814).
3. Oxen. About five months.
4. Any one: Chimney Rock, Independence Rock, South Pass (or Fort Laramie, Fort Hall, Fort Boise).
5. About 45 miles ($15 + 15 + 15 = 45$).

6. Riders changed to fresh horses at stations along the way (a relay), so the mail kept moving. It stopped in 1861 because the telegraph sent messages in minutes.
7. Any two: water to drink for people and animals, grass for the oxen, wood for fires.

THE COUNTRY GROWS CLOSER

All year we have crossed our big country: its rivers and mountains, its plains and deserts, its coasts and the peoples who lived on the land. In Unit 7 we followed travelers who went west on foot, by canoe, by wagon and on horseback. Their journeys took months, and even the fast Pony Express needed about ten days. In this unit we watch **new machines shrink those long trips**.

You will hear Samuel Morse tap the first long telegraph message, “What hath God wrought,” from Washington to Baltimore in 1844. You will watch two railroads build toward each other across mountains and plains until they meet with a golden spike at Promontory Summit, Utah, on May 10, 1869. You will compare a trip west by wagon, by train and by airplane. Then you will take one last journey on the map, from the Atlantic to the Pacific, and thank God for the good land He has given us.

Along the way you will tap Morse code, build a railroad from both ends of your room, lay out a race west on the floor and make a cup telephone that carries your voice from coast to coast.

BEFORE YOU BEGIN

- Can find north, south, east and west on a map
- Remembers the Oregon Trail and the Pony Express from Unit 7
- Can point to the Atlantic Ocean, the Pacific Ocean, the Mississippi River and the Rocky Mountains
- Can count to 100 and tell which of two numbers is bigger

MASTERY CHECKLIST

- I can tell how Samuel Morse sent the first telegraph message and what it said.
- I can tap and read a short word in Morse code.
- I can show on a map where the two railroads started and where they met with the golden spike.
- I can put wagon, train and plane in order from slowest to fastest and say “months,” “days” or “hours” for each.
- I can travel on a map from the Atlantic to the Pacific and name the big landmarks on the way.
- I can thank God for one gift He gave to the land where I live.

OPTIONAL BOOKS AND RESOURCES

- **Golden Spike National Historical Park (National Park Service)**
(<https://www.nps.gov/gosp/>): Free. Photographs of the replica engines *Jupiter* and *No.*

119 and the place where the railroads met. A parent can show the pictures for Lesson 8.2.

- **Samuel F. B. Morse Papers (Library of Congress)**

(<https://www.loc.gov/collections/samuel-morse-papers/>): Free. Letters, drawings and the paper tape from the first telegraph message. Best browsed by a parent, who can show a child the dots and dashes for Lesson 8.1.

8.1 THE TELEGRAPH ★ ⚙️

OBJECTIVES

- Tell how Samuel Morse sent the first long telegraph message, “What hath God wrought,” in 1844.
- Explain that the telegraph sent messages along a wire in minutes instead of days.
- Tap and read simple words in Morse code with dots and dashes.

Warm-up. Stand in one room and have a parent stand in the next room. Try to send a message without talking and without walking: only knocks on the wall. Agree that two quick knocks mean “come here.” Can you make up a knock for “I am hungry”? Samuel Morse had the same idea: a sound or a click can carry a message.

Video. Coming soon. Search for a short (under 8 minutes) kid-friendly animation or story about Samuel Morse, the telegraph and Morse code, and a clip of a real telegraph key clicking: The Henry Ford, Smithsonian, Library of Congress, Homeschool Pop (Alternate); check The History Guy for a telegraph episode (parents preview first).

KEY TERMS

telegraph

A machine that sends messages along a long wire using electricity. The name means “far writing.”

Morse code

A code of dots (short taps) and dashes (long taps). Each letter has its own pattern.

operator

The person who taps out the code at one end of the wire and reads it at the other end.

CORE IDEAS

The story. In 1825 a painter named Samuel Morse was far from home in Washington, painting a picture of a famous hero, the Marquis de Lafayette. A letter came from his father. His wife, Lucretia, had become sick and died. The letter had come slowly, carried by horse. By the time Morse hurried home to New Haven, Connecticut, she had already been buried. Morse never forgot how slow the news had been. Years later, in 1832, on a ship sailing home from France, he had an idea. Could electricity carry a message down a wire?

How it worked. Morse worked for years with a helper named Alfred Vail. Their telegraph had a **key**, a little lever the operator pressed down. Each press sent electricity racing along the wire. A short press was a **dot**. A longer press was a **dash**. Each letter had its own pattern. E is one dot. T is one dash. At the other end of the wire, a machine clicked and marked the dots and dashes on a strip of paper. The operator there turned them back into letters.

The first message. On May 24, 1844, Morse sat in a room in the United States Capitol in Washington. A wire ran on tall poles about 40 miles to Baltimore, where Vail was waiting. A young woman named Annie Ellsworth had chosen the words from the Bible (Numbers 23:23). Morse tapped: **“What hath God wrought.”** That means, “Look what God has done!” In Baltimore, Vail read the dots and dashes and tapped the same words right back. A trip that took a horse many hours now took only moments.

Technology overcoming geography. Mountains, rivers and miles cannot slow down a message on a wire. Soon telegraph poles marched from town to town. In 1861 a line reached all the way to California. The Pony Express riders you met in Unit 7 needed about ten days to carry the mail west. The telegraph needed only minutes. Our country was still big, but now its news could travel from coast to coast almost at once.

● dot = short tap

■ dash = long tap

A ● ■

M ■ ■

D ■ ● ●

N ■ ●

E ●

O ■ ■ ■

G ■ ■ ●

S ● ● ●

H ● ● ● ●

T ■

I ● ●

W ● ■ ■

Part of the Morse code. A dot is a short tap; a dash is a long tap.

PICTURE STUDY



Gallery of the Louvre, Samuel F. B. Morse, 1831–1833 · Oil on canvas · Terra Foundation for American Art, Chicago

Before he invented the telegraph, Samuel Morse was a painter. In Paris he spent many days in the great Louvre museum, copying famous paintings in small size. Then he put them all together in one big painting, so that Americans at home could see the treasures of the Louvre without crossing the ocean.

Morse was sailing home from France with this painting still unfinished when he first dreamed up the telegraph. He finished the painting in 1833. Both the painting and the telegraph were ways of bringing faraway things close.

Look closely

- Count the paintings on the walls. Are there more than 20?
- Find the man in front bending over to help a young artist. That is Morse himself, and the young artist is thought to be his daughter Susan.
- Find the lady with folded hands and a quiet smile. She is the famous *Mona Lisa*. A grown-up can help you look.
- Find the people holding brushes. What are they doing?

Talk about it

1. Why do you think Morse wanted to bring these paintings home to America in one picture?
2. Morse was a painter and then an inventor. What two things would you like to be good at?

PROJECT: A MORSE CODE TAPPER

You will be a telegraph operator. You will tap words in dots and dashes, and a partner will turn your taps back into letters, just as Alfred Vail did in Baltimore.

You will need

- A wooden spoon and an upside-down pot, or just your knuckles on a table
- A flashlight (for sending code by light)
- The Morse code chart in this lesson
- Paper and crayons

Steps

1. Practice the two sounds. A dot is a quick tap. A dash is a long one: press the spoon down and slide it, or hum “daaah.” With a flashlight, a dot is a quick blink and a dash is a long shine.
2. Look at the chart. Tap E (one dot). Tap T (one dash).
3. Tap your first word: HI. That is four dots, a little rest, then two dots.
4. Always rest a moment between letters, and rest longer between words, so the listener can tell where each letter ends.
5. Take turns. One person taps a word from the chart. The other person draws the dots and dashes on paper and finds the letters.
6. Be Morse and Vail. One person goes into the next room and taps on the wall. Can the message get through without anyone walking?
7. Draw your telegraph key and write your favorite word underneath in dots and dashes.

Tips

- Start with short words made from the chart: HI, MOM, DAD, GO, SAD, MAD.
- Say “dit” for a dot and “dah” for a dash. Real operators learned the code by its sound.

Check your work

- I can tap a dot and a dash.
- I can tap and read the word HI.
- I can tell what Morse’s first message said.

MAP NOTEBOOK

1. Draw two cities, Washington and Baltimore, with a row of poles and a wire between them. Write “about 40 miles.”
2. Write MOM or DAD in dots and dashes, using the chart.
3. Draw a Pony Express rider and a telegraph pole side by side. Under the rider write “days.” Under the pole write “minutes.”

From history. The strip of paper tape from Morse's first message, with its dots and dashes, still exists. It is kept at the Library of Congress in Washington. Annie Ellsworth, who picked the words, was the daughter of Henry Ellsworth, Morse's friend, who was in charge of the United States Patent Office.

WORKED EXAMPLES

Example 1. Use the Morse code chart. What word is this? • • • • • •

(Use the map or drawing "Find each group of dots and dashes on the chart." shown earlier in this lesson.)

1. Look at the first group: four dots. On the chart, four dots is H.
2. Look at the second group: two dots. On the chart, two dots is I.
3. Put the letters together: H, I.

Answer: HI

PRACTICE

1. **EASY** Tap one dot and then one dash on the table. Which one is longer?
2. **EASY** Point on the chart: which letter is just one dot? Which letter is just one dash?
3. **MEDIUM** Read this word with the chart. The slashes show where each letter ends: ■ ■ / ■ ■ ■ / ■ ■ ■ / ■ ■ ■ / ■ ■ ■
4. **MEDIUM** Count the dots and dashes in SOS: • • • / ■ ■ ■ / • • •. How many dots? How many dashes? How many in all?
5. **MEDIUM** The Pony Express took about 10 days to carry a letter to California. The telegraph took a few minutes. Which was faster? Why?

