

GRADE 3 ART

First edition

8 units

32 lessons

A video for every lesson

FIRST EDITION

COURSE GUIDE

Third grade is a wonderful year for art. Children of eight and nine can hold a pencil with real control, sit still long enough to look carefully, and want very much to make things that “look real.” This course meets them there. Students learn to draw what they see with blind contour, gesture and hatching; to build pictures from cubes, cylinders and simple proportions; to understand the twelve-color wheel, hue and value, and analogous and complementary colors; and to shade a ball so it looks round, using a five-step value scale and the way light makes highlights and shadows.

The second half of the year goes into the stuff of art itself. A unit on material science explains what paint is made of (pigment and binder), why some pencils are hard and some soft, why paper has “tooth,” and what each brush shape is for. Then students work with clay slabs, relief and texture, learn six ways to show space and distance, draw a one-point road, and finish with the big ideas of composition (focal point and balance) and a walk through the Renaissance, ending with a final piece that puts the whole year together.

Every lesson follows the same rhythm: **look** (a picture study of a great work of art), **learn** (a short video and clear teaching), and **make** (a studio project and sketchbook practice). We hold that beauty, truth and goodness are real, that God is the first Maker, and that children made in His image become makers by making: *Fabricando fit faber*.

Every lesson has a short teaching video from YouTube, most from working art teachers and drawing channels such as Circle Line Art School, Mr. Otter Art Studio, That Art Teacher, Paint It Kids and Art With Trista, along with museums such as The Met and Smarthistory. Each video was watched for its fit with the lesson and checked frame by frame for wholesome content, including every artwork shown on screen. Many teachers mention their websites, shops or other videos at the start or end; you can skip those parts. A few videos were made for teachers or older students; the lesson tells you when to pause and

explain. Please stay nearby while your child watches, because YouTube may suggest other videos when one ends.

Start with Lesson 1.1 →

WHO IT IS FOR

Students about 8–9 years old who can read simple sentences and hold a pencil comfortably. No earlier art course is needed; children who did the Grade 2 course will recognize the strands and go deeper. The lessons are written to the student, but a parent should read along and help with the projects. Older beginners (ages 10–11) can use it well too.

HOW TO USE THIS COURSE

1. **Weekly rhythm.** One lesson a week for 32 weeks, in two sessions of about 45 minutes. Session 1: warm-up, core ideas, video and picture study. Session 2: the studio project and sketchbook practice. In the last week of each unit, add a third session for the unit review and the portfolio piece.
2. **Picture study.** Show the artwork as large as you can (a laptop screen or a printed copy). Let your child look quietly for two full minutes without talking. Then put the picture away and ask, “Tell me everything you saw.” Bring the picture back and go through the “Look for” points and the questions together. There are no wrong answers to most questions; the goal is careful looking.
3. **Read the core ideas together.** The core ideas are the real teaching of each lesson. A third grader can read much of them alone, but reading aloud together and stopping to try things on scrap paper works best. Ask your child to explain each key term back to you in their own words.
4. **Videos.** Watch at the point the lesson suggests. Pause often. For drawing videos, watch once to see, then again to draw along.
5. **Sketchbook habit.** Keep one sketchbook for the whole year and write the date on every page. The sketchbook exercises are short and can be done on other days of the week, even five minutes at the kitchen table. Mistakes stay in the sketchbook; we do not tear out pages. By June, your child will be amazed at how far they have come.
6. **Unit review and portfolio.** Each unit ends with a short review (50 points) that your child can answer aloud, in writing, or by drawing, and a portfolio piece that

pulls the unit's skills together. Keep portfolio pieces flat in a large folder. At the end of the year, hang the best ones for a family art show.

7. **Your role.** You do not need to be an artist. Read the steps, gather the materials, sit beside your child, and praise careful looking and hard work more than “talent.” If something is hard, try it together and laugh at your own drawings. Children learn more from a parent who tries than from one who is good at it.

SCOPE AND SEQUENCE

UNIT 1 • WEEKS 1–4

Line and Observational Drawing

Learning to see: blind contour, gesture drawing, hatching and cross-hatching, and drawing leaves and plants from life.

- 1.1 Blind Contour Drawing
- 1.2 Gesture Drawing: Lines That Move
- 1.3 Hatching and Cross-Hatching
- 1.4 Drawing Leaves and Nature from Life

UNIT 3 • WEEKS 9–12

Color Theory

The twelve-color wheel, hue and value, analogous colors, and the bright contrast of complementary colors.

- 3.1 The Twelve-Color Wheel
- 3.2 Hue and Value: Tints and Shades
- 3.3 Analogous Colors
- 3.4 Complementary Contrast

UNIT 2 • WEEKS 5–8

Shape, Form and Proportion

How to draw cubes and cylinders, radial symmetry in rose windows, the simple proportions of a face, and the proportions of animals.

- 2.1 Drawing Cubes and Cylinders
- 2.2 Radial Symmetry and the Rose Window
- 2.3 Proportions of the Face
- 2.4 Proportions of Animals

UNIT 4 • WEEKS 13–16

Value, Light and Shadow

A five-step value scale, highlight, form shadow and cast shadow, shading a sphere, and light and dark in Rembrandt.

- 4.1 The Five-Step Value Scale
- 4.2 Highlight, Form Shadow and Cast Shadow
- 4.3 Shading a Sphere
- 4.4 Light and Dark in Rembrandt

UNIT 5 • WEEKS 17–20

Material Science: What Art Is Made Of

Material science: pigment and binder, how graphite pencils work (H and B), paper and its tooth, and brushes and their shapes.

- 5.1 Pigment and Binder
- 5.2 Graphite Pencils: H and B
- 5.3 Paper and Its Tooth
- 5.4 Brushes and Their Shapes

UNIT 7 • WEEKS 25–28

Space and Perspective

Showing space with overlap, size, placement and detail; atmospheric perspective; the horizon line; and a one-point perspective road.

- 7.1 Overlap, Size, Placement and Detail
- 7.2 Atmospheric Perspective
- 7.3 The Horizon Line
- 7.4 One-Point Perspective: A Road to the Distance

UNIT 6 • WEEKS 21–24

Texture and Sculpture

Implied texture in drawing, clay slabs joined by scoring and slipping, relief sculpture, and making texture with tools.

- 6.1 Implied Texture: Drawing Fur, Feathers and Bark
- 6.2 Clay Slabs: Score and Slip
- 6.3 Relief Sculpture
- 6.4 Texture Tools and a Texture Tile

UNIT 8 • WEEKS 29–32

Composition and the Masters

Focal point and balance, a picture walk through the Renaissance, and a final piece that uses everything learned this year.

- 8.1 The Focal Point
- 8.2 Balance: Symmetrical and Asymmetrical
- 8.3 A Walk Through the Renaissance
- 8.4 Final Piece: Putting It All Together

WEEKLY PACING CALENDAR

WEEK	PLAN
1	- Session 1: Lesson 1.1 Blind Contour Drawing: warm-up, video, teaching and picture study - Session 2: Lesson 1.1 studio project and sketchbook practice <i>Two sessions a week is the usual rhythm. Younger children can split a long session in two; older students can do both sessions in one sitting.</i>
2	- Session 1: Lesson 1.2 Gesture Drawing: Lines That Move: warm-up, video, teaching and picture study - Session 2: Lesson 1.2 studio project and sketchbook practice

WEEK	PLAN
3	• Session 1: Lesson 1.3 Hatching and Cross-Hatching: warm-up, video, teaching and picture study • Session 2: Lesson 1.3 studio project and sketchbook practice
4	• Session 1: Lesson 1.4 Drawing Leaves and Nature from Life: warm-up, video, teaching and picture study • Session 2: Lesson 1.4 studio project and sketchbook practice • Session 3: Unit 1 review and portfolio piece
5	• Session 1: Lesson 2.1 Drawing Cubes and Cylinders: warm-up, video, teaching and picture study • Session 2: Lesson 2.1 studio project and sketchbook practice
6	• Session 1: Lesson 2.2 Radial Symmetry and the Rose Window: warm-up, video, teaching and picture study • Session 2: Lesson 2.2 studio project and sketchbook practice
7	• Session 1: Lesson 2.3 Proportions of the Face: warm-up, video, teaching and picture study • Session 2: Lesson 2.3 studio project and sketchbook practice
8	• Session 1: Lesson 2.4 Proportions of Animals: warm-up, video, teaching and picture study • Session 2: Lesson 2.4 studio project and sketchbook practice • Session 3: Unit 2 review and portfolio piece
9	• Session 1: Lesson 3.1 The Twelve-Color Wheel: warm-up, video, teaching and picture study • Session 2: Lesson 3.1 studio project and sketchbook practice
10	• Session 1: Lesson 3.2 Hue and Value: Tints and Shades: warm-up, video, teaching and picture study • Session 2: Lesson 3.2 studio project and sketchbook practice
11	• Session 1: Lesson 3.3 Analogous Colors: warm-up, video, teaching and picture study • Session 2: Lesson 3.3 studio project and sketchbook practice

WEEK	PLAN
12	• Session 1: Lesson 3.4 Complementary Contrast: warm-up, video, teaching and picture study • Session 2: Lesson 3.4 studio project and sketchbook practice • Session 3: Unit 3 review and portfolio piece
13	• Session 1: Lesson 4.1 The Five-Step Value Scale: warm-up, video, teaching and picture study • Session 2: Lesson 4.1 studio project and sketchbook practice
14	• Session 1: Lesson 4.2 Highlight, Form Shadow and Cast Shadow: warm-up, video, teaching and picture study • Session 2: Lesson 4.2 studio project and sketchbook practice
15	• Session 1: Lesson 4.3 Shading a Sphere: warm-up, video, teaching and picture study • Session 2: Lesson 4.3 studio project and sketchbook practice
16	• Session 1: Lesson 4.4 Light and Dark in Rembrandt: warm-up, video, teaching and picture study • Session 2: Lesson 4.4 studio project and sketchbook practice • Session 3: Unit 4 review and portfolio piece
17	• Session 1: Lesson 5.1 Pigment and Binder: warm-up, video, teaching and picture study • Session 2: Lesson 5.1 studio project and sketchbook practice
18	• Session 1: Lesson 5.2 Graphite Pencils: H and B: warm-up, video, teaching and picture study • Session 2: Lesson 5.2 studio project and sketchbook practice
19	• Session 1: Lesson 5.3 Paper and Its Tooth: warm-up, video, teaching and picture study • Session 2: Lesson 5.3 studio project and sketchbook practice
20	• Session 1: Lesson 5.4 Brushes and Their Shapes: warm-up, video, teaching and picture study • Session 2: Lesson 5.4 studio project and sketchbook practice • Session 3: Unit 5 review and portfolio piece
21	• Session 1: Lesson 6.1 Implied Texture: Drawing Fur, Feathers and Bark: warm-up, video, teaching and picture study

WEEK	PLAN
	Session 2: Lesson 6.1 studio project and sketchbook practice
22	- Session 1: Lesson 6.2 Clay Slabs: Score and Slip: warm-up, video, teaching and picture study - Session 2: Lesson 6.2 studio project and sketchbook practice
23	- Session 1: Lesson 6.3 Relief Sculpture: warm-up, video, teaching and picture study - Session 2: Lesson 6.3 studio project and sketchbook practice
24	- Session 1: Lesson 6.4 Texture Tools and a Texture Tile: warm-up, video, teaching and picture study - Session 2: Lesson 6.4 studio project and sketchbook practice - Session 3: Unit 6 review and portfolio piece
25	- Session 1: Lesson 7.1 Overlap, Size, Placement and Detail: warm-up, video, teaching and picture study - Session 2: Lesson 7.1 studio project and sketchbook practice
26	- Session 1: Lesson 7.2 Atmospheric Perspective: warm-up, video, teaching and picture study - Session 2: Lesson 7.2 studio project and sketchbook practice
27	- Session 1: Lesson 7.3 The Horizon Line: warm-up, video, teaching and picture study - Session 2: Lesson 7.3 studio project and sketchbook practice
28	- Session 1: Lesson 7.4 One-Point Perspective: A Road to the Distance: warm-up, video, teaching and picture study - Session 2: Lesson 7.4 studio project and sketchbook practice - Session 3: Unit 7 review and portfolio piece
29	- Session 1: Lesson 8.1 The Focal Point: warm-up, video, teaching and picture study - Session 2: Lesson 8.1 studio project and sketchbook practice
30	- Session 1: Lesson 8.2 Balance: Symmetrical and Asymmetrical: warm-up, video, teaching and picture study - Session 2: Lesson 8.2 studio project and sketchbook practice
31	Session 1: Lesson 8.3 A Walk Through the Renaissance: warm-up, video, teaching and picture study

WEEK	PLAN
	Session 2: Lesson 8.3 studio project and sketchbook practice
32	- Session 1: Lesson 8.4 Final Piece: Putting It All Together: warm-up, video, teaching and picture study - Session 2: Lesson 8.4 studio project and sketchbook practice - Session 3: Unit 8 review and portfolio piece <i>Last week. Hold a family art show: hang the best piece from each unit and let the student tell guests about one of them.</i>

MATERIALS

Sketchbook (9×12 in, mixed-media paper, about 60 pages)

For warm-ups and sketchbook exercises all year. Mixed-media paper takes pencil, marker and light watercolor.

Drawing pencils: 2H, HB, 2B, 4B and 6B

A small set of graphite pencils for value scales and shading. Unit 5 explains what the letters mean.

Kneaded eraser and a white plastic eraser

The kneaded eraser can be shaped to lift highlights; the plastic eraser cleans up lines.

Pencil sharpener and a fine black marker or felt-tip pen

The pen is for hatching practice and line drawings.

Colored pencils (24 colors) and crayons

For color studies and layered drawings.

Oil pastels (24 colors)

Bright, creamy color for the complementary color and texture projects.

Watercolor pan set (16–24 colors) and tempera paint in red, yellow, blue, white and black

Watercolor for washes and atmosphere; tempera for mixing the color wheel and value scales.

Brushes: a large flat (about 3/4 in), a medium flat, a small and medium round, and a filbert

Unit 5 teaches what each shape does. Inexpensive synthetic brushes are fine.

Paper: copy paper, white cardstock, watercolor paper (140 lb), construction paper, and a few sheets of colored or toned paper

Different papers for different media; Unit 5 explains why.

Air-dry clay (about 2–3 lb) and simple clay tools

For the slab, relief and texture projects in Unit 6. A rolling pin, plastic knife, fork, toothpicks and old cards work well as tools.

Glue stick, child scissors, ruler, paper towels, a water cup and a palette (or paper plates)

Everyday studio supplies.

A desk lamp and a few simple objects (eggs or white balls, a can, a box, fruit, leaves)

For drawing from life and studying light and shadow.

A large folder or portfolio

To keep finished portfolio pieces flat for the year-end art show.