COMMON MISTAKES

- Thinking the telegraph carried voices. It sent only clicks, dots and dashes. The telephone, which carries voices, came later, in 1876.
- Running all the taps together. Rest between letters, or the listener cannot tell where one letter stops and the next begins.
- Thinking a little letter rode along the wire. Nothing rode on the wire. Electricity carried the message.

Make it a game • Dit-Dah Copycat. A parent taps a short pattern of dots and dashes on the table, like dit-dit-dah. The child taps it back exactly. If it matches, the child gets a point and taps a pattern for the parent. Make the patterns a little longer each round. For a bonus point, name the letter on the chart.

Scripture. “Surely there is no enchantment against Jacob, neither is there any divination against Israel: according to this time it shall be said of Jacob and of Israel, What hath God wrought!” (Numbers 23:23, KJV)

Annie Ellsworth chose the last words of this verse for the very first long telegraph message. Morse was glad that the first message gave the honor to God. When we see a wonderful new invention, we can say the same: look what God has done!

Practice answers

1. The dash is the long tap. The dot is the short tap.
2. E is one dot. T is one dash.
3. MOM (M is two dashes, O is three dashes, M is two dashes).
4. 6 dots and 3 dashes, 9 in all.
5. The telegraph. Its message went along the wire as electricity, very fast, instead of riding on a horse.

8.2 THE TRANSCONTINENTAL RAILROAD ★ ⚙️

OBJECTIVES

- Tell how two railroad companies built toward each other and met at Promontory Summit, Utah, on May 10, 1869.
- Find Omaha, Sacramento and Promontory Summit on a map and say which way each company built.
- Explain how the railroad made a trip across the West much faster.

Warm-up. Lay a row of spoons, blocks or books across the floor, starting from both ends of the room at the same time. One person builds from the east wall and one from the west wall. Where do your two rows meet? Do they line up straight? The railroad builders had to do this across half a country.

Video. Coming soon. Search for a short (under 8 minutes) kid-friendly video on the golden spike and the transcontinental railroad, including footage of the replica engines Jupiter and No. 119 at Golden Spike National Historical Park: Drive Thru History, Smithsonian, The Henry Ford, Homeschool Pop (Alternate); National Park Service (candidate, needs vetting); a read-aloud of the picture book *Ten Mile Day* by Mary Ann Fraser (needs vetting).

KEY TERMS

railroad

A road made of two iron rails laid on wooden ties, for trains to run on.

transcontinental

Across the continent. A transcontinental railroad joins one side of the land to the other.

locomotive

The engine that pulls a train. Early locomotives burned wood or coal to make steam.

golden spike

A special spike made of gold, set in the last tie to celebrate the joining of the two railroads.

CORE IDEAS

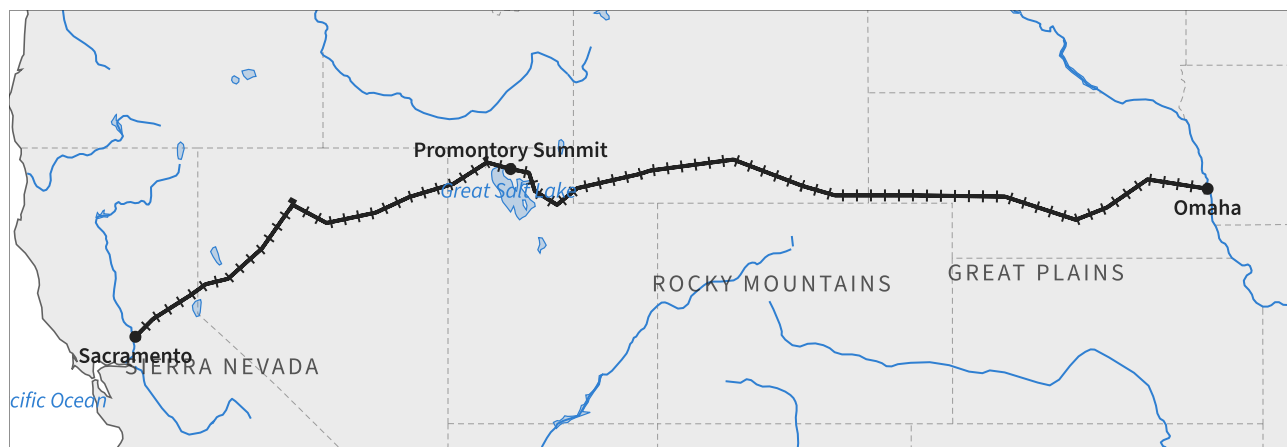
The story. In 1862, during the Civil War, President Abraham Lincoln signed a law to build a railroad across the West. Two companies would build it. The **Central Pacific** started in Sacramento, California, and built east. The **Union Pacific** started at Omaha, Nebraska, on the Missouri River, and built west. The two lines would race toward each other until they met.

How they built it. Workers laid wooden ties on the ground, set iron rails on top and pounded in spikes to hold them. The Central Pacific had the hardest start: the steep, snowy

Sierra Nevada mountains. Thousands of workers who had come from China cut ledges into cliffs and dug tunnels through hard granite rock, sometimes only a few inches a day. The Union Pacific raced across the flat Great Plains and then climbed through the Rocky Mountains in Wyoming. Many of its workers had come from Ireland, and many had been soldiers in the Civil War. It was hard and dangerous work, and some workers died.

The golden spike. On May 10, 1869, the two lines met at **Promontory Summit** in Utah. Two engines, the Central Pacific's *Jupiter* and the Union Pacific's *No. 119*, rolled up until they stood nose to nose. A golden spike was set in the last tie. When the last spike was tapped in, a telegraph operator sent one word down the wire to the whole country: **"DONE."** Bells rang and people cheered in cities from coast to coast.

Technology overcoming geography. A family going west by wagon had needed about five months. Now a train could carry them from the Missouri River to California in about four days, rolling day and night over plains, mountains and deserts. Trains also carried mail, machines and food. The Native nations of the plains saw the trains bring more and more settlers and hunters onto their lands, and in the years after, the great bison herds were nearly all killed.



The first transcontinental railroad: the Central Pacific built east from Sacramento, and the Union Pacific built west from Omaha. They met at Promontory Summit.

PICTURE STUDY



East and West Shaking Hands at the Laying of the Last Rail, Andrew J. Russell, May 10, 1869 · Photograph (print from a glass-plate negative) · Prints in several libraries and museums

Andrew J. Russell took photographs for the Union army during the Civil War. Then the Union Pacific hired him to take pictures of its railroad as it was built. On May 10, 1869, he set up his big wooden camera at Promontory Summit to catch the moment when East met West. Cameras were slow then, so everyone had to hold still.

The two men shaking hands in the middle were the chief engineers of the two railroads: Samuel Montague of the Central Pacific and Grenville Dodge of the Union Pacific. The thousands of Chinese workers who built so much of the western track are hard to find in this picture, but their work made this day possible.

Look closely

- Find the two engines. Are they facing each other or facing the same way?
- Find the two men in the middle shaking hands.
- Look at the men standing up on the engines. Some are holding up bottles to celebrate. Can you find them?
- Count the people you can see on the front of one engine.

Talk about it

1. Why do you think the two men are shaking hands?
2. If you were standing in this picture, what sounds would you hear?
3. Why is it good to remember the workers who are not easy to see in the picture?

PROJECT: BUILD A RAILROAD FROM BOTH ENDS

You and a partner will be the two railroad companies. One builds east from “Sacramento,” one builds west from “Omaha,” and you will meet with a golden spike.

You will need

- About 30 craft sticks or strips of cardboard (the ties)
- Masking tape or two long pieces of yarn (the rails)
- Two pillows (the mountains)
- A pencil wrapped in gold or yellow paper (the golden spike)
- Two toy trains or toy cars
- Two sticky notes marked Sacramento and Omaha

Steps

1. Find west in your room: it is the side where the sun sets. Put the Sacramento note on the west side and the Omaha note on the east side.
2. Put one pillow near the Sacramento end. That is the Sierra Nevada. Put the other pillow a little past the middle. That is the Rocky Mountains. Leave the Omaha end flat, like the Great Plains.
3. Both builders start at the same time. Lay one tie at a time, then tape the rails along the top.
4. The Sacramento builder must go up and over the pillow right away. Is it slower?
5. When your tracks meet, tap in the golden spike between the last two ties and call out, “DONE!” like the telegraph.
6. Roll a toy train from each end until they stand nose to nose, like *Jupiter* and *No. 119*. Then shake hands, just like the photograph.
7. Count your ties. How many did each builder lay? Who laid more?

Tips

- The real crews did not meet in the middle. The Union Pacific laid more track, so the meeting place in Utah was closer to Sacramento than to Omaha. Try to meet nearer the Sacramento end.
- Keep your two rails the same distance apart the whole way, or the train will fall off!

Check your work

- I can show which way each railroad built.
- I can tell what happened at Promontory Summit on May 10, 1869.
- I can name one hard thing the workers had to build through.

MAP NOTEBOOK

1. Draw the two engines nose to nose with the golden spike between them.

2. Trace the railroad map from Omaha to Sacramento. Put a gold star at Promontory Summit.
3. Draw a railroad worker. Write one hard job he did: laying ties, carrying rails, pounding spikes or digging tunnels.

From history. The golden spike is kept today at the Cantor Arts Center at Stanford University in California. Less than two weeks before the meeting, on April 28, 1869, Central Pacific crews laid more than 10 miles of track in one single day, a record that amazed everyone who saw it.

WORKED EXAMPLES

Example 1. Look at the railroad map. Which way did the Union Pacific build from Omaha?

(Use the map or drawing “Put your finger on Omaha and slide it toward Sacramento.” shown earlier in this lesson.)

1. On our maps, north is at the top. So east is on the right and west is on the left.
2. Omaha is on the right side of the map, in the east. Sacramento is on the left side, in the west.
3. To go from Omaha toward Sacramento, your finger moves from right to left. That is west.

Answer: West. (The Central Pacific built the other way: east from Sacramento.)

PRACTICE

1. **EASY** Point to Omaha and to Sacramento on the map. Which city is in California?
(Use the map or drawing “The first transcontinental railroad.” shown earlier in this lesson.)
2. **EASY** Which way did the Central Pacific build: east or west?
3. **MEDIUM** On the map, which mountains did the Central Pacific have to cross first, right after it left Sacramento?
(Use the map or drawing “Look just east of Sacramento.” shown earlier in this lesson.)
4. **MEDIUM** A worker carried 10 ties in the morning and 10 ties after lunch. How many ties did he carry in all?
5. **HARD** What one word did the telegraph send when the last spike went in? Why were the telegraph and the railroad good partners?

COMMON MISTAKES

- Thinking one company built the whole railroad. Two companies built toward each other and met in Utah.
- Mixing up the directions. The Central Pacific built east from California. The Union Pacific built west from Omaha.

- Thinking the golden spike stayed in the track. It was taken out after the ceremony, and a plain iron spike was put in its place.

Make it a game · East Meets West. Two players stand at opposite ends of a hallway: one is the Central Pacific, one is the Union Pacific. A parent asks a question from this lesson or from Lesson 8.1. Each right answer lets that player take one big step toward the other. When the players meet, they shake hands and shout, “DONE!”

Scripture. “Every valley shall be exalted, and every mountain and hill shall be made low: and the crooked shall be made straight, and the rough places plain:” (Isaiah 40:4, KJV)

Isaiah was telling God’s people to make a way ready for the Lord. The railroad builders made a picture of these words with their hands: they filled valleys, cut through hills and laid a smooth road of iron across the land.

Practice answers

1. Sacramento.
2. East, from Sacramento.
3. The Sierra Nevada.
4. 20 ties.
5. “DONE.” Telegraph wires ran beside the tracks, so news and messages about the trains could race ahead of them in minutes.

8.3 FROM MONTHS TO DAYS

OBJECTIVES

- Compare how long a trip west took by wagon, by train and by airplane.
- Count and compare weeks on a simple time chart.
- Tell how new machines made our big country feel smaller.

Warm-up. Walk slowly across the room, one small step at a time, like oxen pulling a wagon. Now chug across quickly like a train. Now zoom across with your arms out like an airplane. The room stayed the same size. What changed?

Video. Coming soon. Search for a short (under 8 minutes) kid-friendly animation or story about the Wright brothers' first flight and about covered wagons, trains and planes: Smithsonian (National Air and Space Museum), The Henry Ford (the Wright brothers' cycle shop stands in Greenfield Village), Library of Congress, Homeschool Pop (Alternate).

KEY TERMS

journey

A long trip from one place to another.

compare

To look at two or more things and see which is bigger, longer or faster.

speed

How fast something goes. A plane has more speed than a wagon.

CORE IDEAS

The story. On December 17, 1903, the wind was blowing hard on a sandy beach near Kitty Hawk, North Carolina. Two brothers from Ohio, Orville and Wilbur Wright, had built a flying machine of wood, cloth and wire, with a small engine. Orville lay down on the lower wing. The engine roared, and the machine rose into the air! It flew for only 12 seconds and went about 120 feet, about the length of a few school buses in a row. But it was the first time a person had flown in an airplane with an engine. A new way to cross the country had begun.

Three ways west. Think of a family going west. In a **covered wagon** on the Oregon Trail, oxen walked about 15 miles on a good day. The family crossed rivers, plains and mountains, and the trip took about **five months**. After 1869, the same family could ride the **train**. It rolled day and night, and they could go from coast to coast in about **a week**. Today a family can fly in an **airplane** from New York to San Francisco in about **six hours**, with a snack and a nap on the way.

The big idea. The land did not shrink. The miles from the Atlantic to the Pacific are the same as they always were. The Rocky Mountains are just as tall. What changed was how fast people could cross them. By wagon, the trip took months. By train, it took days. By plane, it takes hours. When we **compare**, we line things up side by side to see which is faster or slower.

Technology overcoming geography. First the telegraph made news fast. Then the railroad made travel fast. Then the airplane flew right over the mountains. Each new machine made our big country feel a little smaller and brought families closer together. Yet the mountains, deserts and storms are still there. Pilots still check the weather, and trains still need tunnels and bridges.

Wagon: about 20 weeks (about 5 months)



Train (after 1869): about 1 week



Plane (today): about 6 hours

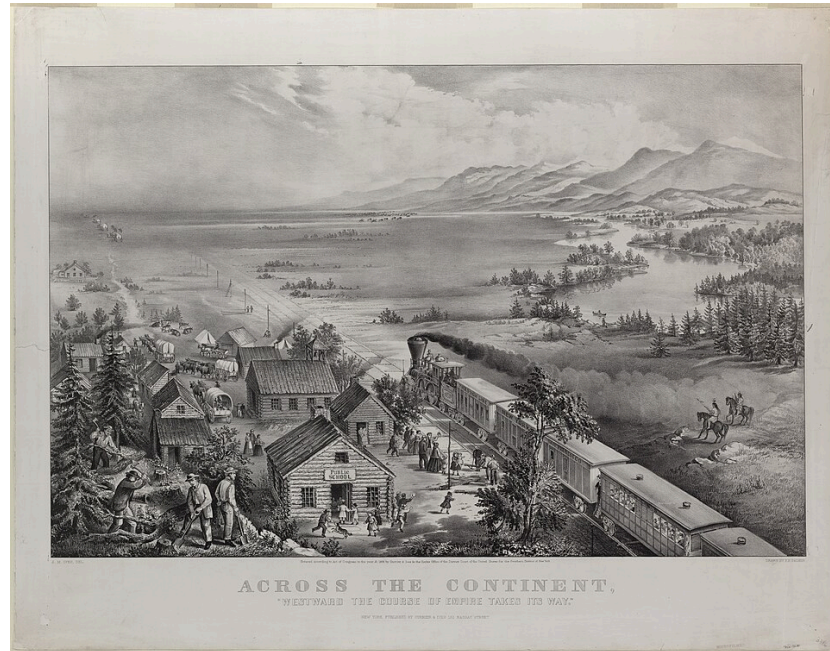


much less than 1 square

Each square = 1 week

How long a trip west took. Each square is one week.

PICTURE STUDY



Across the Continent: "Westward the Course of Empire Takes Its Way", Frances F. Palmer, published by Currier & Ives, 1868 · Hand-colored lithograph (a print) · Library of Congress, Washington, D.C. (and other collections)

Currier & Ives was a company in New York City that made colorful, low-cost prints that families hung on their walls. Fanny Palmer, an artist who had come to America from England, drew this one in 1868, the year before the railroad across the West was finished.

In one picture she put the old way west and the new way west side by side. Look for both.

Look closely

- Find the train and its long cloud of smoke.
- Find the covered wagons. Are they faster or slower than the train?
- Find the little town of log buildings beside the track.
- Find the people on horses. What do you think they are thinking as the train goes by?

Talk about it

1. Why do you think the artist put the wagons and the train in the same picture?
2. Would you rather ride west in the wagon or on the train? Why?

PROJECT: THE GREAT RACE WEST

You will lay out a floor chart that shows how long a trip west took by wagon, by train and by plane. Each paper square stands for one week.

You will need

- 20 squares of paper, all the same size (sticky notes work well)
- Masking tape
- Scissors
- Three toys or drawings: a wagon (or a horse), a train and an airplane
- Crayons

Steps

1. Lay 20 paper squares in a long row on the floor. Each square is one week.
2. Write “Missouri” at the start of the row and “Oregon” at the end.
3. Put the wagon on the first square. Hop it along, one square at a time, counting the weeks aloud: 1, 2, 3 ... all the way to 20.
4. Now the train. Make a new row below with only 1 square. The train needs just one week to cross the whole country!
5. Now the plane. Cut one square into 7 thin strips. Each strip is one day. The plane needs less than one strip, only about 6 hours. Lay one thin strip down for the plane.
6. Stand back and look at the three rows. Which is longest? Which is shortest?
7. Draw a wagon, a train and a plane on a sheet of paper. Under each, write “months,” “days” or “hours.”

Tips

- Use one color of squares for the wagon and another color for the train so the rows are easy to compare.
- Remember: 7 days make a week, and about 4 weeks make a month.

Check your work

- I can put wagon, train and plane in order from slowest to fastest.
- I can count the weeks for the wagon trip.
- I can tell that the miles stayed the same but the trip got faster.