GRADING

Grades in art should reward careful looking, effort and growth, not “talent.” Each studio project is checked against its self-check list; each unit review is worth 50 points; each portfolio piece is graded with its rubric.

PART	%
Studio projects	40
Sketchbook practice	20
Unit reviews	15
Portfolio pieces	25

Scale: A 90–100, B 80–89, C 70–79, D 60–69, below 60 needs more practice and another try.

- For studio projects, give full credit when every “check” statement is true and the student clearly worked carefully. Partial credit when some are missing. Let the student fix and resubmit; learning to revise is part of art.

- For the sketchbook, check that the exercises were done and dated. Do not grade sketchbook drawings for beauty; grade them for doing the practice.
- Portfolio rubrics: give each criterion 1–4 points (4 = clearly done, 3 = mostly, 2 = partly, 1 = not yet), then turn the total into a percentage.
- Write one sentence of specific praise on every portfolio piece (“Your cast shadow falls the right way”). Specific praise teaches more than “Good job.”

A NOTE TO PARENTS

You do not need to know anything about art to teach this course. Each lesson tells you exactly what to gather, what to say, what to look for, and what a good result looks like. Learn alongside your child: do the warm-ups too, and try the projects on your own sheet of paper. Your child will love seeing you learn.

Third graders often become critical of their own drawings, because their eyes can now see more than their hands can do. When your child says, “It doesn’t look right,” that is good news; it means they are seeing. Ask, “What do you notice that you want to fix?” and let them try again. Patience, careful work and gratitude for the beauty God has made are the real lessons under every project.

UNIT 1

LINE AND OBSERVATIONAL DRAWING

This unit is about learning to **see**. Most people draw what they *think* something looks like: a leaf is an oval with a stick, a hand is a mitten with five sausages. Artists slow down and draw what is really there. In four lessons you will train your eyes and your hand to work together, using four kinds of line: the slow, careful contour line; the fast, swooping gesture line; the many little lines of hatching that make dark and light; and the patient lines of a nature drawing.

Our teacher for much of this unit is Albrecht Dürer, a German artist who lived five hundred years ago and drew hands, animals and even a clump of grass with amazing care. We will also meet Winslow Homer, who painted children playing with so much movement you can almost hear them shout.

PREREQUISITES

- Can hold a pencil comfortably and draw straight and curved lines
- Knows a few line types (straight, curved, zigzag, wavy)
- Has a sketchbook and a pencil ready for daily practice

MASTERY CHECKLIST

- ☐ I can make a blind contour drawing without peeking and keep my eyes on the object.
- ☐ I can draw a quick gesture of a person in motion in under a minute.
- ☐ I can use hatching and cross-hatching to make an area lighter or darker.
- ☐ I can draw a real leaf or plant from life, showing its edges, veins and shape.
- ☐ I can explain why looking carefully matters more than drawing fast.

LESSONS IN THIS UNIT

1.1 Blind Contour Drawing

2 sessions of 45 minutes

1.2 Gesture Drawing: Lines That Move

2 sessions of 45 minutes

1.3 Hatching and Cross-Hatching

2 sessions of 45 minutes

UNIT 1 REVIEW

Answer each question aloud, in writing, or by drawing, whichever the question asks. A parent can read the questions aloud. Total: 50 points.

1. (5 pts)

What is a contour line?

2. (5 pts)

In a blind contour drawing, where do you look?

3. (5 pts)

Why do artists practice blind contour drawing if the drawings look funny?

4. (5 pts)

What should you draw first in a gesture drawing?

5. (5 pts)

Draw a quick gesture of a person throwing a ball in 30 seconds.

6. (5 pts)

Name two ways to make hatching look darker.

7. (5 pts)

What is cross-hatching?

8. (5 pts)

What is the midrib of a leaf, and what is the margin?

9. (5 pts)

Name the artist who made *Praying Hands*, the *Rhinoceros* and *The Great Piece of Turf*.

10. (5 pts)

In *Snap the Whip*, how did Winslow Homer show that the boys were moving?

ANSWER KEY

1. A line that follows the edges of a shape, both the outside edge and the important edges inside it.
2. Only at the object, never at the paper.
3. It trains the eye and hand to work together and teaches you to draw what you really see instead of what you think you know.
4. The line of action, the main line of movement through the body.
5. A loose figure with a clear curved or slanted line of action, head, body shapes and limbs showing the throw.
6. Any two: put lines closer together, make lines thicker or press harder, add another layer of lines in a new direction (cross-hatching).
7. Shading made by laying one set of parallel lines across another.
8. The midrib is the main vein down the middle; the margin is the outside edge.
9. Albrecht Dürer.
10. Their bodies lean and bend, their legs are bent in running, and the boys on the end are falling as the line swings.

PORTFOLIO PIECE: A STILL LIFE OF THINGS FROM NATURE

Arrange three natural objects on a table: for example, a leaf, a pine cone and a stone or shell. Draw them from life on good drawing paper. Begin with careful contour lines, then shade them with hatching and cross-hatching to show light and dark. Add a short nature-journal note at the bottom with the date and where you found each object.

LOOK FOR	WHAT IT MEANS
Careful observation	The objects look like the real ones, with true shapes and details, not symbols.
Contour line	Edges are drawn with slow, confident lines, including inside edges and details.
Hatching	Hatching and cross-hatching show at least three values, from white to dark.
Craftsmanship	The page is neat, the drawing fills the paper well, and the note is complete.

1.1 BLIND CONTOUR DRAWING

OBJECTIVES

- Explain what a contour line is and what “blind contour” means.
- Make slow blind contour drawings of a hand and of everyday objects.
- Notice that careful looking improves drawing more than erasing does.

Warm-up. Hold up one hand and look at it for one whole minute without talking. Count the creases on one finger. Find where your thumb meets your palm. Then, with your eyes closed, trace the air around your fingers with your other pointer finger, as slowly as a snail.

WATCH

An Easy Way to Teach Contour Drawing!

Cassie Stephens • 6:19

<https://www.youtube.com/watch?v=RpZ1TwGaugM>

WHEN TO WATCH

After the core ideas, before the studio project. Watch how slowly the lines move.

BACKUP VIDEO

Contour Drawing: What Is It? How Do You Do It?

The Pencil Room Online • 5:15

<https://www.youtube.com/watch?v=4qNMzOb-DY8>

Use this if the main video will not play, or as a second look at contour drawing.

KEY TERMS

contour line

A line that follows the edges of a shape, both the outside edge and the important edges inside it.

observation

Looking carefully at a real thing so you can draw what is truly there.

blind contour

A contour drawing made while looking only at the object, never at the paper.

continuous line

A line drawn without lifting the pencil from the paper.

CORE IDEAS

A **contour line** is like a tiny ant walking along every edge of a thing. It walks around the outside, and it also walks into the folds, wrinkles and bumps on the inside. When you draw a contour, your pencil is that ant.

In a **blind contour** drawing you look only at the object, never at your paper. That sounds silly, but it is one of the best exercises artists know. When you cannot peek, your brain stops drawing the “symbol” of a hand that it already knows and starts copying what your eyes really see.

Move slowly. Your eye and your pencil should move at the same speed, like two friends walking side by side. If your eye races ahead, stop and let your pencil catch up. A good blind contour of a hand can take three or four minutes.

Blind contour drawings come out wobbly and funny-looking. That is fine! They are not meant to be perfect pictures. They are like push-ups for your eyes. After a few of them, your regular drawings get better because you have learned to look.

God made our eyes to notice and our hands to make. When we slow down and really look at a hand, a shoe or a leaf, we see how carefully He made even ordinary things.

PICTURE STUDY



Praying Hands, Albrecht Dürer, 1508 · Brush and ink with white heightening on blue prepared paper ·
Albertina, Vienna

Image: [Wikimedia Commons](#), public domain

Albrecht Dürer made this drawing as a study for a large altarpiece. He looked so carefully at the hands that you can see every knuckle, vein and fold of skin. It has become one of the most famous drawings in the world.

Look closely

- Follow the outside edge of the hands with your finger. Notice how it bends in and out at each knuckle.
- Find the lines inside the hands: creases on the fingers and the veins on the back of the hand.
- Look at the sleeves. How are the lines of the cloth different from the lines of the skin?
- Find the white lines. Dürer painted them on top to show where light touches the hands.

Talk about it

1. How can you tell these are an older person's hands and not a child's?
2. Why do you think Dürer spent so much time drawing just two hands?
3. What is the person doing? How does the drawing make you feel?

STUDIO PROJECT

A Page of Blind Contour Hands

You will fill a page with blind contour drawings of your own hand and a few objects, then make one “peeking” contour drawing to see how much your looking has improved.

You will need

- Drawing paper or a sketchbook page
- A fine black marker or a soft pencil (2B)
- A sheet of paper or a paper plate to hide your drawing hand (optional)
- Two or three simple objects: a shoe, a pair of scissors, a mug

Steps

1. Tape your paper to the table so it does not slide. If you are tempted to peek, poke your pencil through the middle of a paper plate and hold it like an umbrella over your drawing hand.
2. Pose your non-drawing hand in an interesting way: fingers curled, or holding a pencil. Keep it still.
3. Put your pencil on the paper. Find a starting point on your hand, such as the tip of your thumb.
4. Without looking at the paper, slowly move your eyes along the edge of your thumb, and let your pencil move at the same time. Do not lift the pencil.
5. When you come to a crease or a fingernail, let your line travel inside and follow it, then come back out to the edge.
6. Keep going for about three minutes. Then look! Smile at the wobbles.
7. Make two more blind contour drawings: one of a different hand pose and one of an object like a shoe or scissors.
8. Now make one **modified contour**: draw the same object again, slowly, but you may glance at your paper to place your line. Look at the object at least four times for every one glance at the paper.
9. Write the date and a title under each drawing.

Tips

- Slower is better. If you finish in thirty seconds, you went too fast.
- Lines can overlap and wander off. That is part of blind contour.
- A marker is good because you cannot erase, so you stop worrying.

Check your work

- ☐ I made at least three blind contour drawings without peeking.
- ☐ My lines show the inside folds and creases, not only the outside edge.
- ☐ My modified contour drawing shows more detail than my first doodles.

SKETCHBOOK PRACTICE

1. Make a two-minute blind contour drawing of your shoe every day this week. Compare Monday's drawing with Friday's.
2. Make a blind contour of a family member's face while they read. Ask permission first and show them the funny result!
3. Draw a kitchen tool (whisk, spoon, garlic press) in one continuous line.

From history. Dürer lived in Nuremberg, Germany, from 1471 to 1528. He was trained as a goldsmith by his father before becoming a painter, which may be why his lines are so fine and careful. He filled notebooks with studies of hands, faces, animals and plants.

COMMON MISTAKES

- Peeking at the paper. Use the paper-plate shield until you can resist.
- Moving the pencil fast. Your eye should lead and the pencil follow, slowly.
- Drawing only the outline. Let the line travel into wrinkles, folds and inside edges.

Make it a game • Blind Contour Duel. Both players choose a hand or a spoon. Draw its edge in sixty seconds with your eyes on the object only. Your pencil must never leave the paper, so it is one continuous line. Swap drawings. Can you tell what the other person drew? Score a point for each right guess. Now each draw a second page and beat your first.

1.2 GESTURE DRAWING: LINES THAT MOVE

OBJECTIVES

- Explain what a gesture drawing is and how it differs from a contour drawing.
- Find the line of action in a person or animal in motion.
- Make quick gesture drawings in 30 seconds to 2 minutes.

Warm-up. Stand up and freeze in a pose: throwing a ball, reaching for a high shelf, kicking a ball. Hold it for ten seconds. Feel where your body bends. Is your back straight or curved? Which way do your arms point?

WATCH

Fun Gesture drawing activity

Mr. Otter Art Studio • 2:48

<https://www.youtube.com/watch?v=npKfElje8AQ>

WHEN TO WATCH

After the core ideas. Watch how each figure is caught with a few quick, flowing lines, then try your own gestures.

Note: The video paints watercolor squares first; you can skip that and draw your gestures straight on paper.

BACKUP VIDEO

How To Draw Better Stick People | Easy Tutorial!

Fragile Glory Impressions • 4:54

<https://www.youtube.com/watch?v=cWVvLWcPans>

A good second video on drawing stick people with movement.

KEY TERMS

gesture drawing

A quick, loose drawing that shows the action and movement of a figure rather than its details.

line of action

One long curved or slanted line that shows the main direction of movement through a body.

pose

The position a person or animal holds while you draw them.

proportion

How big each part is compared with the other parts.

CORE IDEAS

A contour drawing is slow and careful. A **gesture drawing** is the opposite: quick, loose and full of energy. Its job is not to show eyelashes or buttons. Its job is to show what the body is *doing*: running, bending, reaching, leaning.

Every pose has a **line of action**. It is one long line that runs from the head down through the back to the foot that holds the weight. When someone stands straight, it is almost straight. When they run or throw, it curves like a bow or leans like a falling tree. Always draw the line of action first.

Then add simple shapes on top: an oval for the head, a bean shape for the chest and hips, and lines for the arms and legs with little dots for elbows and knees.

Remember that legs are long (about half the height of a person) and arms reach down to the middle of the thigh.

Work fast. Thirty seconds, one minute, two minutes. If you have time left, do not add details; start another gesture instead. Fast drawing teaches your hand to trust your eye.

Gesture drawings look messy, and that is right. A page of twenty scribbly people that *move* is worth more than one stiff person who stands like a fence post.

PICTURE STUDY



Snap the Whip, Winslow Homer, 1872 · Oil on canvas · Butler Institute of American Art, Youngstown, Ohio

Image: [Wikimedia Commons](#), public domain

Winslow Homer painted country children playing a game called snap the whip. The boys hold hands and run, and the one in front swings the line around until the boys on the end fly off. Homer was a master of showing movement.

Look closely

- Find the line of action in the boy in the very middle. Which way does his body lean?
- Look at the boys at the end who are falling. How do their bodies show that they are losing their balance?
- Follow the line of hands from one boy to the next. It makes a long curving path across the picture.
- Look at the legs. How many are bent? How can you tell the boys are running and not standing?

Talk about it

1. Which boy looks like he is moving the fastest? Why?
2. What sounds do you think you would hear in this scene?
3. If you were in the line, where would you want to be?

STUDIO PROJECT

A Page of Children at Play

You will make a page of quick gesture drawings of a real person posing, then choose your favorite and turn it into a finished drawing of children playing, like Homer's boys.