MAP NOTEBOOK

1. Draw the Wright brothers’ airplane over the sandy beach at Kitty Hawk. Write “December 17, 1903.”
2. Draw three boxes in a row: a wagon, a train and a plane. Draw an arrow from slowest to fastest.
3. Draw the route west on a map outline, and draw a wagon, a train and a plane traveling along it.

From history. The Wright brothers’ 1903 airplane, the Wright Flyer, is kept today at the Smithsonian’s National Air and Space Museum in Washington, D.C. A man named John T. Daniels, who was helping on the beach that day, snapped a famous photograph of the first flight just as the airplane left the ground.

WORKED EXAMPLES

Example 1. Look at the chart. Each square is one week. How many weeks did the wagon take? How many weeks did the train take? How many more weeks did the wagon take?

(Use the map or drawing “Each square is one week.” shown earlier in this lesson.)

1. Count the wagon squares with your finger: 20 squares. The wagon took about 20 weeks.
2. Count the train squares: 1 square. The train took about 1 week.
3. Take away to find how many more: $20 - 1 = 19$.

Answer: The wagon took about 19 more weeks than the train.

PRACTICE

1. **EASY** Which is fastest across the country: a wagon, a train or a plane?
2. **EASY** Put these in order from slowest to fastest: plane, wagon, train.
3. **MEDIUM** A wagon went about 15 miles in a day. How far did it go in 2 days? In 3 days?
4. **MEDIUM** The train trip took about 1 week. How many days is that?
5. **MEDIUM** Match each way to travel with how long the trip west took: wagon, train, plane; hours, days, months.

COMMON MISTAKES

- Thinking the country got smaller. The miles stayed the same. The travel got faster.
- Mixing up hours, days, weeks and months. A day has 24 hours, a week has 7 days, and a month has about 4 weeks.
- Thinking wagons disappeared the day the railroad opened. Many families still used wagons for years, especially to reach places with no tracks.

Make it a game • Slow, Faster, Fastest. A parent calls out “Wagon!”, “Train!” or “Plane!” For wagon, walk very slowly. For train, chug fast with your arms going like wheels. For plane, zoom with your arms out. Then the parent calls out “months,” “days” or “hours,” and you must move like the right one. A wrong move means you sit for one turn.

Scripture. “If I take the wings of the morning, and dwell in the uttermost parts of the sea; Even there shall thy hand lead me, and thy right hand shall hold me.” (Psalm 139:9–10, KJV)

No wagon, train or airplane can carry us anywhere God is not. However far or fast we travel, God goes with His people and holds them.

1. A plane.
2. Wagon, train, plane.
3. 30 miles in 2 days. 45 miles in 3 days.
4. 7 days.
5. Wagon: months. Train: days. Plane: hours.

8.4 MY COUNTRY, MY HOME

OBJECTIVES

- Travel on a map from the Atlantic Ocean to the Pacific Ocean and name the lands and waters on the way.
- Point to the two oceans, the Mississippi River, the Appalachians, the Great Plains and the Rocky Mountains on a U.S. map.
- Thank God for the good land and tell about one favorite place in our country.

Warm-up. Lie on your tummy on the floor with your head pointing north. Stretch out your right arm: that points east, toward the Atlantic Ocean. Stretch out your left arm: that points west, toward the Pacific Ocean. You are as wide as the whole country! Now name one thing you remember from this year that lies between your two hands.

Video. Coming soon. Search for a short (under 8 minutes) kid-friendly video of “America the Beautiful” sung over pictures of American places, and a simple animated tour of the U.S. regions: Library of Congress, Smithsonian, Homeschool Pop (Alternate: states and regions); National Park Service (candidate, needs vetting).

KEY TERMS

coast

The land along the edge of the sea.

coast to coast

All the way across our country, from the Atlantic Ocean on the east to the Pacific Ocean on the west.

landmark

A famous place, like a mountain or a river, that helps you know where you are.

CORE IDEAS

The story. In the summer of 1893, a teacher named Katharine Lee Bates rode the train all the way from Massachusetts, near the Atlantic Ocean, to Colorado. One day she and some friends went up to the top of Pikes Peak, a mountain more than 14,000 feet high. She looked out over the wide plains stretching east and the mountains all around her. Then she wrote a poem. Today we sing it as “America the Beautiful,” and it praises our land “from sea to shining sea.”

On the map. Let’s take one last journey across the country, from east to west. We start on the **Atlantic coast** at Boston, near Plymouth Rock. We visit **Washington, D.C.**, our capital. We climb the old, rounded **Appalachian Mountains** through the Cumberland Gap, like Daniel Boone. We cross the mighty **Mississippi River** at St. Louis. We roll across the **Great Plains**, where the bison roamed. We climb the tall **Rocky Mountains** to Pikes Peak. We

peek into the **Grand Canyon**, carved by the Colorado River. At last we cross the Sierra Nevada to **San Francisco** and its harbor on the **Pacific Ocean**. Far away, Alaska and Hawaii are part of our country too.

Technology overcoming geography. This year we met many travelers who crossed this land. Lewis and Clark paddled and walked. Wagon families took five months on the Oregon Trail. Pony Express riders raced the mail in about ten days. Then the telegraph sent news in minutes, the railroad carried people in days, and today airplanes fly coast to coast in hours. The country grew closer.

The big idea. God made each part of our land with its own gifts: harbors and fish on the coasts, rich soil on the plains, forests and gold in the mountains, rivers for boats and water for farms. Our home, wherever it is on the map, is part of that good land. Like the Pilgrims and the settlers, we can thank Him for it.



Our coast-to-coast review journey, from the Atlantic Ocean to the Pacific Ocean.

PICTURE STUDY



Breezing Up (A Fair Wind), Winslow Homer, 1873–1876 · Oil on canvas · National Gallery of Art, Washington, D.C.

Winslow Homer loved the sea along the Atlantic coast of New England. In this painting, a man and three boys sail a small boat across choppy water on a windy day. The name painted on the back of the boat is *Gloucester*, an old fishing town on the coast of Massachusetts.

Our country stretches “from sea to shining sea.” This is the sea on the eastern side, where many travelers began their long journey west.

Look closely

- Count the people in the boat.
- Look at the sail and the way the boat is tipping. Is the wind strong or gentle?
- Find the big sailing ship far away on the sea.
- Find the name painted on the back of the boat.

Talk about it

1. Is this the Atlantic Ocean or the Pacific Ocean? How do you know?
2. If you could sail with these boys, what would you hope to see?
3. What is your favorite place in our country, and what gift has God given it?

Safety first. A grown-up should poke the holes in the cups. If you use metal cans instead of paper cups, a grown-up must check that every edge is smooth and covered with tape.

PROJECT: A COAST-TO-COAST TELEPHONE CALL

You will turn your room into a map of the country, with the Atlantic on one wall and the Pacific on the other. Then you will make a cup telephone and send your voice from coast to coast along a string.

You will need

- Two paper cups (or two clean cans with smooth, taped edges)
- About 20 to 30 feet of string (kite string or fishing line works best)
- Two paper clips
- A pushpin or nail (for a grown-up)
- Paper, crayons and tape for signs

Steps

1. Make two signs: Atlantic Ocean and Pacific Ocean. Tape the Atlantic sign on the east wall, where the sun rises, and the Pacific sign on the west wall.
2. Make signs for the stops in between: Appalachian Mountains, Mississippi River, Great Plains, Rocky Mountains, Grand Canyon and Sierra Nevada. Lay them on the floor in order from east to west.
3. Have a grown-up poke a small hole in the bottom of each cup.
4. Push one end of the string through each hole from the outside, and tie it to a paper clip inside the cup so it cannot pull out.
5. One person stands by the Atlantic sign and one by the Pacific sign. Back up until the string is tight and does not touch anything.
6. Take turns. One person talks into a cup while the other holds the other cup to an ear. Your voice makes the bottom of the cup shake, the shaking runs along the tight string, and it shakes the other cup.
7. Call coast to coast: "Hello from the Atlantic! I can see a fishing boat!" Then walk the stops on the floor together and tell one thing about each one.
8. Let the string go loose and try again. Does it still work?

Tips

- Keep the string tight and straight. If it sags or touches a chair, the sound stops.
- The telegraph sent only clicks. Your cup telephone sends your voice, a little like the real telephone invented in 1876.

Check your work

- I can tell how my voice travels along the string.
- I can walk from the Atlantic to the Pacific naming each stop in order.
- I can name the ocean on each coast.

MAP NOTEBOOK

1. Draw an outline of the United States. Color the Atlantic Ocean on the right and the Pacific Ocean on the left, and draw a dotted line across for our journey.
2. Put a star on the map where our home is. Write one gift God gave our land there.
3. Draw your favorite stop from this year's journey and write its name.

From history. Katharine Lee Bates first printed her poem on the Fourth of July in 1895. Later her words were sung to a hymn tune written by a church organist from New Jersey named Samuel A. Ward, and that is the song we sing today.

WORKED EXAMPLES

Example 1. Look at the picture map. Each square is one stop on our journey. How many squares is it from the Mississippi River to Boston? Which way do you go?

WEST (Pacific Ocean)

EAST (Atlantic Ocean)

San Francisco	Grand Canyon	Rocky Mts.	Great Plains	Missis- sippi	Appala- chians	Wash., D.C.	Boston
1	2	3	4	5	6	7	8

A picture map of our journey. West is on the left; east is on the right.

1. Find the Mississippi River. It is in square 5.
2. Find Boston. It is in square 8.
3. Hop your finger from square 5 to square 8 and count the hops: 6, 7, 8. That is 3 hops.
4. Boston is on the right side, toward the Atlantic. On our maps, the right side is east.

Answer: 3 squares, going east.

PRACTICE

1. **EASY** Point to the ocean on the east side of our country. Now point to the ocean on the west side. Name them.
(Use the map or drawing "Our coast-to-coast journey." shown earlier in this lesson.)
2. **EASY** Which great river flows down the middle of our country to the Gulf of Mexico?
3. **MEDIUM** On the picture map, how many squares is it from San Francisco to the Rocky Mountains?
(Use the map or drawing "Count the hops." shown earlier in this lesson.)
4. **MEDIUM** Name the stops in order, going west from Boston as far as the Mississippi River.

5. **HARD** Find our own state on a U.S. map. Is it closer to the Atlantic Ocean or the Pacific Ocean? Name one gift God gave the land where we live.

COMMON MISTAKES

- Mixing up the oceans. The Atlantic is on the east (right side of the map); the Pacific is on the west (left side).
- Putting the Rocky Mountains in the east. The old, rounded Appalachians are in the east; the tall Rockies are in the west.
- Forgetting Alaska and Hawaii. They sit apart from the other states on the map, but they are part of our country too.

Make it a game • Coast-to-Coast Hop. Use the floor signs from the project. Start at the Atlantic. A parent asks a question from any lesson this year: name a river, a mountain range, a traveler or a machine. Each right answer lets you hop to the next stop west. When you reach the Pacific, sing the first verse of “America the Beautiful” together.

Scripture. “When thou hast eaten and art full, then thou shalt bless the LORD thy God for the good land which he hath given thee.” (Deuteronomy 8:10, KJV)

Moses told God’s people to remember who gave them their land and to thank Him for it. At the end of our year crossing the country, we can thank God for every river, mountain, plain and coast He has made, and for our own home.

Practice answers

1. The Atlantic Ocean is on the east. The Pacific Ocean is on the west.
2. The Mississippi River.
3. 2 squares (from square 1 to square 3).
4. Boston, Washington, D.C., the Appalachian Mountains, then the Mississippi River.
5. Answers will vary. Check the state on the map together. Gifts might be a river, a lake, mountains, a coast, forests or good farmland.

UNIT 8 REVIEW

A parent reads each question aloud. The child answers out loud, points on the map or taps the code. The review is worth 20 points.

1. (3 pts) What were the first words Samuel Morse sent by telegraph from Washington to Baltimore in 1844? What do they mean?
2. (3 pts) Tap the code for E and for T. Which one is a dot and which one is a dash?
3. (3 pts) Where and when did the two railroads meet? What special spike was set in the last tie?
4. (3 pts) Point to Omaha and Sacramento on the railroad map from Lesson 8.2. Which way did the Union Pacific build from Omaha? Which way did the Central Pacific build from Sacramento?
5. (3 pts) Put wagon, train and plane in order from slowest to fastest. Say “months,” “days” or “hours” for each.
6. (2 pts) A wagon trip took about 20 weeks. A train trip took about 1 week. How many more weeks did the wagon take?
7. (3 pts) Point to the Atlantic Ocean and the Pacific Ocean on a U.S. map. Name two big landmarks you would cross going from one to the other.

UNIT PROJECT: THE COUNTRY GROWS CLOSER: MY RAILROAD MAP AND MESSAGE

On a large sheet of paper, draw the western United States and the railroad from Omaha to Sacramento. Mark Omaha, Sacramento and Promontory Summit, draw the Sierra Nevada and the Rocky Mountains, and glue on a gold paper spike where the two lines met. In one corner, write a short message in Morse code dots and dashes, such as DONE or HI MOM, with the letters underneath. In the other corner, draw a wagon, a train and a plane with “months,” “days” and “hours.” Then show your map to the family and make a cup-telephone call from coast to coast.

- **Map:** Omaha, Sacramento and Promontory Summit are in the right places, and the mountains are drawn and labeled.
- **Code:** The Morse code message is written correctly with dots and dashes, and the child can tap it.
- **Comparing:** Wagon, train and plane are in the right order and matched with months, days and hours.
- **Telling:** The child tells the story of the telegraph and the golden spike in his or her own words, clearly and with care.

Answer key

1. “What hath God wrought.” They mean “Look what God has done!” (The words come from the Bible, Numbers 23:23.)
2. E is one dot (a short tap). T is one dash (a long tap).
3. At Promontory Summit, Utah, on May 10, 1869. A golden spike.

4. The Union Pacific built west from Omaha. The Central Pacific built east from Sacramento.
5. Wagon (months), train (days), plane (hours).
6. 19 weeks ($20 - 1 = 19$).
7. Atlantic on the east, Pacific on the west. Any two: the Appalachian Mountains, the Mississippi River, the Great Plains, the Rocky Mountains, the Grand Canyon, the Sierra Nevada.

BONUS: MAP LAB

This bonus unit is all games and making. After a year crossing the country from coast to coast, the Map Lab lets children play with the map they have come to know. They will play States Bingo, plan a pretend road trip with three stops, send a postcard from a state they “visited,” and color a map of license plates spotted on real cars.

Each game starts with a real moment: Abel Buell’s map of the thirteen states in 1784, Horatio Nelson Jackson’s first car trip across America in 1903 (with Bud the dog in goggles), the penny postcards of 1873, and the first license plates of New York and Massachusetts. The lessons are light and can be used any time of year, on a rainy day, before a family trip, or as a cheerful end to the course.

BEFORE YOU BEGIN

- Can find our own state on a U.S. map
- Knows north, south, east and west on a map
- Can count to 50 and add small numbers
- Can write a short sentence with help

MASTERY CHECKLIST

- I can find at least ten states on a U.S. map by name, shape or clue.
- I can plan a trip with a start and three stops and tell which way I go.
- I can make a postcard with a message, an address and a stamp box in the right places.
- I can keep a tally of license plates and color the states on a map.
- I can name our state’s neighbor states.

OPTIONAL BOOKS AND RESOURCES

- **Library of Congress Maps collection** (<https://www.loc.gov/maps/>): Free. Parents can look up old maps of the United States, including Abel Buell’s 1784 map (Lesson 9.1). The Library’s Prints and Photographs collection has photochrom prints of American places (Lesson 9.3).
- **Smithsonian National Museum of American History** (<https://americanhistory.si.edu/>): Free. Search the website for the 1903 Winton car and Bud’s goggles from Horatio Nelson Jackson’s trip across America (Lesson 9.2).
- **National Park Service** (<https://www.nps.gov/>): Free. Find parks in every state to use as stops on a road trip or as pictures on a postcard (Lessons 9.2 and 9.3).

9.1 STATES BINGO

OBJECTIVES

- Find at least ten states on a U.S. map by name, shape or clue.
- Tell how many states the country had on Abel Buell’s 1784 map and how many it has now.

Warm-up. Lay a U.S. map on the table. Set a timer for one minute. Put a dry bean on every state you can name before the timer rings. Count your beans. Save the number to beat next time.

Video. Coming soon. A short, cheerful fifty-states song or animation for kids (under 8 minutes), or a picture book about the states read aloud; search Homeschool Pop (Alternate) and Brightly Storytime-style read-alouds (candidate, needs vetting). Preview first.

KEY TERMS

state

One of the fifty parts of our country. Each state has its own name, shape and capital city.

border

The line on a map where one state ends and the next state begins.

grid

Rows and columns of squares, like a bingo card or a checkerboard.

CORE IDEAS

The story. In 1784 a man named Abel Buell sat in his shop in New Haven, Connecticut. He was a silversmith, a man who worked with metal, and he was good at carving tiny lines. The war for independence had just ended. Abel carved a new map onto copper plates and printed it. It was the first map of the new United States made by an American and printed in America. How many states were on it? Only thirteen! They were all near the Atlantic Ocean.

The big idea. Our country grew and grew. Today there are **fifty** states. That is 37 more than on Abel’s map. Alaska became the 49th state and Hawaii became the 50th, both in 1959. Each state has a shape you can learn. Florida sticks out into the sea. Michigan looks like a mitten. Texas is the biggest state in the lower 48, but Alaska is bigger still. Rhode Island is the smallest of all. When you know the shapes, the map becomes a puzzle of old friends.