You will need

- Copy paper or newsprint for quick gestures
- A sheet of drawing paper
- Pencil (2B) and a crayon or marker
- A timer
- A family member willing to pose (or photos of children playing)

Steps

1. Ask a family member to hold an action pose: reaching, kicking, bending to tie a shoe, throwing. Set a timer for one minute.
2. Draw the line of action first, from head to the foot that holds the weight. Press lightly.
3. Add an oval for the head and bean shapes for chest and hips along the line.
4. Add arms and legs as lines with dots at the elbows and knees. Stop when the timer rings.
5. Repeat with new poses: do six one-minute gestures and four thirty-second gestures.
6. Look at your page and circle the two gestures with the most energy.
7. On your drawing paper, draw two or three children playing a game (tag, jump rope, snap the whip). Start each child with a line of action, then build the body around it.
8. Add simple clothes and a ground line or grass. Keep the action strong; do not straighten the lines!

Tips

- Draw big. Tiny gestures get stiff.

- Use the side of a crayon for gestures if a pencil makes you too careful.
- If you get stuck, act out the pose yourself to feel which way the body bends.

Check your work

- ☐ Each figure starts with a clear line of action.
- ☐ My figures look like they are moving, not standing still.
- ☐ I made at least ten gesture drawings before the final picture.

SKETCHBOOK PRACTICE

1. Draw your pet or a bird in the yard with ten-second gestures. Animals move, so start again each time they change pose.
2. Watch someone doing a chore (sweeping, carrying groceries) and make three one-minute gestures.
3. Draw five stick figures doing five different sports, each with a strong line of action.

From history. Winslow Homer (1836–1910) began as an illustrator for magazines, drawing scenes quickly so they could be printed in the next week’s issue. That training made him very good at catching people in motion. Later he became famous for paintings of the sea.

COMMON MISTAKES

- Starting with the face and eyes. Start with the line of action.
- Making every body straight up and down. Look for the lean and the curve.
- Spending all the time on one drawing. Gestures should be fast; make many.

Make it a game • Pose Marathon. Your parent strikes a pose for thirty seconds: throwing, reaching, jumping, bending. Find and draw the line of action first, in ten seconds, then add quick shapes. Complete five poses. One point for each drawing with a clear line of action. Swap places so you can pose. Gesture drawing is fast; contour drawing is slow.

1.3 HATCHING AND CROSS-HATCHING

OBJECTIVES

- Use hatching and cross-hatching to make light, middle and dark areas.
- Explain how lines placed close together look darker than lines spread apart.
- Use hatching to make a simple object look round or solid.

Warm-up. Fill a small box with straight lines all going the same direction, as neatly as you can, like rain falling. Then fill a second box with lines close together, and a third with lines far apart. Squint at them. Which looks darkest?

WATCH

How to Cross Hatch

Ms. Cooper's Art Class • 4:14

<https://www.youtube.com/watch?v=RBkw4P9joS8>

WHEN TO WATCH

After the core ideas. Pause after each kind of hatching and try it.

BACKUP VIDEO

What is Crosshatching? - Pen and ink drawing for beginners

Shoo Rayner Drawing • 6:08

<https://www.youtube.com/watch?v=huD94n20iBY>

A pen-and-ink artist explains hatching and cross-hatching clearly.

KEY TERMS

hatching

Shading made of many short parallel lines going the same direction.

value

How light or dark something is.

cross-hatching

Shading made by laying a second set of parallel lines across the first, and sometimes a third and fourth.

engraving

A print made from lines cut into a metal plate; old engravers shaded everything with hatching.

CORE IDEAS

A pen makes only black lines. So how can a pen drawing have light grays and dark shadows? The answer is **hatching**: many short lines side by side, all going the same direction. From a little distance, our eyes blend them into a gray.

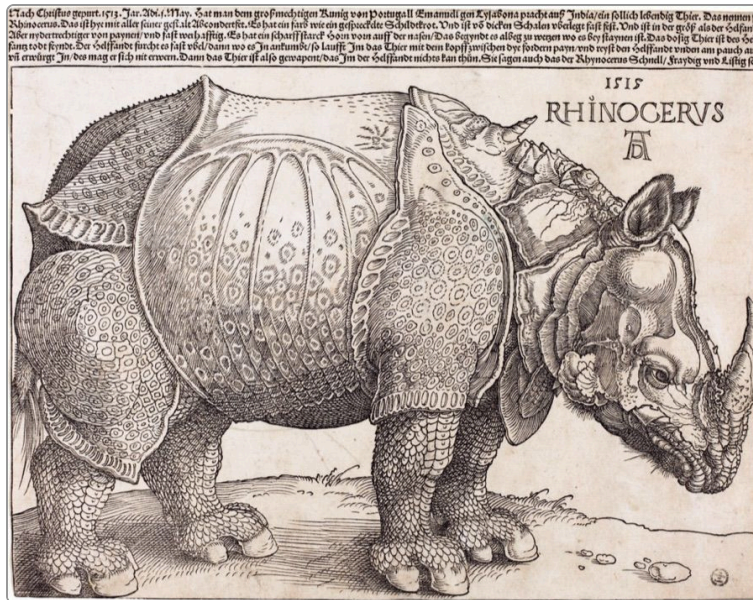
There are three ways to make hatching darker. **One**: put the lines closer together. **Two**: make the lines thicker or press harder. **Three**: add another layer of lines going a different direction. That third way is called **cross-hatching**. Two layers make a middle gray; three or four layers make a deep dark.

Good hatching lines are straight (or gently curved), parallel, and about the same length. Flick your wrist so each line starts and ends lightly. Do not scribble back and forth; scribbles look messy instead of shaded.

Lines can follow the form. On a round thing, like a ball or an apple, let the hatching lines curve around it like the lines on a globe. This helps the object look round instead of flat.

Before photographs, books were filled with pictures printed from engravings and woodcuts. Every shadow was made of lines. Artists like Dürer became so skilled with hatching that their prints look almost like photographs.

PICTURE STUDY



Dürer's Rhinoceros, Albrecht Dürer, 1515 · Woodcut · Many copies; this print is in the National Gallery of Art, Washington

Image: [Wikimedia Commons](#), public domain

In 1515 a real rhinoceros arrived in Portugal, the first seen in Europe for over a thousand years. Dürer never saw it! He made this print from a letter and a sketch someone sent him. Even so, it became one of the most famous animal pictures ever made.

Look closely

- Find the areas of hatching. Which parts of the rhino are darkest? How did Dürer make them dark?
- Look under the belly and between the legs. Do you see cross-hatching?
- Find the patterns on the skin: circles, scales, little dots. Each one is made of lines.
- Look for a small extra horn on the rhino's back. Real rhinos do not have it. Dürer imagined it!

Talk about it

1. Why do you think Dürer drew the skin like a suit of armor?
2. How can we tell this rhino is heavy?

3. If you had to draw an animal you had never seen, only from a description, how would you do it?

STUDIO PROJECT

A Hatched Animal in Armor

Like Dürer, you will draw an animal and shade it entirely with hatching and cross-hatching. Choose a real animal with interesting skin: a turtle, an armadillo, an elephant, a rhinoceros or a lizard.

You will need

- White cardstock or drawing paper
- Pencil (HB) for the sketch
- Fine black marker or felt-tip pen
- Eraser
- A picture of your animal (from a book or nature guide)

Steps

1. Make a hatching chart first: draw five boxes in a row. Leave the first white, then fill each next box darker with hatching and cross-hatching, so you have five steps from white to almost black.
2. Lightly sketch your animal large on the paper in pencil, using simple shapes: a big oval for the body, smaller shapes for the head and legs.
3. Divide the body into sections or plates with lines, as Dürer did, and add a few patterns (dots, scales, wrinkles).
4. Decide where the light comes from (for example, the top left). The side away from the light and the underside will be darkest.
5. Go over your main lines with the pen.
6. Hatch the shadow areas: belly, the far legs, under the head. Use one layer for middle gray and two or three layers for the darkest spots.
7. Leave the parts facing the light mostly white.
8. Add a cast shadow on the ground under the animal with cross-hatching. Erase any pencil lines when the ink is dry.

Tips

- Turn your paper so your hand moves comfortably. Hatching is easier in one natural direction.
- Make your lines go around the curve of the belly and legs when you can.
- If one area gets too dark, it is fine; leave it and make the next area lighter.

Check your work

- ☐ My hatching chart goes from white to dark in five steps.
- ☐ My animal has at least three different values made only with lines.
- ☐ My darkest areas use cross-hatching.

SKETCHBOOK PRACTICE

1. Draw an apple and shade it with curved hatching that wraps around its form.
2. Fill a page with ten small squares, each with a different kind of hatching: straight, curved, wavy, short, long, crossed.
3. Copy a small part of the rhinoceros print (one leg or the head) using only lines.

From history. A woodcut is made by carving away everything that should stay white from a flat block of wood, then inking the raised lines that are left and pressing paper on them. Dürer drew the design, and a skilled block cutter carved it. Thousands of copies of the rhinoceros were printed and sold all over Europe.

COMMON MISTAKES

- Scribbling back and forth instead of making separate parallel lines.
- Making all the hatching the same darkness. Use closer lines and more layers for darker areas.
- Hatching every part of the drawing. Leave the light side white.

Make it a game • Darkest Square Race. Draw three squares. In ninety seconds, fill the first with light hatching, the second with medium cross-hatching and the third with very close cross-hatching. Your parent ranks them lightest to darkest. Score a point for correct order. Then explain why lines close together look darker. Beat your best by making clearer steps.

1.4 DRAWING LEAVES AND NATURE FROM LIFE

OBJECTIVES

- Observe real leaves and plants closely, noting shape, edge, veins and texture.
- Draw a plant from life using contour and light hatching.
- Label a nature drawing with the date, place and what was noticed.

Warm-up. Go outside (or to a window) and collect three different leaves. Lay them side by side. Find one thing that is the same about all three and one thing that is different about each.

WATCH

The Only Leaf Tutorial You'll Ever Need! / Tips to Drastically Improve Nature Drawings

Gio Vescovi · 14:57

<https://www.youtube.com/watch?v=ypCQEayANaw>

WHEN TO WATCH

Before the studio project. Notice how the artist looks closely at each leaf's edge and veins before every line. Pause and try one leaf yourself.

Note: The artist uses fine ink pens; a pencil works just as well for this lesson.

BACKUP VIDEO

How to draw plants: Introduction 1/7

John Muir Laws · 3:40

<https://www.youtube.com/watch?v=50H7B-1w7Ws>

A naturalist artist shows how he begins drawing plants from life.

KEY TERMS

observational drawing

Drawing from a real object in front of you, not from memory or imagination.

midrib

The main vein that runs down the middle of a leaf from the stem to the tip.

margin

The outside edge of a leaf, which can be smooth, toothed, wavy or lobed.

nature journal

A sketchbook of drawings and notes about plants, animals and weather you have observed.

CORE IDEAS

Every leaf you have ever seen is different from every other leaf. When we draw from **observation**, we show what makes *this* leaf special: its exact shape, its edges, and its veins.

Start with the big shape. Is the leaf long and thin, round, heart-shaped, or shaped like a hand? Draw that shape lightly. Then draw the **midrib**, the main vein down the middle. Notice that it is often a little curved, and that the two halves of the leaf are rarely exactly the same.

Next look at the **margin**, the edge. Is it smooth, toothed like a saw, wavy, or cut into deep lobes like an oak leaf? Draw the edge slowly, as a contour line. Then add the smaller veins branching from the midrib. Look at the angle: do they point toward the tip?

Finally add value with light hatching. A leaf is darker where it curls away from the light or where one part overlaps another. Leave the shiny parts white.

Artists and scientists have always kept nature journals. Writing the date, the place and a few words (“found under the maple by the fence, smells sweet”) turns a drawing into a record of God’s creation that you can keep for years.

PICTURE STUDY



The Great Piece of Turf, Albrecht Dürer, 1503 · Watercolor and gouache on paper · Albertina, Vienna

Image: [Wikimedia Commons](#), public domain

Most painters of Dürer's time painted kings, saints and battles. Dürer did something new: he dug up a clump of ordinary weeds and painted it as carefully as a king's portrait. Scientists can still name the plants in it.

Look closely

- Find the dandelion leaves. How are their edges different from the grass blades?
- Look for a dandelion flower that has not opened yet.
- Find the darkest part of the picture. Why is it dark there?
- Notice how many blades of grass overlap. Can you follow one blade from bottom to top?

Talk about it

1. Why would a great artist want to paint weeds?
2. How many different kinds of plants do you think are in the picture?
3. What would you see if you lay on your stomach in your own yard?

STUDIO PROJECT

A Nature Journal Page

You will make a full nature journal page with careful drawings of three leaves (or one small plant) from life, labeled like a real naturalist's notebook.

You will need

- Sketchbook or drawing paper
- Pencils (HB and 2B)
- Eraser
- Three different leaves, or a small potted plant or weed
- Colored pencils (optional)
- A magnifying glass (optional)

Steps

1. At the top of the page, write the date, the place, and the weather.
2. Place your first leaf flat in front of you. Look for one full minute before drawing.
3. Lightly draw the overall shape, life size, filling about a third of the page.
4. Draw the midrib and stem. Check: is it straight or curved? Where does it start?
5. Slowly draw the margin as a contour line, showing every tooth or wave you see.
6. Draw the smaller veins, paying attention to their angle and spacing.
7. Add light hatching where the leaf curls, overlaps or turns away from the light.
8. Draw the other two leaves the same way (one can be turned over to show the back).
9. Add color lightly with colored pencils if you like, matching the real colors.
10. Write three notes around your drawings: something you noticed, something you wonder, and something it reminds you of.

Tips

- Use a magnifying glass to see tiny veins and hairs.
- Draw life size; it is easier to compare your drawing to the leaf.
- If a leaf curls, draw the curl. Do not flatten it in your mind.

Check your work

- ☐ My leaves have different, true shapes and edges, not all the same oval.
- ☐ I drew the midrib and the smaller veins at the right angles.
- ☐ My page has the date, the place and at least three written notes.

SKETCHBOOK PRACTICE

1. Draw one leaf every day for a week from different trees. Label each.
2. Find a weed growing in a crack in the sidewalk and draw it from life.
3. Draw a pine cone, acorn or seed pod with contour lines and hatching.

From history. Dürer's watercolors of plants and animals were not made to sell. He kept them in his workshop as studies to copy into his larger paintings. Today they are treasured as some of the first true nature studies in European art.

COMMON MISTAKES

- Drawing a "symbol" leaf (a perfect oval with a line) instead of the real leaf in front of you.
- Making both sides of the leaf exactly the same. Real leaves are a little uneven.
- Pressing hard on the first lines. Start light so you can adjust.

Make it a game • Leaf Detective. Gather six different leaves and lay them out. Secretly choose one and describe it to your parent without naming it: its shape, margin (edge), midrib, veins and texture. Your parent studies the leaves and points to the one you mean. One point for a correct find. Swap roles. Then draw your favorite leaf with contour and light hatching.