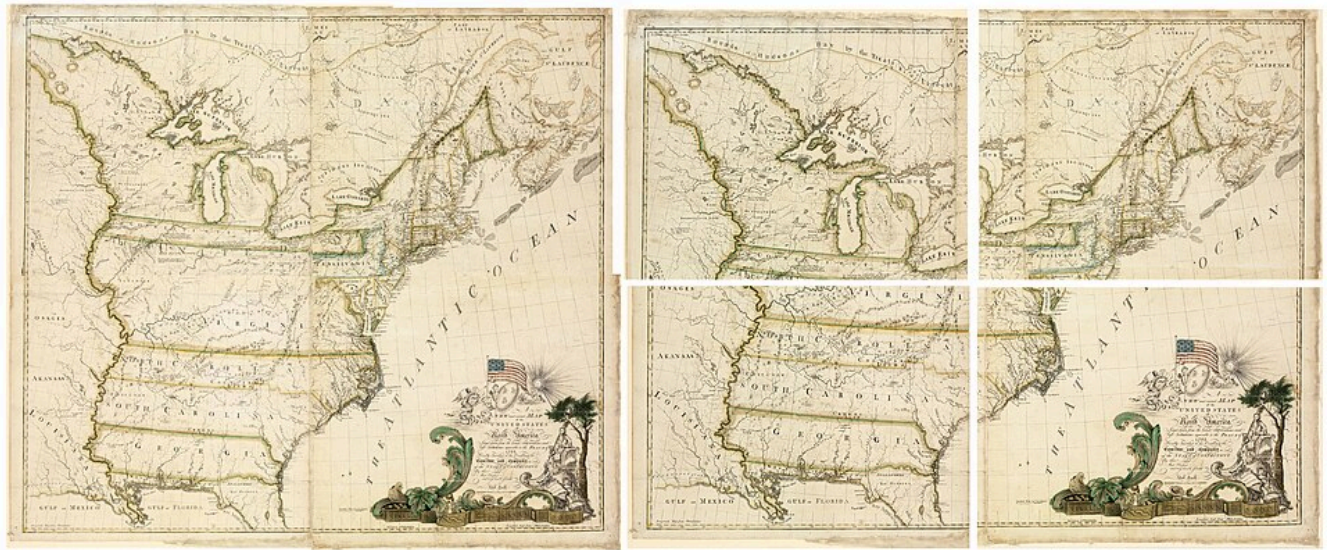
On the map. Today you will play States Bingo. A bingo card is a **grid** of squares. Each square has a state name on it. Your parent reads a clue. You find that state on the big map first, and then you cover it on your card. Three in a row wins! Every game helps you remember where the states sit and which states are neighbors.

STATES BINGO

Alaska	Texas	Florida
Hawaii	FREE	Ohio
Maine	California	Michigan

A States Bingo card is a grid. Three covered squares in a row wins.

PICTURE STUDY



A New and Correct Map of the United States of North America, Abel Buell, 1784 · Engraving on copper, printed on paper and colored by hand · Library of Congress, Washington, D.C. (on loan from David M. Rubenstein)

Abel Buell made this map in New Haven, Connecticut, right after the war for independence ended. It was the first map of the United States made by an American and printed in the new country. Only a few copies are left. One of them is kept at the Library of Congress.

Look closely

- Find the Atlantic Ocean. Are the states near the ocean or far from it?

- Look for the Great Lakes. Can you find them at the top of the map?
- Find the fancy box with the map's title. What do you see inside it?
- Look at the colors. Why do you think each state got its own color?

Talk about it

1. Abel's map had thirteen states. Our map has fifty. What is different about the two maps?
2. Is our state on Abel's map? If not, what was there instead?

PROJECT: MAKE AND PLAY STATES BINGO

You will make your own bingo cards, write clue slips, and play States Bingo with your family on a big U.S. map.

You will need

- Card stock or stiff paper, a ruler and a pencil
- Crayons or markers
- Small slips of paper and a bowl or hat
- Dry beans or buttons for markers
- A large U.S. map (a wall map or a printed outline map)

Steps

1. With a ruler, draw a grid on your card: 3 squares across and 3 squares down. Big kids can try 4 by 4.
2. Write FREE in the middle square of a 3 by 3 card.
3. Write a state name in every other square. Use our own state and its neighbors, plus Alaska, Hawaii, Texas and Florida.
4. Make a card for each player. Each card should have a different mix of states.
5. Write each state name on a slip of paper. Fold the slips and put them in the bowl.
6. The caller picks a slip and gives a clue, such as "I look like a mitten" or "I am made of islands."
7. Players point to the state on the big map. Then anyone with that state covers it with a bean.
8. The first player with three in a row, across, down or corner to corner, calls "Bingo!" and names the states in the row.

Tips

- For young players, the caller can say the state name and point to its first letter.
- Color each state on the card the same color it has on your map. Then players can match by color too.

Check your work

- I can find a state on the map before I cover it.
- I can name the states in my winning row.

MAP NOTEBOOK

1. Trace Michigan's mitten shape and Florida's shape. Label each one.
2. Draw Abel Buell's thirteen states as thirteen small stars. Next to them draw fifty dots, or write 50.
3. Draw your favorite bingo card and color your winning row.

From history. Abel Buell had an adventurous life. As a young man he got into trouble for changing paper money, and he was sent to jail. He later learned to make maps and printing type, and he became one of the first people in America to make his own letters for printing. His map of 1784 is now very rare. Today one copy is kept at the Library of Congress, where visitors can see it.

WORKED EXAMPLES

Example 1. Look at the bingo card. How many squares does it have? How many squares in a row do you need to win?

(Use the map or drawing "Count the rows and the squares in each row." shown earlier in this lesson.)

1. Count the squares in the top row: Alaska, Texas, Florida. That is 3.
2. Count the rows: top, middle, bottom. That is 3 rows.
3. 3 rows of 3 squares make $3 + 3 + 3 = 9$ squares.
4. A row can go across, down or corner to corner. Each row has 3 squares, so you need 3 in a row to win.

Answer: 9 squares. You need 3 in a row.

PRACTICE

1. **EASY** On the bingo card, which state is in the middle of the top row?
2. **EASY** Point to Alaska and Hawaii on the U.S. map. Are they joined to the other states?
3. **MEDIUM** Abel Buell's map had 13 states. Today there are 50. How many more states are there now?
4. **MEDIUM** Which is bigger, Texas or Rhode Island? Point to both.

COMMON MISTAKES

- Covering a square before finding the state on the map. Find it first; that is how you learn it.
- Thinking Alaska and Hawaii are small because the map puts them in little boxes. Alaska is the biggest state of all.

- Thinking a row only goes across. Rows can go across, down or corner to corner.

Make it a game • Shape Sleuth. Cut out five state shapes from an outline map, such as Florida, Texas, Michigan, California and our own state. Hold one up. The player names it and then points to where it fits on the big map. Turn one shape upside down to make it tricky. Score a point for each correct name and a bonus point for each correct spot.

Scripture. “The earth is the LORD’s, and the fulness thereof; the world, and they that dwell therein.” (Psalm 24:1, KJV)

Every state on our map, big or small, belongs to God, who made the land and the people who live there.

Practice answers

1. Texas.
2. No. Alaska is far to the northwest, and Hawaii is a group of islands far out in the Pacific Ocean.
3. 37 more ($50 - 13 = 37$).
4. Texas. Rhode Island is the smallest state.

9.2 ROAD TRIP PLANNER

OBJECTIVES

- Plan a pretend road trip with a starting place and three stops, and draw the route on a map.
- Use the compass rose to tell which way the trip goes.

Warm-up. Make a pretend car from two chairs. Your parent says “Drive north!” or “Drive west!” Point your steering wheel (a paper plate) the right way, using a sign on the wall that says N for north.

Video. Coming soon. A short kid-friendly clip or picture book read-aloud about Horatio Nelson Jackson, his dog Bud and the first car trip across America in 1903, or a short look at the Winton car at the Smithsonian (under 8 minutes); search Smithsonian, The Henry Ford, and Brightly Storytime-style read-alouds (candidate, needs vetting).

KEY TERMS

route

The way you go to get from one place to another.

stop

A place where you stay a while on a trip before going on.

road map

A map that shows roads and towns so travelers can find their way.

compass rose

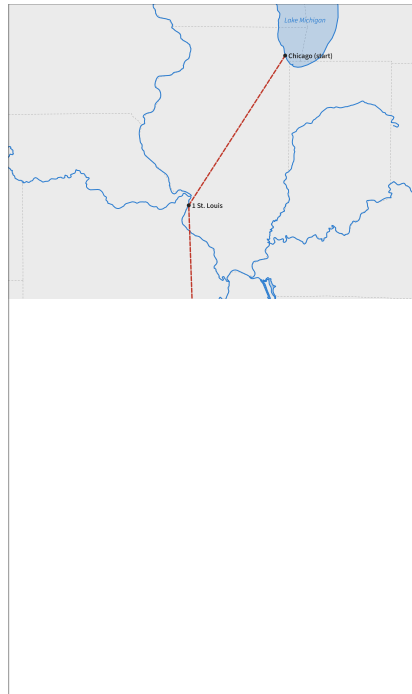
The little star on a map that shows north, south, east and west.

CORE IDEAS

The story. In 1903 a doctor from Vermont named Horatio Nelson Jackson made a bet. He said he could drive a car all the way across the country, from San Francisco to New York. Nobody had ever done it! There were very few good roads. Jackson bought a car called a Winton and named it the *Vermont*. A helper named Sewall Crocker came along to fix the engine. On the way they got a dog named Bud. Bud wore goggles to keep the dust out of his eyes!

How it worked. The trip was hard. The car got stuck in mud. Parts broke, and the men had to wait for new ones to come by train. They crossed rivers, mountains and plains. They stopped in towns to buy gas, food and tires. They left San Francisco in May and drove into New York in July, about 63 days later. Today you can see the *Vermont* and Bud’s goggles at the Smithsonian in Washington, D.C.

On the map. Every good trip needs a plan. First, pick where you start. Next, pick your **stops**. Then draw your **route** on a **road map**, from stop to stop. Use the **compass rose** to see which way you are going. On the map below, a family starts in Chicago and drives south to St. Louis, Memphis and New Orleans. Three stops, one long, happy trip!



A road trip with three stops: St. Louis, Memphis and New Orleans.

PICTURE STUDY



Horatio Nelson Jackson, Sewall Crocker and Bud in the Winton "Vermont", Unknown photographer, 1903 · Black-and-white photograph · Photograph: University of Vermont Special Collections. The car and Bud's goggles are at the Smithsonian's National Museum of American History, Washington, D.C.