Scripture. "Consider the lilies of the field, how they grow; they toil not, neither do they spin: And yet I say unto you, That even Solomon in all his glory was not arrayed like one of these." (Matthew 6:28-29, KJV)

Jesus told us to "consider" the flowers, to look closely. A nature drawing is one way of obeying that: slowing down to see the beauty God gave even to a weed.

UNIT 1

LINE AND OBSERVATIONAL DRAWING

This unit is about learning to **see**. Most people draw what they *think* something looks like: a leaf is an oval with a stick, a hand is a mitten with five sausages. Artists slow down and draw what is really there. In four lessons you will train your eyes and your hand to work together, using four kinds of line: the slow, careful contour line; the fast, swooping gesture line; the many little lines of hatching that make dark and light; and the patient lines of a nature drawing.

Our teacher for much of this unit is Albrecht Dürer, a German artist who lived five hundred years ago and drew hands, animals and even a clump of grass with amazing care. We will also meet Winslow Homer, who painted children playing with so much movement you can almost hear them shout.

PREREQUISITES

- Can hold a pencil comfortably and draw straight and curved lines
- Knows a few line types (straight, curved, zigzag, wavy)
- Has a sketchbook and a pencil ready for daily practice

MASTERY CHECKLIST

- ☐ I can make a blind contour drawing without peeking and keep my eyes on the object.
- ☐ I can draw a quick gesture of a person in motion in under a minute.
- ☐ I can use hatching and cross-hatching to make an area lighter or darker.
- ☐ I can draw a real leaf or plant from life, showing its edges, veins and shape.
- ☐ I can explain why looking carefully matters more than drawing fast.

LESSONS IN THIS UNIT

1.1 Blind Contour Drawing

2 sessions of 45 minutes

1.2 Gesture Drawing: Lines That Move

2 sessions of 45 minutes

1.3 Hatching and Cross-Hatching

2 sessions of 45 minutes

UNIT 1 REVIEW

Answer each question aloud, in writing, or by drawing, whichever the question asks. A parent can read the questions aloud. Total: 50 points.

1. (5 pts)

What is a contour line?

2. (5 pts)

In a blind contour drawing, where do you look?

3. (5 pts)

Why do artists practice blind contour drawing if the drawings look funny?

4. (5 pts)

What should you draw first in a gesture drawing?

5. (5 pts)

Draw a quick gesture of a person throwing a ball in 30 seconds.

6. (5 pts)

Name two ways to make hatching look darker.

7. (5 pts)

What is cross-hatching?

8. (5 pts)

What is the midrib of a leaf, and what is the margin?

9. (5 pts)

Name the artist who made *Praying Hands*, the *Rhinoceros* and *The Great Piece of Turf*.

10. (5 pts)

In *Snap the Whip*, how did Winslow Homer show that the boys were moving?

ANSWER KEY

1. A line that follows the edges of a shape, both the outside edge and the important edges inside it.
2. Only at the object, never at the paper.
3. It trains the eye and hand to work together and teaches you to draw what you really see instead of what you think you know.
4. The line of action, the main line of movement through the body.
5. A loose figure with a clear curved or slanted line of action, head, body shapes and limbs showing the throw.
6. Any two: put lines closer together, make lines thicker or press harder, add another layer of lines in a new direction (cross-hatching).
7. Shading made by laying one set of parallel lines across another.
8. The midrib is the main vein down the middle; the margin is the outside edge.
9. Albrecht Dürer.
10. Their bodies lean and bend, their legs are bent in running, and the boys on the end are falling as the line swings.

PORTFOLIO PIECE: A STILL LIFE OF THINGS FROM NATURE

Arrange three natural objects on a table: for example, a leaf, a pine cone and a stone or shell. Draw them from life on good drawing paper. Begin with careful contour lines, then shade them with hatching and cross-hatching to show light and dark. Add a short nature-journal note at the bottom with the date and where you found each object.

LOOK FOR	WHAT IT MEANS
Careful observation	The objects look like the real ones, with true shapes and details, not symbols.
Contour line	Edges are drawn with slow, confident lines, including inside edges and details.
Hatching	Hatching and cross-hatching show at least three values, from white to dark.
Craftsmanship	The page is neat, the drawing fills the paper well, and the note is complete.

UNIT 2

SHAPE, FORM AND PROPORTION

A **shape** is flat, like a circle cut from paper. A **form** is solid, like a ball you can hold. In this unit you will learn how artists turn flat shapes into solid-looking forms on flat paper, starting with the cube and the cylinder, which hide inside almost everything around you: boxes, cups, cans, houses and tree trunks.

You will also learn about **symmetry**, especially the beautiful radial symmetry of a cathedral rose window, and about **proportion**, the way the parts of a face or an animal fit together in the right sizes. These are tools artists have used for hundreds of years, and they will help every drawing you make from now on.

PREREQUISITES

- Can make a slow contour drawing (Lesson 1.1)
- Can use light hatching to show darker areas (Lesson 1.3)
- Knows the basic shapes: circle, square, triangle, rectangle, oval

MASTERY CHECKLIST

- ☐ I can explain the difference between a shape and a form.
- ☐ I can draw a cube and a cylinder that look solid, using ellipses and parallel lines.
- ☐ I can design a pattern with radial symmetry.
- ☐ I can place the eyes, nose and mouth on a face in the right proportions.
- ☐ I can draw an animal by measuring its parts against each other.

LESSONS IN THIS UNIT

2.1 Drawing Cubes and Cylinders

2 sessions of 45 minutes

2.2 Radial Symmetry and the Rose Window

2 sessions of 45 minutes

2.3 Proportions of the Face

2 sessions of 45 minutes

2.4 Proportions of Animals

2 sessions of 45 minutes

UNIT 2 REVIEW

Answer each question aloud, in writing, or by drawing, whichever the question asks. A parent can read the questions aloud. Total: 50 points.

1. (5 pts)

What is the difference between a shape and a form? Give an example of each.

2. (5 pts)

Draw a cube that looks solid.

3. (5 pts)

What is an ellipse, and where do you find one on a cylinder?

4. (5 pts)

What is radial symmetry? Name one thing in nature that has it.

5. (5 pts)

What is a rose window, and where would you find one?

6. (5 pts)

About where on the head do the eyes sit?

7. (5 pts)

How much space is there between the two eyes?

8. (5 pts)

What is sighting, and how do you do it?

9. (5 pts)

Why do artists use the head as a unit of measure when drawing an animal?

10. (5 pts)

Name the artist who painted *Whistlejacket*, and tell one thing he did to learn to paint horses well.

ANSWER KEY

1. A shape is flat (height and width), like a circle; a form is solid (height, width and depth), like a ball.
2. A cube showing three faces (front, top and side) with parallel back edges.
3. A circle seen at a slant; it is the top (and the curved bottom) of a cylinder.
4. Matching parts repeated around a center point; examples: daisy, sunflower, snowflake, starfish, cut orange.
5. A large round stained-glass window with radial symmetry, found in Gothic cathedrals and churches.
6. About halfway between the top of the head and the chin.
7. About one eye's width.
8. Measuring with a pencil held at arm's length, elbow locked, one eye closed, using your thumb to mark a length and compare it to other parts.
9. So they can compare every part to the head and get the proportions of the body and legs right.
10. George Stubbs; he studied and measured horses for a long time (about eighteen months) and made careful drawings of how they are built.

PORTFOLIO PIECE: MY PET OR FAVORITE ANIMAL AT HOME

Draw an animal (your pet, or a favorite animal from a good photo) in a simple setting with at least one box-shaped and one can-shaped object, such as a dog beside its food bowl and a crate, or a cat on a stack of books next to a flowerpot. Measure the animal’s proportions, draw the objects as solid forms with ellipses and parallel edges, and add light and dark shading.

LOOK FOR	WHAT IT MEANS
Animal proportions	The animal’s head, body and legs are measured and look correct.
Solid forms	Boxes show more than one face; cylinders have rounded ellipses and curved bottoms.
Shading	Every object has a light side and a dark side that agree on one light source.
Careful work	Guidelines are erased, lines are confident, and the picture fills the page.

2.1 DRAWING CUBES AND CYLINDERS

OBJECTIVES

- Explain the difference between a flat shape and a three-dimensional form.
- Draw a cube with parallel edges and a cylinder with ellipses.
- Find cubes and cylinders hidden in everyday objects and draw them.

Warm-up. Look around the room and make two lists in your sketchbook: things shaped like boxes (cubes) and things shaped like cans (cylinders). Try to find at least five of each.

WATCH

How to Draw and Shade the Basic Forms Using Pencil - Cylinder, Sphere, Cone, Cube | Drawing Lesson

Bethany Thiele, Art Teacher · 5:05

https://www.youtube.com/watch?v=cBNc12M2_Yc

WHEN TO WATCH

After the core ideas. Pause after the cube and the cylinder and draw each one yourself.

BACKUP VIDEO

How To Draw a Sphere, Cylinder, Cone, Cube

HamaTime Productions · 6:23

<https://www.youtube.com/watch?v=NlaG6ecO3JQ>

Another clear step-by-step look at drawing basic forms.

KEY TERMS

shape

A flat area with height and width only, like a square or circle.

ellipse

A circle seen at a slant; it looks like a flattened circle or oval.

form

A solid object with height, width and depth, like a cube, sphere or cylinder.

parallel

Lines that go the same direction and never meet, like railroad tracks.

CORE IDEAS

A square is a **shape**. A box is a **form**. A circle is a shape; a can is a form. Forms have a third direction, *depth*, that goes back into space. Our paper is flat, so we have to use tricks to make forms look solid.

To draw a cube: draw a square for the front. From three of its corners, draw short slanted lines going back, all slanting the same way and all the same length. Connect the ends with lines that are parallel to the front edges. Now you can see the front, the top and one side: three faces. Seeing more than one face is what makes a form look solid.

To draw a cylinder: draw an ellipse for the top. An **ellipse** is how a circle looks when you see it at a slant, like the top of a cup on the table. Draw two straight sides going straight down from the left and right ends of the ellipse. Then draw the bottom as a curve that matches the bottom half of the top ellipse. Never make the bottom a straight line, and never give an ellipse pointed ends.

Shade to finish the trick. Choose a light side. On a cube, each face gets one value: light, middle and dark. On a cylinder, the value changes smoothly from light to dark as the side curves away from the light.

Once you know these two forms, you can see them everywhere: a house is a cube with a triangular roof, a tree trunk is a cylinder, a lamp is a cylinder on a cube. Great painters like Cézanne said nature can be built from cylinders, spheres and cones.

PICTURE STUDY



The Basket of Apples, Paul Cézanne, about 1893 · Oil on canvas · Art Institute of Chicago

Image: [Wikimedia Commons](#), public domain

Paul Cézanne spent years painting apples, bottles and tables. He wanted every object to look solid and heavy, like a building. Look for cylinders, spheres and boxes in this painting.

Look closely

- Find the bottle. What form is its body? Where is its ellipse?
- Look at the table. Is it a flat shape or a solid form? Can you see its edge and front?
- Find the stack of biscuits on the plate. What forms do you see?
- Look closely at the table edge. Does it line up on both sides of the cloth?
Cézanne bent the rules on purpose to make the picture feel balanced.

Talk about it

1. Which object looks the most solid and heavy to you? Why?
2. How did Cézanne make the apples look round?
3. Why might an artist paint the same apples over and over?

STUDIO PROJECT

A Still Life of Boxes and Cans

You will set up a real still life of boxes and cans and draw it, using what you learned about cubes and cylinders, then shade it so every object looks solid.

You will need

- Drawing paper
- Pencils (HB, 2B and 4B)
- Eraser
- Two or three boxes (cereal box, tissue box, small gift box)
- Two cans or cups (a soup can, a mug, an oatmeal canister)
- A lamp

Steps

1. Practice first: on scrap paper draw three cubes and three cylinders, following the steps in the core ideas.
2. Set up your still life on a table: a box, a can in front of it, and one more object. Shine a lamp from one side.
3. Sit where you can see the tops of the objects. Notice that you see the top of the box and an ellipse on top of the can.
4. Lightly draw the box first, the biggest form. Check that its back edges are parallel to its front edges.
5. Draw the can. Start with the top ellipse, then the straight sides, then the curved bottom.
6. Add the third object, overlapping if it is in front of something.
7. Darken the lines you want to keep and erase the extras.
8. Shade: light faces stay pale, side faces get middle gray, the darkest faces get dark. Shade the cans with a smooth change from light to dark.
9. Add cast shadows on the table on the side away from the lamp.

Tips

- Hold your pencil up to check whether an edge is straight up and down.

- If an ellipse looks pointy, round off its ends.
- Draw through the forms lightly (as if they were glass) to see where hidden edges go.

Check your work

- ☐ My boxes show more than one face and have parallel edges.
- ☐ My cans have rounded ellipses at the top and curved bottoms.
- ☐ Each form has a light side and a dark side.

SKETCHBOOK PRACTICE

1. Draw your house or a building on your street using cubes and a triangular roof.
2. Draw three mugs or cups from different heights: from above, from the side and from low down. Watch how the ellipse changes.
3. Turn five boxes into something else: a robot, a train, a castle.

From history. Paul Cézanne (1839–1906) was a French painter who worked slowly, sometimes taking months on one still life. The apples often rotted before he finished, so he used wax or wooden fruit! Many later painters studied his way of building forms.

COMMON MISTAKES

- Drawing the bottom of a cylinder as a flat line. It should curve like the top.
- Slanting the back lines of a cube in different directions. They should all slant the same way.
- Giving ellipses pointed corners like a football.

Make it a game • Ellipse Olympics. Look at a can or jar. Its top is an ellipse, not a pointed oval. Set a one-minute timer and draw as many ellipses as you can, each with smooth rounded ends. Your parent counts only the round ones. Then draw a cube with parallel edges. How many ellipses can you count in the kitchen?

2.2 RADIAL SYMMETRY AND THE ROSE WINDOW

OBJECTIVES

- Define symmetry and tell the difference between mirror symmetry and radial symmetry.
- Find radial symmetry in nature and in a Gothic rose window.
- Design and color a radial design with repeated sections.

Warm-up. Fold a scrap of paper in half, draw half a heart along the fold, and cut it out. Open it. Then fold a circle of paper in half, in half again, and in half again, cut a few small notches along the edges, and open it. Compare the two.

WATCH

Radial Symmetry Art Tutorial - Art With Trista

Art With Trista · 5:24

<https://www.youtube.com/watch?v=4DbQkV9qfnY>

WHEN TO WATCH

Watch before the studio project and pause after each step.

BACKUP VIDEO

Art Challenge #3: Radial Symmetry

Amber Bartz · 6:15

<https://www.youtube.com/watch?v=qZ0OzX6y9x4>

A teacher draws a radial design step by step; good for a second try.

KEY TERMS

symmetry

Balance made when parts on different sides of a center match.

radial symmetry

When matching parts repeat around a center point, like the spokes of a wheel or the petals of a daisy.

mirror symmetry

When one half matches the other half like a reflection in a mirror (also called bilateral symmetry).

rose window

A large round stained-glass window in a church, divided into sections that spread out from the center.

CORE IDEAS

When two halves match, we call it **symmetry**. A butterfly, a face and the front of a church have **mirror symmetry**: draw a line down the middle and one side matches the other like a reflection.

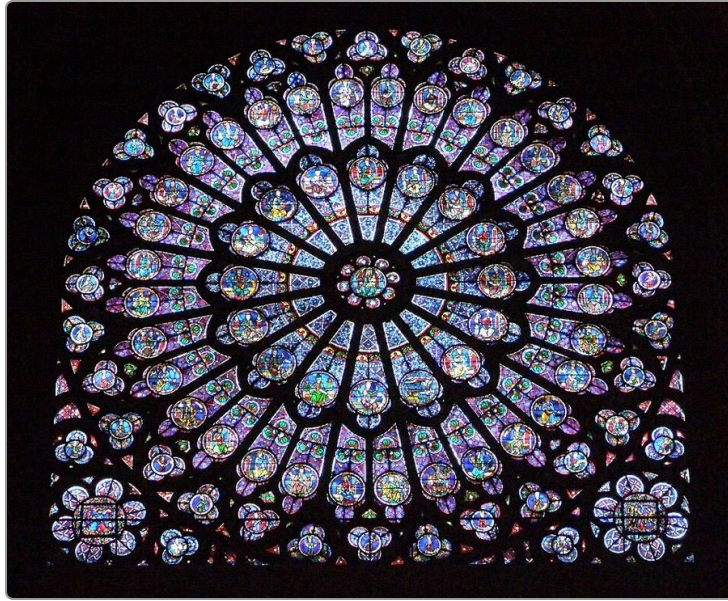
Radial symmetry is different. Instead of two matching halves, there are many matching parts arranged around a center, like the spokes of a bicycle wheel. “Radial” comes from *radius*, a line from the center of a circle to its edge. Daisies, sunflowers, snowflakes, starfish and the cut side of an orange all have radial symmetry.

To make a radial design, start with a circle and a center dot. Divide the circle into equal sections, like pizza slices: 4, 6, 8 or 12. Whatever you draw in one section, you repeat in every section, the same distance from the center. Work in rings from the center out: a ring of petals, then a ring of circles, then a ring of points.

Color the same way: if one petal in the first ring is red, all the petals in that ring are red. This repetition is what makes radial designs feel calm and orderly.

Builders of the great Gothic cathedrals made enormous round windows with radial symmetry, called **rose windows**. They filled them with colored glass and pictures from the Bible, so light poured into the church in a circle of color. The circle, with no beginning and no end, reminded people of God’s eternity.

PICTURE STUDY



Rose Window, Notre-Dame de Paris, Unknown Gothic glassmakers and masons, about 1250 · Stained glass and carved stone tracery · Notre-Dame Cathedral, Paris

Image: [Wikimedia Commons](#), public domain

Each great rose window of Notre-Dame is about 13 meters (43 feet) across, taller than a three-story house, and has survived for more than seven hundred years. Its glass shows prophets, kings and saints from the Bible in rings around a figure at the center.

Look closely

- Find the center circle. Everything else spreads out from it like ripples in a pond.
- Count the sections in the first ring around the center. Then count the second ring. Do they have the same number?
- Look at the main color. Why do you think the glassmakers chose so much blue?
- Find the stone lines (called tracery) that hold the glass. What shapes do they make?

Talk about it

1. How would it feel to stand inside the cathedral when the sun shines through this window?
2. Where else have you seen radial symmetry?

3. Why do you think the builders put the most important figure in the center?

STUDIO PROJECT

My Own Rose Window

You will design a radial “rose window” on paper, outline it in black like the lead lines in stained glass, and color it with bright, glowing colors.

You will need

- White cardstock or drawing paper
- A dinner plate and a small cup to trace circles
- Pencil, ruler and eraser
- Black marker
- Markers, colored pencils or oil pastels
- Cooking oil and a cotton ball (optional, see tips)

Steps

1. Trace a large circle with a dinner plate. Trace a small circle in the very center with a cup or bottle cap.
2. Use a ruler to draw a line through the center from top to bottom and from side to side. Then draw two diagonal lines through the center. You now have 8 equal sections.
3. Draw a middle ring by tracing a medium-sized bowl, or by marking the same distance from the center on each line and connecting the marks.
4. In the center circle, draw a simple design: a flower, a cross, a star or a dove.
5. In each section of the first ring, draw the same shape (a petal, a pointed arch or a circle). Make all eight match.
6. In the outer ring, draw a second repeated shape. Keep the shapes touching the lines so they look like pieces of glass held by stone.
7. Go over all lines with black marker, making them thick, like the lead in real stained glass.
8. Color every matching shape the same color. Use mostly rich blues and reds, with a few touches of yellow and green.
9. Leave a thin black border between every colored piece.

Tips

- For a “glowing glass” look, color with markers on copy paper, then rub a tiny bit of cooking oil on the back with a cotton ball (with a grown-up) and tape it in a sunny window.
- If your sections do not match perfectly, that is fine; handmade windows are not perfect either.
- Turn the paper as you work so each section is easy to reach.

Check your work

- ☐ My design has a clear center and sections that repeat around it.
- ☐ Matching shapes are the same color in each ring.
- ☐ Black lines separate every colored piece like real stained glass.

SKETCHBOOK PRACTICE

1. Cut an orange, apple or cucumber in half across the middle and draw the radial pattern inside.
2. Draw three flowers from above, showing their radial symmetry.
3. Draw a snowflake with six matching arms.

From history. Gothic cathedrals were built in the 1100s–1400s. Their builders learned to make walls thinner and windows larger, using pointed arches and outside supports called flying buttresses. Stained-glass makers colored glass by melting metals into it: cobalt for blue, copper for red and green.

COMMON MISTAKES

- Making each section different. In radial symmetry, each section repeats the same design.
- Drawing the design too small in the middle of the circle. Fill the whole circle, ring by ring.
- Coloring matching shapes with different colors, which breaks the symmetry.

Make it a game • Radial or Mirror Hunt. You have three minutes to find radial symmetry and mirror symmetry. Radial examples: a flower, an orange slice, a jar lid. Mirror examples: a face, a butterfly, a leaf. Sort the things you find into two piles and explain. One point per correct item. Look for radial symmetry in a Gothic rose window.

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

The order and repetition in a daisy, a snowflake or a starfish show God’s wisdom.
Rose-window makers copied that order to point people to Him.

2.3 PROPORTIONS OF THE FACE

OBJECTIVES

- Use guidelines to place the eyes, nose, mouth and ears on a face.
- Explain that the eyes sit about halfway down the head.
- Draw a front-view self-portrait using a mirror and proportion guidelines.

Warm-up. Put your fingertips on your eyes, then slide them straight up over your head and down the back of your head to your chin. Feel how much head is above your eyes! Now look in a mirror: is the space above your eyes bigger or smaller than you thought?

WATCH

How to Draw a Self Portrait

Art Projects for Kids • 7:02

<https://www.youtube.com/watch?v=mkNfugL6jBg>

WHEN TO WATCH

Draw along with the video on scrap paper to practice the guidelines, then do the project with a mirror.

BACKUP VIDEO

Learn how to draw portraits - How to draw a face step-by-step - Easy tutorial for kids

Smile and Learn - English • 3:01

<https://www.youtube.com/watch?v=s3TikVkFow>

A short animated review of where the features go.

KEY TERMS

proportion

The size of one part compared with another part or with the whole.

portrait

A picture of a particular person, usually showing the face.

guideline

A light line drawn to help place things correctly; it is erased later.

self-portrait

A portrait an artist makes of himself or herself.

CORE IDEAS

Most children draw the eyes near the top of the head. But real eyes are about **halfway** between the top of the head and the chin. Hair and forehead take up the whole top half! Learning this one fact makes faces look much more real.

Start with an egg shape, a little wider at the top. Draw a light **guideline** straight down the middle (for the nose) and one across the middle (for the eyes). The eyes sit *on* that middle line.

Now divide the lower half. The bottom of the nose is about halfway between the eye line and the chin. The mouth is about one-third of the way down from the nose to the chin. The ears fit between the eye line and the bottom of the nose.

Measure across too. A face is about five eyes wide: there is one eye's width between the two eyes. The corners of the mouth line up below the centers of the eyes. The neck is almost as wide as the jaw, not a skinny stick.

These are general proportions. Every face is a little different, and that difference is what makes a face look like a particular person. Use the guidelines to start, then look carefully at the real face to see what is special about it.

PICTURE STUDY



Self-Portrait at Twenty-Eight, Albrecht Dürer, 1500 · Oil on panel · Alte Pinakothek, Munich

Image: [Wikimedia Commons](#), public domain

Dürer painted himself looking straight at us, perfectly centered, at a time when most portraits were turned to the side. His face is built on careful proportions and is almost perfectly symmetrical.

Look closely

- Imagine a line straight down the middle of his face. How closely do the two sides match?
- Where are the eyes? Are they near the top of the head or about halfway down?
- Look at the space between the eyes. Is it about one eye wide?
- Find the hand. Look at how carefully each finger and the fur are painted.

Talk about it

1. How does Dürer seem to feel? What makes you think so?
2. Why might an artist paint a portrait looking straight ahead instead of to the side?
3. What would you want people five hundred years from now to know about you from your self-portrait?

STUDIO PROJECT

A Self-Portrait with Guidelines

You will draw a front-view self-portrait from a mirror, using proportion guidelines, and then add value with light shading.

You will need

- Drawing paper
- Pencils (HB and 2B)
- Eraser
- A mirror you can prop up
- A ruler

Steps

1. Prop up a mirror so you can see your whole face while sitting.
2. Draw a large egg shape filling most of the paper, wider at the top.
3. Draw a light vertical line down the middle and a horizontal line halfway down: the eye line.
4. Mark the nose line halfway between the eye line and the chin, and the mouth line one-third of the way from the nose to the chin.
5. Draw the eyes on the eye line, almost-football shapes with one eye-width between them. Look in the mirror at the shape of your own eyes and add the colored iris, the pupil and the eyelid.
6. Draw the bottom of the nose (nostrils and the ball of the nose), not a long line. Look closely at your own nose.
7. Draw the mouth: the corners line up under the centers of the eyes. Draw the line between the lips first.
8. Add the ears between the eye line and the nose line, the eyebrows above the eyes, and the hair starting well above the eyes. Draw the neck nearly as wide as the jaw.
9. Erase guidelines. Add light shading on the side of your face away from the light, under the nose, and under the chin.

Tips

- Draw hair as big shapes with lines that follow how it grows, not as separate strands.
- Check in the mirror often: look four times for every one mark.
- If one eye looks bigger, measure them with your pencil.

Check your work

- ☐ My eyes are about halfway down my head.
- ☐ There is about one eye-width between my eyes.
- ☐ My nose, mouth and ears are placed with the guidelines.

SKETCHBOOK PRACTICE

1. Draw a family member's face using the guidelines. Ask them to sit still for five minutes.
2. Draw five different eyes from a mirror: looking up, down, left, right and closed.
3. Draw a face in a magazine or book picture, then check its proportions with a ruler.

From history. Dürer was one of the first artists to make many self-portraits. He also wrote books about the proportions of the human body and face, measuring hundreds of people to learn how the parts fit together.

COMMON MISTAKES

- Placing the eyes too high. Remember: halfway down.
- Drawing a tiny neck. A neck is almost as wide as the jaw.
- Drawing the nose as a long line. Draw the nostrils and the round tip instead.

Make it a game • Fix the Face. Draw a face with three mistakes in it: eyes too high, ears too low, a mouth too close to the chin. Your parent has to find all three and fix them using guidelines. The eyes should be about halfway down the head. Then switch. Whoever finds all mistakes gets the point. Draw a self-portrait with guidelines.

Scripture. “I will praise thee; for I am fearfully and wonderfully made” (Psalms 139:14, KJV)

Every face follows the same pattern, yet no two are alike. Drawing a face helps us see how wonderfully God makes each person.

2.4 PROPORTIONS OF ANIMALS

OBJECTIVES

- Measure an animal's parts against each other using the head as a unit.
- Build an animal drawing from simple shapes in the right proportions.
- Notice how proportions differ from one animal to another.

Warm-up. Look at a picture of a horse and a picture of a dog. Use your thumb and pencil to measure: how many heads long is each body? How long are the legs compared with the body? Write down what you find.

WATCH

How to Draw a Horse: Step by Step

Circle Line Art School · 10:02

<https://www.youtube.com/watch?v=jjJyGKPH1yk>

WHEN TO WATCH

After the core ideas. Watch how the horse begins as circles for the chest and hips, and how the legs are measured against the body. Watch how every animal starts as simple shapes.

BACKUP VIDEO

How to Draw a Horse Head: Narrated

Circle Line Art School · 4:35

<https://www.youtube.com/watch?v=w5JLgTGGzoE>

Shows step by step how to build a horse's head from shapes.

KEY TERMS

proportion

How big each part is compared with the other parts.

unit of measure

One part, like the head, used to measure the size of all the other parts.

sighting

Holding up a pencil at arm's length to measure and compare sizes of what you see.

foreshortening

When a part pointing toward you looks shorter than it really is.

CORE IDEAS

When an animal drawing looks “wrong,” the problem is usually **proportion**: the legs are too short, the head too big, or the body too long. Artists fix this by measuring.

Pick one part as your **unit of measure**; the head works well. Then ask: how many heads long is the body? How many heads tall are the legs? For a horse, the body is about two and a half heads long, and the legs are about as long as the body is deep. For a dog, the legs are shorter and the head is bigger compared with the body.

To measure what you see, use **sighting**. Hold your pencil straight out at arm’s length, lock your elbow, and close one eye. Line up the tip of the pencil with one end of the head and slide your thumb to the other end. Now move that measurement along the body to count how many heads fit.

Build the animal from simple shapes in proportion: an oval or bean for the chest, a smaller oval for the hips, a circle or wedge for the head, cylinders for the neck and legs. Check the measurements, then draw the contour around the shapes and erase the extras.

Animals are some of the first things God made, and He gave each one its own design. A horse is made for running, a dog for sniffing and chasing. Getting the proportions right shows what each animal is made for.

PICTURE STUDY



Whistlejacket, George Stubbs, about 1762 · Oil on canvas · National Gallery, London

Image: [Wikimedia Commons](#), public domain

George Stubbs painted this famous racehorse life size, more than three meters tall. Stubbs studied horses for years, measuring and drawing them, so that he could paint them with perfect proportions.

Look closely

- Measure with your eyes: about how many heads long is Whistlejacket's body?
- Look at the legs. Where are the joints? Do they bend the way you expected?
- Notice there is no background at all. Why might Stubbs have left it plain?
- Find the highlights on the horse's coat. Where is the light coming from?