This photograph was taken during the first car trip across the United States in 1903. Horatio Nelson Jackson and Sewall Crocker sit in their Winton car. Bud the dog rides along in his goggles. The car had no roof and no windows, so the travelers felt every bit of wind, rain and dust.

Look closely

- Find Bud. What is he wearing, and why?
- Look at the car. What is missing that our cars have today?
- Look at the men's clothes. How did they keep warm and clean?
- Look at the road or ground. Is it smooth?

Talk about it

1. Would you like to ride in this car for two months? Why or why not?
2. What would you pack for a trip like this one?

PROJECT: MY THREE-STOP ROAD TRIP

You will plan a pretend road trip across part of our country. You will choose a starting place and three stops, mark them on a map, and lay a yarn road between them.

You will need

- A printed U.S. outline map or road atlas
- Three star stickers and one house sticker (or draw them)
- Red yarn and tape
- Paper and crayons for a trip ticket
- A toy car (optional)

Steps

1. Put the house sticker on your home town, or on a city your parent helps you choose.
2. Choose three places you would like to visit. Try to pick something to see in each one, like a river, a mountain, a beach or a big city.
3. Put a star sticker on each stop. Number them 1, 2 and 3 in the order you will visit.
4. Tape the red yarn from home to stop 1, then to stop 2, then to stop 3. That is your route.
5. Use the compass rose. Say which way you drive between each stop: north, south, east or west.
6. Fold a paper in half to make a trip ticket. Inside, write each stop and draw one thing you will see there.
7. Drive your toy car along the yarn and tell your family the story of your trip.

Tips

- Stops close together make a short trip. Stops far apart make a long trip.

- If you cross a big river or mountains, draw them on your ticket too.

Check your work

- My map shows a start and three numbered stops.
- I can tell which way I drive to each stop.

MAP NOTEBOOK

1. Draw Bud the dog in his goggles riding in the car.
2. Draw a compass rose and label N, S, E and W.
3. Draw the three places you would stop and write their names.

From history. Jackson bought Bud in Idaho during the trip. Bud became famous, and newspapers wrote about the dog in goggles. After Jackson finished, two other teams soon drove across the country too, but Jackson and Crocker were the first. Jackson's car, the *Vermont*, was given to the Smithsonian, where families still visit it.

WORKED EXAMPLES

Example 1. Look at the road trip map. The family starts in Chicago and ends in New Orleans. Which way are they driving? How many stops do they make?

(Use the map or drawing "Follow the red route from top to bottom." shown earlier in this lesson.)

1. Find Chicago near the top of the map and New Orleans near the bottom.
2. On a map, north is up and south is down.
3. Going from the top to the bottom means driving south.
4. Count the stars after Chicago: St. Louis, Memphis, New Orleans. That is 3.

Answer: They drive south, and they make 3 stops.

PRACTICE

1. **EASY** On the road trip map, what is the first stop after Chicago?
(Use the map or drawing "Find the first stop." shown earlier in this lesson.)
2. **EASY** Which three stops sit beside the Mississippi River? Point to them.
3. **MEDIUM** A family drives 3 days to their first stop, 2 days to the second stop and 4 days to the third stop. How many days do they drive in all?
4. **MEDIUM** Name two things Jackson and Crocker had to stop in towns to get.

COMMON MISTAKES

- Thinking north always means "toward the top of the room." On a map, north is up, but in a real car you use a compass or the sun.

- Skipping a stop when drawing the route. Go from stop to stop in number order.
- Thinking Jackson drove on smooth highways. In 1903 most roads were dirt or mud.

Make it a game · Are We There Yet?. One player secretly picks a city on the map. The others guess by asking only direction questions: “Is it north of here? Is it east?” The player answers yes or no. Whoever finds the city in the fewest questions picks next.

Scripture. “The LORD shall preserve thy going out and thy coming in from this time forth, and even for evermore.” (Psalm 121:8, KJV)

When we travel, near or far, God watches over us on the road and brings us home.

Practice answers

1. St. Louis.
2. St. Louis, Memphis and New Orleans.
3. 9 days ($3 + 2 + 4 = 9$).
4. Any two: gas, food, tires, car parts.

9.3 POSTCARD SWAP

OBJECTIVES

- Make a postcard with a picture of a real place in a state and a short message from a pretend visit.
- Show where the message, the address and the stamp go on a postcard.

Warm-up. Look at any postcard, greeting card or envelope in the house. Find the stamp. Find the address. Where is each one? Tell your parent what you notice.

Video. Coming soon. A short kid-friendly video on how a letter or postcard travels through the mail, or a short read-aloud of a picture book told in postcards (under 8 minutes); search Smithsonian (National Postal Museum), Library of Congress, and Brightly Storytime-style read-alouds (candidate, needs vetting).

KEY TERMS

postcard

A stiff card with a picture on one side and room for a short note on the other. You mail it without an envelope.

address

The name, street, town and state that tell the mail carrier where to bring a letter.

stamp

A small sticker you buy to pay for sending mail. It goes in the top right corner.

landmark

A famous place that is easy to know, like the Grand Canyon or the Golden Gate Bridge.

CORE IDEAS

The story. In 1873 the United States Post Office began selling printed postal cards for one penny. People loved them! You did not need paper or an envelope. You just wrote a few words and mailed it. Later, companies printed postcards with pictures of beautiful places. One company in Detroit, Michigan, made bright colored pictures of Niagara Falls, the Rocky Mountains, big cities and seashores. Travelers bought them and mailed them home.

How it worked. At first the back of a picture postcard was only for the address. If you wanted to say “Hello!” you had to squeeze your words onto the front, next to the picture. Then, in 1907, the back was split in two by a line down the middle. The **message** went on the left. The **address** went on the right. The **stamp** went in the top right corner. We still make postcards that way today.

On the map. A postcard is a tiny map lesson. The picture shows a **landmark**, a famous place in one state. The address shows where the card is going. Today you will pretend to visit

a state and send a postcard home. Pick a place you have learned about this year. Draw it, write what you saw, and swap cards with your family. Then find each card's state on the map!

Message ----- ----- ----- -----	Stamp Address _____ _____ _____
--	---

Message on the left, address on the right, stamp in the top right corner.

PICTURE STUDY



Horseshoe Fall from Goat Island, Niagara, Detroit Publishing Company, about 1898–1905 · Photochrom (a black-and-white photograph turned into a color print) · Library of Congress, Washington, D.C. (Photochrom Prints collection)

Before color photos, a company in Detroit, Michigan, used a special Swiss method to turn black-and-white photographs into color pictures. It sold these prints and postcards of famous American places, like Niagara Falls on the border of New York and Canada. Many of them are now kept at the Library of Congress.

Look closely

- Find the falling water. Which way is it moving?
- Look for the mist. Where is it?
- Look at the colors. Do they look like a photo, a painting or a little of both?
- Can you find any people or boats? How small do they look next to the falls?

Talk about it

1. If you got this postcard in the mail, what would you want to know about the place?
2. What would you write on the back if you had visited Niagara Falls?

PROJECT: A POSTCARD FROM MY PRETEND VISIT

Each person in the family picks a state, makes a postcard from a pretend visit, and mails it, either in a home mailbox or through the real post office.

You will need

- Blank index cards, 4 by 6 inches (the size of a postcard)
- Crayons, colored pencils or markers
- A ruler and pencil
- A shoebox with a slot cut in the lid for a family mailbox
- Real postcard stamps (optional, to mail to a grandparent or friend)

Steps

1. Pick a state and one landmark in it, such as the Grand Canyon in Arizona or the Everglades in Florida.
2. On the blank side of the card, draw a picture of the landmark. Write “Greetings from” and the state name across the top.
3. Turn the card over. With a ruler, draw a line down the middle.
4. On the left, write a short message: where you went, what you saw, and how you felt. Two or three sentences is plenty.
5. On the right, draw a box in the top corner for a stamp. Write the name and address of the person you are sending it to.
6. Drop your postcard in the family mailbox. At dinner, each person reads the card they got and finds the state on the map.
7. If you like, put a real stamp on one card and mail it to a grandparent.

Tips

- Use a landmark you studied this year, like a river, a mountain, a desert or a coast.
- Write small and neat. A postcard does not have much room!

Check your work

- My postcard has a picture, a message, an address and a stamp box.
- I can point to the state on the map.

MAP NOTEBOOK

1. Draw the back of a postcard and label message, address and stamp.
2. Draw a tiny picture of a landmark from three different states.
3. Copy the address of your own house, with the state name.

From history. The first U.S. postal cards of 1873 cost one penny to buy, and that penny paid for the mailing too. For many years people called them “penny postcards.” Families on farms, in cities and in the West used them to send quick news, much the way we send a short message on a phone today.

WORKED EXAMPLES

Example 1. Look at the back of the postcard. Where does the stamp go? Where do you write your message?

(Use the map or drawing “Find the stamp box and the message side.” shown earlier in this lesson.)

1. Find the line down the middle. It splits the card into a left side and a right side.
2. The right side has a small box at the top corner. That is for the stamp.
3. The lines under the stamp are for the address.
4. The left side is open. That is for your message.

Answer: The stamp goes in the top right corner. The message goes on the left side.