Talk about it

1. How does this horse seem to feel? What tells you?
2. Why would an artist need to study an animal for a long time before painting it?
3. What animal would you most like to paint life size?

STUDIO PROJECT

An Animal Drawn in Proportion

You will choose a four-legged animal and draw it from a good photograph or from your own pet, measuring with the head as your unit and building it from simple shapes.

You will need

- Drawing paper
- Pencils (HB and 2B)
- Eraser
- A clear side-view photo of a horse, dog, cat, cow or deer (from a book or nature guide), or a sleeping pet

Steps

1. Study your animal. Using sighting, measure: how many heads long is the body? How tall are the legs compared with the body?
2. Write your measurements in the corner of the paper (for example, “body = $2\frac{1}{2}$ heads, legs = $1\frac{1}{2}$ heads”).
3. Draw the head lightly, not too big. Then mark how long the body should be by measuring with your pencil on the paper.
4. Draw an oval for the chest and a smaller oval for the hips, connected by the back line and belly line.
5. Draw the neck as a thick cylinder joining head and chest.
6. Draw the legs as cylinders, marking the joints with small circles. Check the length against your measurement.
7. Draw the contour around your shapes: the ears, the curve of the back, the tail, the hooves or paws.
8. Erase the extra shape lines. Add light hatching under the belly, on the far legs and in a cast shadow.

Tips

- Draw the far legs a little lighter or shorter than the near legs to show they are farther away.

- If your animal looks too long, measure again before erasing.
- Sleeping pets make wonderful models because they hold still.

Check your work

- ☐ I measured my animal using its head as a unit.
- ☐ My animal's body and legs are in the right proportions.
- ☐ My animal was built from simple shapes and finished with a clear contour.

SKETCHBOOK PRACTICE

1. Draw your pet or a neighbor's pet from life in five different poses with quick shapes.
2. Draw a horse, a dog and a cat side by side, all with the same size head, to compare their proportions.
3. Draw a bird at a feeder using an oval for the body and a circle for the head.

From history. George Stubbs (1724–1806) was an English painter who loved horses. He spent eighteen months studying exactly how horses are built and published a book of careful drawings that artists and horse doctors used for many years.

COMMON MISTAKES

- Drawing the head too big. Measure it against the body.
- Making legs too short and stiff. Mark the joints and check the length.
- Skipping the simple shapes and starting with details like eyes and fur.

Make it a game • Sighting Duel. Place a toy animal on the table. Hold a pencil at arm's length and measure its head. Guess how many head units its body is, writing down your guess. Your parent guesses too. Measure by sighting with the pencil and compare. Closest guess wins a point. Try three animals and then draw one with the right proportions.

UNIT 2

SHAPE, FORM AND PROPORTION

A **shape** is flat, like a circle cut from paper. A **form** is solid, like a ball you can hold. In this unit you will learn how artists turn flat shapes into solid-looking forms on flat paper, starting with the cube and the cylinder, which hide inside almost everything around you: boxes, cups, cans, houses and tree trunks.

You will also learn about **symmetry**, especially the beautiful radial symmetry of a cathedral rose window, and about **proportion**, the way the parts of a face or an animal fit together in the right sizes. These are tools artists have used for hundreds of years, and they will help every drawing you make from now on.

PREREQUISITES

- Can make a slow contour drawing (Lesson 1.1)
- Can use light hatching to show darker areas (Lesson 1.3)
- Knows the basic shapes: circle, square, triangle, rectangle, oval

MASTERY CHECKLIST

- ☐ I can explain the difference between a shape and a form.
- ☐ I can draw a cube and a cylinder that look solid, using ellipses and parallel lines.
- ☐ I can design a pattern with radial symmetry.
- ☐ I can place the eyes, nose and mouth on a face in the right proportions.
- ☐ I can draw an animal by measuring its parts against each other.

LESSONS IN THIS UNIT

2.1 Drawing Cubes and Cylinders

2 sessions of 45 minutes

2.2 Radial Symmetry and the Rose Window

2 sessions of 45 minutes

2.3 Proportions of the Face

2 sessions of 45 minutes

2.4 Proportions of Animals

2 sessions of 45 minutes

UNIT 2 REVIEW

Answer each question aloud, in writing, or by drawing, whichever the question asks. A parent can read the questions aloud. Total: 50 points.

1. 5 pts

What is the difference between a shape and a form? Give an example of each.

2. 5 pts

Draw a cube that looks solid.

3. 5 pts

What is an ellipse, and where do you find one on a cylinder?

4. 5 pts

What is radial symmetry? Name one thing in nature that has it.

5. 5 pts

What is a rose window, and where would you find one?

6. 5 pts

About where on the head do the eyes sit?

7. 5 pts

How much space is there between the two eyes?

8. 5 pts

What is sighting, and how do you do it?

9. 5 pts

Why do artists use the head as a unit of measure when drawing an animal?

10. 5 pts

Name the artist who painted *Whistlejacket*, and tell one thing he did to learn to paint horses well.

ANSWER KEY

1. A shape is flat (height and width), like a circle; a form is solid (height, width and depth), like a ball.
2. A cube showing three faces (front, top and side) with parallel back edges.
3. A circle seen at a slant; it is the top (and the curved bottom) of a cylinder.
4. Matching parts repeated around a center point; examples: daisy, sunflower, snowflake, starfish, cut orange.
5. A large round stained-glass window with radial symmetry, found in Gothic cathedrals and churches.
6. About halfway between the top of the head and the chin.
7. About one eye's width.
8. Measuring with a pencil held at arm's length, elbow locked, one eye closed, using your thumb to mark a length and compare it to other parts.
9. So they can compare every part to the head and get the proportions of the body and legs right.
10. George Stubbs; he studied and measured horses for a long time (about eighteen months) and made careful drawings of how they are built.

PORTFOLIO PIECE: MY PET OR FAVORITE ANIMAL AT HOME

Draw an animal (your pet, or a favorite animal from a good photo) in a simple setting with at least one box-shaped and one can-shaped object, such as a dog beside its food bowl and a crate, or a cat on a stack of books next to a flowerpot. Measure the animal’s proportions, draw the objects as solid forms with ellipses and parallel edges, and add light and dark shading.

LOOK FOR	WHAT IT MEANS
Animal proportions	The animal’s head, body and legs are measured and look correct.
Solid forms	Boxes show more than one face; cylinders have rounded ellipses and curved bottoms.
Shading	Every object has a light side and a dark side that agree on one light source.
Careful work	Guidelines are erased, lines are confident, and the picture fills the page.

UNIT 3

COLOR THEORY

Color is one of God’s great gifts to our eyes. In this unit you will learn how artists think about color and how they mix it. You will paint a full **twelve-color wheel**, learn the difference between a color’s **hue** and its **value**, and discover two kinds of color families that artists use on purpose: **analogous colors**, which sit side by side and feel calm and friendly, and **complementary colors**, which sit across from each other and make each other shout.

Our guides are two painters who loved color: Claude Monet, who painted the same haystacks again and again to catch changing light; and Vincent van Gogh, whose sunflowers glow with yellows and oranges and whose irises dance in blue against orange-gold.

PREREQUISITES

- Knows the primary colors (red, yellow, blue) and secondary colors (orange, green, violet)
- Has used paint and a brush and knows how to rinse between colors
- Knows what value means (light and dark), from Lesson 1.3

MASTERY CHECKLIST

- ☐ I can paint a twelve-color wheel with primary, secondary and tertiary colors in the right order.
- ☐ I can name a tertiary color correctly, with the primary first (for example, red-orange).
- ☐ I can explain the difference between hue and value and mix tints and shades.
- ☐ I can choose an analogous color family and use it in a painting.
- ☐ I can name the complement of any primary or secondary color and use complements to make something stand out.

LESSONS IN THIS UNIT

3.1 The Twelve-Color Wheel

2 sessions of 45 minutes

3.2 Hue and Value: Tints and Shades

2 sessions of 45 minutes

3.3 Analogous Colors

2 sessions of 45 minutes

UNIT 3 REVIEW

Answer each question aloud, in writing, or by pointing to your color wheel. A parent can read the questions aloud. Total: 50 points.

1. (5 pts)

Name the three primary colors.

2. (5 pts)

What two colors make green? What two make violet?

3. (5 pts)

What is a tertiary color? Name two.

4. (5 pts)

What is the difference between hue and value?

5. (5 pts)

How do you mix a tint? How do you mix a shade?

6. (5 pts)

What are analogous colors? Name an analogous family of three colors.

7. (5 pts)

Name the complement of red, of blue and of yellow.

8. (5 pts)

What happens when you put complements side by side? What happens when you mix them?

9. (5 pts)

Why did Monet paint the same stacks of wheat many times?

10. 5 pts

Which color family did van Gogh use for *Sunflowers*, and which complements did he use in *Irises*?

ANSWER KEY

1. Red, yellow and blue.
2. Yellow and blue make green; red and blue make violet.
3. A primary mixed with a neighboring secondary; any two of yellow-orange, red-orange, red-violet, blue-violet, blue-green, yellow-green.
4. Hue is the color's name (red, blue); value is how light or dark it is.
5. A tint is a color plus white; a shade is a color plus black.
6. Colors next to each other on the color wheel; for example, yellow, yellow-orange, orange.
7. Red → green; blue → orange; yellow → violet.
8. Side by side, they make each other look brighter; mixed, they make a dull brown or gray (a neutral).
9. To show how the light, colors and values changed at different times of day and in different seasons.
10. Sunflowers: warm analogous yellows and oranges. Irises: blue-violet flowers against orange-gold earth (and yellow-green leaves).

PORTFOLIO PIECE: A GARDEN IN COLOR

Paint or draw (with oil pastels or tempera) a garden scene with flowers, leaves and sky. Use an analogous color scheme for most of the picture to give it harmony, then add one complementary accent to make the most important flower stand out. Include at least one tint and one shade.

LOOK FOR	WHAT IT MEANS
Analogous harmony	Most of the picture uses one family of neighboring colors.
Complementary accent	One important part uses the complement and clearly stands out.
Values	Tints and shades give the picture clear light and dark areas.
Clean color and care	Colors are clean (not muddy), the page is filled, and the work is careful.

3.1 THE TWELVE-COLOR WHEEL

OBJECTIVES

- Name and mix the primary, secondary and tertiary colors.
- Paint a twelve-part color wheel with the colors in the correct order.
- Explain why tertiary colors are named with the primary color first.

Warm-up. On scrap paper, color three circles with crayon: red, yellow and blue, in a triangle. Between each pair, color the circle you think you would get by mixing them. Check your guesses against the core ideas.

WATCH

Color mixing lesson for beginners - the Watercolor Color Wheel

Mr. Otter Art Studio • 11:18

<https://www.youtube.com/watch?v=FI2OYh9cn3Q>

WHEN TO WATCH

Watch before the studio project and pause after each step. The video uses watercolor; tempera mixes the same way.

BACKUP VIDEO

Primary, Secondary, and Tertiary Colors for Kids

Smile and Learn - English • 6:00

https://www.youtube.com/watch?v=A8_ibKT61VY

A clear animated explanation of primary, secondary and tertiary colors.

KEY TERMS

primary colors

Red, yellow and blue: the three colors that cannot be mixed from other paint colors.

secondary colors

Orange, green and violet: each is made by mixing two primary colors.

tertiary colors

The six colors made by mixing a primary with the secondary next to it, such as yellow-green or red-violet.

color wheel

A circle that shows how colors are related, with each color between the two it is mixed from.

CORE IDEAS

Painters start with three **primary colors**: red, yellow and blue. You cannot mix them from other paints, but you can mix almost every other color from them.

Mix two primaries and you get a **secondary color**: red + yellow = orange, yellow + blue = green, blue + red = violet (purple). On the color wheel, each secondary sits halfway between the two primaries it came from.

Now mix a primary with the secondary next to it, and you get a **tertiary color**. There are six: yellow-orange, red-orange, red-violet, blue-violet, blue-green and yellow-green. We always say the primary color first. With these six in place, the wheel has twelve colors, each one stepping gently into the next, like the colors of a rainbow bent into a circle.

Here is a mixing secret: yellow is weak and blue and red are strong. When mixing green or orange, start with yellow and add tiny bits of blue or red. If you start with blue and add yellow, you will use up all your yellow!

The color wheel is a map. Once you know it, you can find colors that go together, colors that fight, and colors that are warm (reds, oranges, yellows) or cool (greens, blues, violets). We will use this map all through the unit.

PICTURE STUDY



Garden at Sainte-Adresse, Claude Monet, 1867 · Oil on canvas · Metropolitan Museum of Art, New York

Image: [Wikimedia Commons](#), public domain

Claude Monet painted this sunny terrace by the sea when he was a young man. It is full of bright colors from all around the color wheel, set side by side in the clear seaside light.

Look closely

- Find all three primary colors: red, yellow and blue. Where is each one?
- Find a secondary color: orange, green or violet.
- Look at the flowers. How many reds and red-oranges can you see?
- Look at the sea. Is it all one blue, or many blues and blue-greens?

Talk about it

1. Which color in the painting catches your eye first?
2. How do the colors make you feel: warm or cool, happy or sad?
3. If you could stand on this terrace, what would you hear?

STUDIO PROJECT

A Painted Twelve-Color Wheel

You will paint your own twelve-color wheel with tempera, mixing every secondary and tertiary color from just three primaries. You will keep it in your sketchbook and use it all year.

You will need

- White cardstock or watercolor paper
- Tempera paint: red (magenta-red if you have it), yellow, blue
- A paper plate or palette
- Small round brush and a water cup
- Paper towels
- A dinner plate and a small cup to trace
- Pencil and ruler
- Black fine marker

Steps

1. Trace a large circle and a small circle in the center. Divide the ring into 12 equal sections, like the numbers on a clock (draw six lines through the center).
2. Label the sections lightly in pencil: yellow at 12 o'clock, then going clockwise: yellow-orange, orange, red-orange, red (4 o'clock), red-violet, violet, blue-violet, blue (8 o'clock), blue-green, green, yellow-green.
3. Paint the three primary sections first: yellow, red and blue, straight from the bottles. Rinse well between colors.
4. Mix orange on your plate: a puddle of yellow plus a tiny touch of red, then a bit more until it is a true orange. Paint the orange section.
5. Mix green (yellow plus tiny touches of blue) and violet (red plus blue) and paint them.
6. Mix each tertiary color: for yellow-orange, take some orange and add more yellow. For red-orange, take orange and add a little red. Do the same for the other four.

7. Check: does each color look halfway between its two neighbors? Adjust if not.
8. When dry, write the color names neatly around the outside with a fine marker.

Tips

- Always add the darker color to the lighter one, a tiny bit at a time.
- Rinse your brush and dry it on a paper towel before each new color, or your colors will turn muddy.
- If violet looks brown, your red may be too orange. A pinkish red (magenta) makes better violets.

Check your work

- ☐ My wheel has all twelve colors in the correct order.
- ☐ My secondary and tertiary colors were mixed from the three primaries.
- ☐ Each color looks like a step between its neighbors, and the colors are clean, not muddy.

SKETCHBOOK PRACTICE

1. Find twelve objects at home that match the twelve colors on your wheel and list them.
2. Color a rainbow arc with colored pencils using all twelve colors in order.
3. Draw a simple flower and color it using only three tertiary colors.

From history. Isaac Newton, the English scientist, made the first color circle in 1704, after he used a glass prism to split sunlight into a rainbow. He bent the rainbow's colors into a circle so he could show how they relate.

COMMON MISTAKES

- Saying "orange-red" instead of "red-orange." Name the primary first.
- Using a dirty brush, so the colors turn brown and gray.
- Adding too much blue or red to yellow at once. Add tiny amounts.

Make it a game • Hot-Seat Recipes. Your parent calls a color from the twelve-color wheel, and you give its recipe and the colors next to it, with the wheel hidden. Primary, secondary or tertiary? What two colors make yellow-green? Score a point for each correct answer. Twelve questions. If you get twelve, ask your parent three. Reveal the wheel to check.

Scripture. “I do set my bow in the cloud, and it shall be for a token of a covenant between me and the earth.” (Genesis 9:13, KJV)

The color wheel is really the rainbow bent into a circle. God set the rainbow in the sky as a sign of His promise.

3.2 HUE AND VALUE: TINTS AND SHADES

OBJECTIVES

- Explain the difference between hue and value.
- Mix tints by adding white and shades by adding black.
- See that every hue has its own natural value (yellow is light, violet is dark).

Warm-up. Take a red crayon and a yellow crayon. Color a patch of each. Squint at them until the colors almost disappear. Which looks lighter? Now do the same with blue and orange.

WATCH

Value Landscape Monochromatic Painting with Tints and Shades Video Tutorial - Art With Trista

Art With Trista • 14:08

<https://www.youtube.com/watch?v=38VmJQ0Wfc0>

WHEN TO WATCH

Before the studio project. Watch how white is added a little at a time for tints and black for shades, then used in a landscape.

BACKUP VIDEO

Mixing Tints and Shades with Paint- Elementary Level

Mrs. Yurk's Art Room • 6:40

https://www.youtube.com/watch?v=UaB0dY_-clc

A teacher mixes tints and shades with paint step by step.

KEY TERMS

hue

The name of a color on the color wheel, such as red, blue-green or yellow-orange.

value

How light or dark a color is.

tint

A hue mixed with white to make it lighter (pink is a tint of red).

shade

A hue mixed with black to make it darker (maroon is a shade of red).

CORE IDEAS

Every color has two different qualities. Its **hue** is its name on the color wheel: red, blue, yellow-green. Its **value** is how light or dark it is. Pink and maroon are both the same hue, red, but pink has a light value and maroon a dark value.

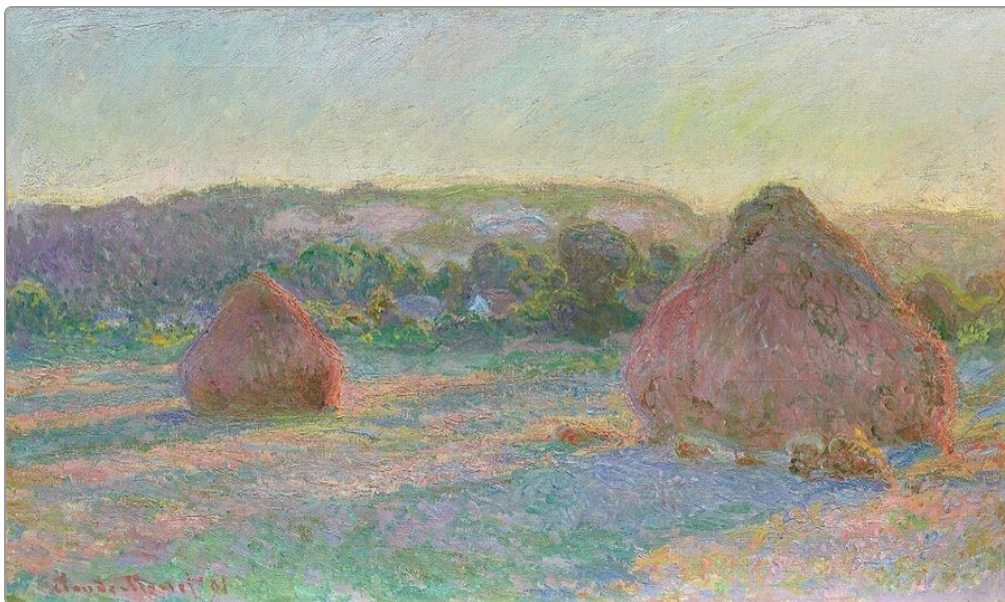
To make a lighter value, add white. That makes a **tint**. Start with white on your plate and add the color a little at a time; it takes only a speck of color to tint white, but a lot of white to lighten a color.

To make a darker value, add black. That makes a **shade**. Add black in very tiny amounts, because black is very strong. (Some painters darken colors with a touch of the complement instead of black; you will learn about that in Lesson 3.4.)

Each hue also has its own natural value. Yellow, straight from the tube, is very light. Violet and blue are dark. If you squint at a painting or take a black-and-white photo of it, you can see the values without the hues. Good paintings have a strong pattern of light and dark, even in color.

Painters like Monet watched how light changes values all day. In the morning a haystack might be pale and pink; at sunset, deep orange and violet. The hues and values change with the light, even though the haystack stays the same.

PICTURE STUDY



Stacks of Wheat (End of Summer), Claude Monet, 1890–1891 · Oil on canvas · Art Institute of Chicago

Image: [Wikimedia Commons](#), public domain

Monet painted about twenty-five pictures of stacks of wheat near his home, at different times of day and in every season. He would carry several canvases into the field and switch to a new one when the light changed.

Look closely

- Find the lightest part of the painting. Is it in the sky, the field or the stacks?
- Find the darkest part. What hue is it? (It is not black!)
- Look at the shadow side of the big stack. What colors did Monet use for the shadow?
- Squint until the colors blur. Can you still see the shapes of the stacks?

Talk about it

1. What time of day and season do you think this is? Why?
2. Why would an artist paint the same thing again and again?
3. How would this field look at sunset or covered in snow?

STUDIO PROJECT

Tint and Shade Ladders and a Landscape

First you will paint a value ladder of tints and shades for one hue. Then you will paint a simple landscape (a hill, a tree and a sky) using only that one hue in many values, so you can see how much a picture depends on value.

You will need

- Watercolor paper or cardstock
- Tempera paint: one hue you like (blue, green or red), plus white and black
- Palette or paper plate
- Medium flat brush and a small round brush
- Water cup and paper towels
- Pencil and ruler

Steps

1. Draw a row of seven boxes across the top of your paper.
2. Paint the middle box with your pure hue.
3. Tints: put a puddle of white on the plate. Add a speck of your hue and paint the first box (lightest). Add a bit more hue for the second box, and more for the third.
4. Shades: put some pure hue on the plate. Add a tiny touch of black and paint the fifth box. Add a bit more black for the sixth, and more for the seventh (darkest).
5. Below the ladder, draw a simple landscape lightly: a horizon, a hill, a tree or a barn, and a sky.
6. Paint the sky with your lightest tints, the faraway hills with middle tints, the nearby ground with your pure hue, and the tree or barn with shades.
7. Add a few details with your darkest shade, such as a door, branches or a fence.
8. Let it dry and look at it from across the room. Can you see every part clearly, even though it is all one hue?

Tips

- Mix a big enough puddle of each value before you begin painting an area.
- Wipe your brush between values so the steps stay clean.
- If two areas next to each other blend together, make one lighter or darker.

Check your work

- ☐ My ladder goes smoothly from light to dark in seven steps.
- ☐ My landscape uses only one hue, with tints and shades.
- ☐ Light areas and dark areas are clearly different, so the picture reads well.

SKETCHBOOK PRACTICE

1. Find five objects that are the same hue but different values (for example, a pink shirt, a red apple and a maroon book).
2. With colored pencils, make a tint ladder by pressing lighter and harder with one color.
3. Look out the window at morning and again at evening. Write how the colors of one thing changed.

From history. Monet (1840–1926) was a leader of the Impressionists, French painters who worked outdoors to catch light and color quickly. When he showed fifteen haystack paintings together in 1891, they sold within days.

COMMON MISTAKES

- Adding white to color instead of color to white, and using up all the white.
- Adding too much black at once, so the shade turns almost black right away.
- Mixing up the words: hue is the color name; value is light or dark.

Make it a game • Hue Hop, Value Step. Stand on a line. When your parent calls a hue change, like 'blue to green,' hop sideways. When they call a value change, step forward for a tint (lighter) or backward for a shade (darker). Your parent mixes in tricky calls, and you say hue or value. Ten calls. Then mix a tint ladder and a shade ladder.

3.3 ANALOGOUS COLORS

OBJECTIVES

- Define analogous colors and find analogous families on the color wheel.
- Explain how analogous colors create harmony and mood.
- Paint a still life using an analogous color scheme.

Warm-up. Look at your color wheel from Lesson 3.1. Put your finger on yellow. Now put two more fingers on the colors right next to it. Those three are neighbors. Find three other neighbor families and say their names.

WATCH

How to Paint Van Gogh Sunflowers | Art Lesson for Kids & Teachers

Rainbow Parrot Art • 6:16

<https://www.youtube.com/watch?v=eaVLwrSgC1c>

WHEN TO WATCH

Watch before the studio project and pause after each step. Notice the yellows, oranges and greens the teacher chooses.

BACKUP VIDEO

Analogous Colours | Adjacent Colours | Colour Harmony | Colour Theory | Riecreate Art School

Riecreate • 3:06

https://www.youtube.com/watch?v=JpxY_8hU4Bc

A short, clear explanation of analogous colors on the color wheel.

KEY TERMS

analogous colors

Three to five colors that sit next to each other on the color wheel, like yellow, yellow-orange and orange.

harmony

When the parts of an artwork look like they belong together.

color scheme

A plan for which colors to use in an artwork.

warm colors

Reds, oranges and yellows, which remind us of fire and sunshine.

CORE IDEAS

Analogous colors are neighbors on the color wheel: three to five colors in a row, like yellow, yellow-orange, orange and red-orange, or blue, blue-green and green. “Analogous” means “alike.” These colors share a parent color, so they look like a family.

A painting made with analogous colors has **harmony**: everything seems to belong together. Analogous colors also create a mood. Warm neighbors (yellows to reds) feel sunny, cheerful or cozy. Cool neighbors (greens to violets) feel calm, quiet or cold.

To use an analogous **color scheme**, choose one main color and use its neighbors for everything else. You can still use tints and shades of those colors, and a little white or brown. That is how a painting can be full of variety and still feel unified.

Look for analogous colors in God’s world: a sunset glowing from yellow to orange to red, a forest of greens and blue-greens, a field of wheat in yellows and golds. Nature uses analogous colors all the time.

PICTURE STUDY



Sunflowers, Vincent van Gogh, 1888 · Oil on canvas · National Gallery, London

Image: [Wikimedia Commons](#), public domain

Vincent van Gogh painted these sunflowers to decorate the room of a friend who was coming to visit. Almost the whole painting is made of yellows, golds and oranges: one warm color family.

Look closely

- Count how many different yellows you can find: lemon yellow, gold, yellow-orange, ochre.
- Find the few spots of green. Where are they? Are they cool or warm greens?
- Look at the flowers. Some are fresh and some are drying out. How did van Gogh change the colors to show this?
- Look at the paint itself. It is thick, with brushstrokes you can see.

Talk about it

1. How does all this yellow make you feel?
2. Why do you think the painter chose a yellow background instead of a blue one?
3. If you painted sunflowers with cool colors, how would the mood change?

STUDIO PROJECT

A Vase of Flowers in Analogous Colors

You will paint a vase of flowers, like van Gogh, using only one analogous color family. Choose warm (yellow to red) or cool (green to violet).

You will need

- Watercolor paper or heavy cardstock
- Tempera or oil pastels in your chosen analogous colors, plus white and brown
- Brushes (medium flat and small round)
- Pencil
- Real flowers or a picture of sunflowers
- Water cup, paper towels and palette

Steps

1. Choose your analogous family and write it at the top of a scrap page: for example, “yellow, yellow-orange, orange, red-orange.”
2. Lightly draw a vase (a cylinder!) on a table line near the bottom of the paper.
3. Draw five to seven flowers coming out of the vase. Make some big, some small, some turned to the side and some drooping. Draw circles for centers and petals around them.
4. Paint the background first with the lightest color in your family (or a tint of it).
5. Paint the table with a middle color, and the vase with another color from the family.
6. Paint the petals, using at least three colors from your family so they are not all the same.
7. Paint the flower centers with the darkest color in your family, or brown, using dabs to show seeds.
8. Add stems and leaves. If your family has no green, use a dark shade of your darkest color, or a tiny bit of green as van Gogh did.

Tips

- Let the background dry before painting flowers on top, so colors stay clean.
- Use short, thick brushstrokes for petals, as van Gogh did.
- Use a tiny touch of white to make some petals lighter where light hits them.

Check your work

- ☐ I used only colors from one analogous family (plus white, brown or a little green).
- ☐ I used at least three different colors from my family.
- ☐ My painting has harmony: the colors look like they belong together.

SKETCHBOOK PRACTICE

1. Color three small squares, each with a different analogous scheme, and label them.
2. Draw a sunset or a leaf using only warm analogous colored pencils.
3. Draw a fish or a wave using only cool analogous colors.

From history. Van Gogh (1853–1890) painted seven large pictures of sunflowers in vases. New yellow paints made from chrome had just been invented, and he loved how bright they were. He wrote to his brother that sunflowers were “his” flower.

COMMON MISTAKES

- Choosing colors that are not neighbors on the wheel.
- Using only one color and forgetting the others in the family.
- Painting flowers before the background is dry, which makes muddy edges.

Make it a game • Color Family Scavenger. Your parent names a color, like blue-green. You have ninety seconds to find three things in the house from its analogous family: the colors next to it on the wheel. Spread the items together to show how they harmonize. One point for each family you complete. Do three families. Which family feels warm?

3.4 COMPLEMENTARY CONTRAST

OBJECTIVES

- Name the three main pairs of complementary colors.
- Explain how complements make each other look brighter when placed side by side.
- Make an oil pastel drawing that uses complementary contrast to make the subject stand out.

Warm-up. Stare hard at a red square of paper for thirty seconds, then look at a white wall or paper. What color do you see floating there? Try it with a blue square too. (Your eyes are showing you the complement!)