PRACTICE

1. **EASY** Match the landmark to its state: Grand Canyon, Golden Gate Bridge, Everglades. (States: Florida, Arizona, California.)
2. **EASY** Point to the side of the postcard where the address goes.
3. **MEDIUM** A postcard is 6 inches long and 4 inches tall. Add all four sides. How far is it around the edge?
4. **MEDIUM** Grandma gets 3 postcards from Arizona, 4 from Florida and 2 from California. How many postcards in all?

COMMON MISTAKES

- Putting the stamp on the left or the bottom. The stamp goes in the top right corner.
- Leaving off the state name in the address. The mail carrier needs the state to find the right place.
- Picking a landmark from the wrong state. Check the map before you write “Greetings from.”

Make it a game • Guess Where I Am. One player pretends to be on a trip and reads a postcard message out loud without saying the state: “I see a deep, red canyon with a river at the bottom.” The others guess the state and point to it on the map. The first correct guess earns a point and writes the next mystery postcard.

Scripture. “As cold waters to a thirsty soul, so is good news from a far country.”
(Proverbs 25:25, KJV)

A cheerful card from far away is like a cool drink on a hot day. Sending good news is a way to love the people we miss.

Practice answers

1. Grand Canyon: Arizona. Golden Gate Bridge: California. Everglades: Florida.
2. The right side, under the stamp.
3. 20 inches ($6 + 4 + 6 + 4 = 20$).
4. 9 postcards ($3 + 4 + 2 = 9$).

9.4 LICENSE PLATE MAP

OBJECTIVES

- Keep a tally of license plates from different states and color each state on a map.
- Tell which states seen are neighbors of our state and which are far away.

Warm-up. Go look at your family car’s license plate (with a grown-up). What state name is on it? What pictures, colors or words do you see? Draw it quickly on a scrap of paper.

Video. Coming soon. A short, kid-friendly video about license plates and how each state designs its own, or a family road-trip license plate game (under 8 minutes); search The Henry Ford, Smithsonian, and Homeschool Pop (Alternate). Preview first.

KEY TERMS

license plate

The metal sign on the front or back of a car. It shows the car’s number and the state where the car belongs.

tally mark

A little line you draw to count. Every fifth line crosses the other four to make a bundle of 5.

neighbor state

A state that touches our state’s border.

CORE IDEAS

The story. When cars were new, nobody knew whose car was whose. In 1901 the state of New York made a rule: every car owner must sign up the car with the state. Owners made their own little signs with their initials and hung them on the back. Two years later, in 1903, Massachusetts became the first state to hand out plates of its own. Soon every state did the same.

The big idea. Today every state makes its own **license plate**. Each one shows the state’s name, and many show a picture or a nickname. Florida plates often say “Sunshine State.” Illinois plates say “Land of Lincoln.” Idaho plates have said “Famous Potatoes” for many years. When you see a plate from far away, you know that car has traveled a long way to be on your road!

On the map. You can turn plate spotting into a map. Each time you see a plate from a state, make a **tally mark** next to its name. Then color that state on your U.S. map. Most plates will come from our own state and our **neighbor states**. A plate from Alaska or Hawaii is a rare treasure! Over a few weeks, your map will fill with color and show you how people travel all over our country.

Plates We Saw

Ohio	
Indiana	
Kentucky	

A license plate tally chart. Each bundle of tally marks stands for 5.

PICTURE STUDY



Toward Los Angeles, California, Dorothea Lange, 1937 · Black-and-white photograph · Library of Congress, Washington, D.C. (Farm Security Administration collection)

Dorothea Lange took pictures for the government in the 1930s. Many families then were poor and traveled from state to state looking for work. Here two men walk on a highway toward Los Angeles. A giant sign beside them tells travelers to take the train next time and relax.

Look closely

- Find the road. Is it straight or curvy? Where does it seem to go?
- Look at the two men. What are they carrying?
- Look at the big sign. Who is resting on it, and where?
- How is walking different from riding a train?

Talk about it

1. These men were walking a very long way. How do most people travel between states today?
2. If they had a car, what state would its license plate show?

Safety first. Spot license plates only from inside the car with your seat belt on, or while holding a grown-up's hand in a parking lot. Never walk between parked cars by yourself.

PROJECT: MY LICENSE PLATE MAP

You will keep a license plate log on drives, in parking lots and on walks for a few weeks, and color each state you spot on a U.S. map.

You will need

- A printed U.S. outline map
- Crayons or colored pencils
- A clipboard and a tally sheet with room for state names
- A pencil on a string so it does not get lost in the car

Steps

1. Color our own state first with your favorite color. Draw a star on it.
2. Color our neighbor states lightly in a second color, so you know which ones touch us.
3. On every drive or trip to the store, look at license plates in parking lots and on the road. Stay safe: look from your seat or while holding a grown-up's hand.
4. When you see a plate, find the state name on your tally sheet and make a tally mark. Add a new line if the state is not there yet.
5. When a state gets its first tally, color it in on your map.
6. At the end of each week, count your tallies. Which state did you see most? Which one came from farthest away?
7. Put the map on the refrigerator and keep filling it. Can you find 20 states?

Tips

- Parking lots at stores, parks and rest stops are great places to look.
- Some plates are hard to read. Look for the state name at the top or bottom of the plate.

Check your work

- My tally sheet has the states I saw and a tally for each car.
- My map has every state I spotted colored in.

MAP NOTEBOOK

1. Draw the license plate of our state, with its colors and picture.
2. Design your own license plate for a state you love. Give it a picture and a nickname.
3. Make a tally of five things you see on a walk, like dogs, red cars or mailboxes.

From history. The first state plates were plain, with only numbers and letters. Over the years states added colors, pictures and nicknames. Many states made license plates from steel, and some still do. People who collect old license plates trade them at shows, and a full set of plates from all fifty states is a prize collection.

WORKED EXAMPLES

Example 1. Look at the tally chart. How many Ohio cars were seen? How many cars were seen in all?

(Use the map or drawing “Count the bundles by fives, then count the extra lines.” shown earlier in this lesson.)

1. A bundle with a line across it stands for 5.
2. Ohio has one bundle and 2 more lines: $5 + 2 = 7$.
3. Indiana has 4 lines. Kentucky has 2 lines.
4. Add them all: $7 + 4 + 2 = 13$.

Answer: 7 Ohio cars. 13 cars in all.

PRACTICE

1. **EASY** On the tally chart, which state was seen the most?
(Use the map or drawing “Which row has the most tally marks?” shown earlier in this lesson.)
2. **EASY** Draw tally marks to show 6 cars from Michigan.
3. **MEDIUM** How many more Ohio cars than Kentucky cars were seen?
4. **MEDIUM** Look at a U.S. map. Which of these states touch Ohio: Indiana, Kentucky, Texas?

COMMON MISTAKES

- Drawing five straight lines in a row. The fifth line goes across the first four to make a bundle.
- Counting the same parked car twice. Count each car only once.
- Thinking a car is from wherever you see it. The plate tells where the car belongs, not where it is now.

Make it a game · Alphabet Plates. On a drive, try to spot a state name for each letter: A for Arizona, B is a tricky one (no state starts with B, so skip it!), C for Colorado, and so on. Call out each state as you see it and point to it on the map when you get home. Count how many letters you found. Can you beat your score next trip?

Scripture. “And hath made of one blood all nations of men for to dwell on all the face of the earth, and hath determined the times before appointed, and the bounds of their habitation;” (Acts 17:26, KJV)

The cars on our roads come from many states, but all the people in them were made by the same God, who knows where every one of them lives.

Practice answers

1. Ohio (7 cars).
2. One bundle of 5 (four lines with a line across) and 1 more line.
3. 5 more ($7 - 2 = 5$).
4. Indiana and Kentucky. Texas is far away to the southwest.

UNIT 9 REVIEW

A parent asks each question aloud. The child may point, draw or answer out loud. The review is worth 20 points.

1. (3 pts) Point to Alaska, Hawaii and our own state on the U.S. map.
2. (3 pts) Abel Buell's map in 1784 had 13 states. How many states are there now? How many more is that?
3. (3 pts) Who made the first car trip across America in 1903, and what was the name of his dog?
4. (4 pts) On the map, show a trip from our town to three stops. Which way do you go to the first stop?
5. (3 pts) Draw the back of a postcard. Show where the message, the address and the stamp go.
6. (4 pts) Draw tally marks for 8 cars from one state. Then name two neighbor states of our state.

UNIT PROJECT: MY MAP LAB TRAVEL BOOK

Make a little travel book by stapling paper together. Include your best bingo card, your road trip map with three stops, the postcard you made (or a copy of it), and your license plate map with its tally sheet. On the cover, draw the United States and put a star on our own state. Read the book aloud to someone in the family and point to each state on the big map.

- **Map skills:** States, stops and routes are in the right places, and directions are told correctly.
- **Complete:** The book has a bingo card, a road trip map, a postcard and a license plate map.
- **Telling:** The child can tell about each page and point to the states on the map.
- **Care:** Pages are colorful, neat and labeled.

Answer key

1. Alaska is in the far northwest, Hawaii is the islands in the Pacific Ocean, and our own state is found correctly, as the parent checks (1 point each).
2. 50 states; 37 more ($50 - 13 = 37$).
3. Horatio Nelson Jackson, with Sewall Crocker (2 points); the dog was Bud (1 point).
4. A start and three stops in order (2 points); a correct direction (north, south, east or west) to the first stop (2 points). The parent checks the direction on the map.
5. Message on the left; address on the right; stamp in the top right corner (1 point each).
6. One bundle of 5 and 3 more lines (2 points); two states that touch our state's border, as the parent checks on the map (2 points).