WATCH

Complementary colors

Andrea Nelson Art · 1:44

<https://www.youtube.com/watch?v=7CDRcS-13pU>

WHEN TO WATCH

After the core ideas. Watch how a touch of the complement darkens the shadow side of the fruit.

BACKUP VIDEO

Complementary Colors INTERACTIVE FOR KIDS

Art with Berry · 3:03

<https://www.youtube.com/watch?v=52LleT1ENwg>

A quick interactive review. Answer the questions aloud when the video asks.

KEY TERMS

complementary colors

Two colors directly across from each other on the color wheel, like red and green.

contrast

A strong difference between two things, such as light and dark or complementary colors.

intensity

How bright or dull a color is.

neutral

A brown or gray made by mixing complements together.

CORE IDEAS

Complementary colors sit directly across from each other on the color wheel. The three main pairs are **red and green**, **blue and orange**, and **yellow and violet**. There are tertiary pairs too, like yellow-orange and blue-violet.

Each pair is one primary color and the secondary made from the other two primaries. Blue and orange together contain all three primaries. That is why complements are so different from each other and why they make such strong **contrast**.

When complements sit side by side, each one makes the other look brighter. An orange pumpkin looks more orange against a blue sky. A red barn glows in a green field. Artists use this to make the most important part of a picture pop.

But when you *mix* complements together, they cancel each other out and make a dull brown or gray, called a **neutral**. A tiny touch of a complement makes a color less bright; this is a gentle way to darken or dull a color without black. So: side by side, complements shout; mixed, they whisper.

Van Gogh loved complements. In his irises, blue-violet flowers stand against orange-gold earth and yellow-green leaves, and the whole painting seems to vibrate with life.

PICTURE STUDY



Irises, Vincent van Gogh, 1889 · Oil on canvas · J. Paul Getty Museum, Los Angeles

Image: [Wikimedia Commons](#), public domain

Van Gogh painted these irises in the garden of a hospital in southern France where he went to rest. Each flower has its own shape, twisting and turning, and the whole bed is alive with complementary colors.

Look closely

- Find the blue-violet irises. What color is right next to them in the soil? Is it the complement?
- Find the one white iris. Why do you think it stands out so much?
- Look at the leaves. Are they all the same green?
- Find orange flowers in the background. How do they make the blues look?

Talk about it

1. Which part of the painting does your eye go to first? Why?
2. How would this painting look if the soil were blue too?
3. Every iris is different. Why might van Gogh have painted each one so carefully?

STUDIO PROJECT

Fruit That Pops: An Oil Pastel Still Life

You will draw a piece of fruit with oil pastels and place it against a background of its complement, so it seems to jump off the page.

You will need

- Black or white construction paper or cardstock
- Oil pastels
- A paper towel or cotton swab for blending
- Real fruit: an orange, a lemon, a red apple, or purple grapes
- Pencil

Steps

1. Choose your fruit and find its complement on the color wheel: orange → blue, lemon (yellow) → violet, red apple → green, purple grapes → yellow.
2. Lightly draw the fruit large in the middle of the paper, with a table line behind it. Add a leaf or stem.
3. Color the fruit with its main color. Press hard. Use a lighter tint (add white pastel) where the light hits and a slightly darker color on the shadow side.
4. Add a tiny touch of the complement on the shadow side of the fruit and blend it gently. See how it dulls and darkens the color.
5. Color the background with the complement. For an orange, use blues; for a lemon, violets.
6. Color the tabletop with a tint or shade of the complement, or a neutral brown.
7. Add a cast shadow under the fruit, using a darker blend.
8. Step back. Does the fruit pop? If not, make the background color stronger right around the fruit.

Tips

- Oil pastels blend best when you press firmly and layer lighter colors on top.
- Wipe your pastel tips on a paper towel so colors stay clean.

- Keep the bright pure complement in the background next to the edge of the fruit; that is where contrast is strongest.

Check your work

- ☐ My fruit and background are complementary colors.
- ☐ My fruit stands out strongly from the background.
- ☐ I used a little complement to shade the fruit, and the shadow side is darker.

SKETCHBOOK PRACTICE

1. Draw the three main complementary pairs as side-by-side squares and label them.
2. Mix complements with colored pencils by layering one over the other. Write what color you get.
3. Find a book cover, flag, sports logo or package that uses complementary colors and sketch it.

From history. Painters learned a lot about complements from a French chemist named Michel Eugène Chevreul, who worked in a factory that dyed cloth for tapestries in the 1820s. He noticed that colors looked different depending on what colors were next to them, and wrote a famous book about it.

COMMON MISTAKES

- Choosing colors that are near each other instead of across the wheel.
- Mixing complements all over, which turns everything brown. Put them side by side for brightness.
- Coloring lightly so the paper shows through. Press firmly with oil pastels.

Make it a game • Pop Pairs. Make six squares from colored paper: red, green, blue, orange, yellow and purple. Mix them up and place them face down. Flip two at a time and find the complementary pairs. A match scores a point, and you put the pair side by side to see how they pop. Play until all three pairs are found.

UNIT 3

COLOR THEORY

Color is one of God’s great gifts to our eyes. In this unit you will learn how artists think about color and how they mix it. You will paint a full **twelve-color wheel**, learn the difference between a color’s **hue** and its **value**, and discover two kinds of color families that artists use on purpose: **analogous colors**, which sit side by side and feel calm and friendly, and **complementary colors**, which sit across from each other and make each other shout.

Our guides are two painters who loved color: Claude Monet, who painted the same haystacks again and again to catch changing light; and Vincent van Gogh, whose sunflowers glow with yellows and oranges and whose irises dance in blue against orange-gold.

PREREQUISITES

- Knows the primary colors (red, yellow, blue) and secondary colors (orange, green, violet)
- Has used paint and a brush and knows how to rinse between colors
- Knows what value means (light and dark), from Lesson 1.3

MASTERY CHECKLIST

- ☐ I can paint a twelve-color wheel with primary, secondary and tertiary colors in the right order.
- ☐ I can name a tertiary color correctly, with the primary first (for example, red-orange).
- ☐ I can explain the difference between hue and value and mix tints and shades.
- ☐ I can choose an analogous color family and use it in a painting.
- ☐ I can name the complement of any primary or secondary color and use complements to make something stand out.

LESSONS IN THIS UNIT

3.1 The Twelve-Color Wheel

2 sessions of 45 minutes

3.2 Hue and Value: Tints and Shades

2 sessions of 45 minutes

3.3 Analogous Colors

2 sessions of 45 minutes

UNIT 3 REVIEW

Answer each question aloud, in writing, or by pointing to your color wheel. A parent can read the questions aloud. Total: 50 points.

1. (5 pts)

Name the three primary colors.

2. (5 pts)

What two colors make green? What two make violet?

3. (5 pts)

What is a tertiary color? Name two.

4. (5 pts)

What is the difference between hue and value?

5. (5 pts)

How do you mix a tint? How do you mix a shade?

6. (5 pts)

What are analogous colors? Name an analogous family of three colors.

7. (5 pts)

Name the complement of red, of blue and of yellow.

8. (5 pts)

What happens when you put complements side by side? What happens when you mix them?

9. (5 pts)

Why did Monet paint the same stacks of wheat many times?

10. 5 pts

Which color family did van Gogh use for *Sunflowers*, and which complements did he use in *Irises*?

ANSWER KEY

1. Red, yellow and blue.
2. Yellow and blue make green; red and blue make violet.
3. A primary mixed with a neighboring secondary; any two of yellow-orange, red-orange, red-violet, blue-violet, blue-green, yellow-green.
4. Hue is the color's name (red, blue); value is how light or dark it is.
5. A tint is a color plus white; a shade is a color plus black.
6. Colors next to each other on the color wheel; for example, yellow, yellow-orange, orange.
7. Red → green; blue → orange; yellow → violet.
8. Side by side, they make each other look brighter; mixed, they make a dull brown or gray (a neutral).
9. To show how the light, colors and values changed at different times of day and in different seasons.
10. Sunflowers: warm analogous yellows and oranges. Irises: blue-violet flowers against orange-gold earth (and yellow-green leaves).

PORTFOLIO PIECE: A GARDEN IN COLOR

Paint or draw (with oil pastels or tempera) a garden scene with flowers, leaves and sky. Use an analogous color scheme for most of the picture to give it harmony, then add one complementary accent to make the most important flower stand out. Include at least one tint and one shade.

LOOK FOR	WHAT IT MEANS
Analogous harmony	Most of the picture uses one family of neighboring colors.
Complementary accent	One important part uses the complement and clearly stands out.
Values	Tints and shades give the picture clear light and dark areas.
Clean color and care	Colors are clean (not muddy), the page is filled, and the work is careful.

UNIT 4

VALUE, LIGHT AND SHADOW

Light is what lets us see. When light falls on a ball, an egg or a face, some parts are bright and some are in shadow, and that pattern of light and dark tells our eyes the thing is round and solid. In this unit you will learn to see and draw **value**, the lightness or darkness of things, using a five-step value scale.

You will learn the names of the parts of light and shadow (highlight, form shadow and cast shadow), shade a sphere so it looks like you could pick it up, and study Rembrandt, the Dutch master who used light and darkness to tell one of the most moving stories Jesus ever told.

PREREQUISITES

- Can use hatching and cross-hatching (Lesson 1.3)
- Can draw a cube and a cylinder (Lesson 2.1)
- Knows that value means light and dark, and can mix tints and shades (Lesson 3.2)

MASTERY CHECKLIST

- ☐ I can make a smooth five-step value scale with a pencil.
- ☐ I can point to and name the highlight, form shadow and cast shadow on a real object.
- ☐ I can shade a sphere so it looks round, with a light source that makes sense.
- ☐ I can explain how Rembrandt used light and dark to show what matters most in a picture.

LESSONS IN THIS UNIT

4.1 The Five-Step Value Scale

2 sessions of 45 minutes

4.2 Highlight, Form Shadow and Cast Shadow

2 sessions of 45 minutes

4.3 Shading a Sphere

2 sessions of 45 minutes

4.4 Light and Dark in Rembrandt

2 sessions of 45 minutes

UNIT 4 REVIEW

Answer each question aloud, in writing, or by drawing, whichever the question asks. A parent can read the questions aloud. Total: 50 points.

1. 5 pts

What does value mean in art?

2. 5 pts

Draw a five-step value scale from white to black.

3. 5 pts

Why do artists squint?

4. 5 pts

What is a highlight?

5. 5 pts

What is the difference between a form shadow and a cast shadow?

6. 5 pts

If the light comes from the left, which way does the cast shadow fall?

7. 5 pts

What is reflected light, and why must it stay darker than the light side?

8. 5 pts

Shade a sphere with a highlight, core shadow, reflected light and cast shadow.

9. 5 pts

What does chiaroscuro mean?

10. 5 pts

In *The Return of the Prodigal Son*, where did Rembrandt put the brightest light, and why?

ANSWER KEY

1. How light or dark something is.
2. Five boxes in even steps: white, light gray, middle gray, dark gray, black.
3. To blur details and see the big shapes of light and dark (the values).
4. The brightest spot on an object, where light hits it most directly.
5. A form shadow is on the object, on the side turned away from the light; a cast shadow is thrown onto the table or ground beside it.
6. To the right, away from the light.
7. Light bounced back onto the shadow side from a nearby surface; it is weaker than direct light, so it stays part of the shadow.
8. A round ball with a white highlight, smooth gradation, a dark curved core shadow, a slightly lighter edge, and a cast shadow on the side away from the light.
9. “Light-dark”: strong contrast between light and shadow.
10. On the father and the kneeling son, especially the father’s face and hands, because they are the most important part of the story (emphasis on forgiveness and welcome).

PORTFOLIO PIECE: A STILL LIFE IN FIVE VALUES

Arrange three round or simple objects (such as an egg, an orange and a cup) on a table under one lamp. Draw them carefully in pencil, using all five values from your value scale. Show the highlight, form shadow, reflected light and cast shadow on each object, and make a dark background so the lit objects glow, as Zurbarán and Rembrandt did.

LOOK FOR	WHAT IT MEANS
Light source	Highlights and shadows all agree on where the light comes from.
Full value range	The drawing uses all five values, from white highlights to black darks.
Round forms	Objects look solid and round, with smooth shading and reflected light.
Cast shadows	Each object sits on the table with a cast shadow that is darkest where it touches.
Craftsmanship	The shading is clean and careful, and the composition fills the page.

4.1 THE FIVE-STEP VALUE SCALE

OBJECTIVES

- Make a five-step value scale from white to black with a pencil.
- Control pencil pressure and layering to make even tones.
- Squint to see the values in a painting and in real life.

Warm-up. With your softest pencil, draw a long rectangle and fill it with a gradient: start pressing very hard at one end and get lighter and lighter until you barely touch the paper at the other end. Try to make it smooth with no stripes.

WATCH

DRAWING: Value Scale & Shading

That Art Teacher • 2:15

<https://www.youtube.com/watch?v=TH5eHxPZ7qw>

WHEN TO WATCH

Before the project. Watch how pressing lightly or firmly makes each step of the scale, then how the same values shade a sphere.

BACKUP VIDEO

Elements of Art: Value | KQED Arts

Art School • 3:37

<https://www.youtube.com/watch?v=AAwYHNo31ZQ>

Shows how artists use value in famous works. Good to watch after the project.

KEY TERMS

value

How light or dark something is.

value scale

A strip of boxes that shows values in even steps from white to black.

gradation

A smooth, gradual change from light to dark.

squinting

Half-closing your eyes to blur details so you can see the big shapes of light and dark.

CORE IDEAS

Value means light or dark. A white egg in the sun, a gray stone and a black cat have very different values. Artists use value to make flat drawings look solid and to make some parts of a picture stand out.

A **value scale** is like a ladder from white to black. Ours has five steps: **1. white** (the paper), **2. light gray**, **3. middle gray**, **4. dark gray**, and **5. black** (as dark as your pencil can go). The trick is to make each step look like an even jump from the one before.

There are three ways to make a pencil darker: press harder, use a softer pencil (a 4B or 6B is darker than an HB), or add more layers. Layers work best. Shade lightly in one direction, then again in another direction, and keep building. Pressing too hard at the start makes shiny dents that will not take more graphite.

To see values, **squint**. When you half-close your eyes, details disappear and you see only big shapes of light and dark. Artists squint all the time to check whether their values are right.

James McNeill Whistler's painting of his mother is almost all grays, blacks and whites, with very little color. That is why it is perfect for studying value.

PICTURE STUDY



Arrangement in Grey and Black No. 1 (Whistler's Mother), James McNeill Whistler, 1871 · Oil on canvas ·
Musée d'Orsay, Paris

Image: [Wikimedia Commons](#), public domain

James Whistler was an American painter who lived in London. When the model for a painting did not come one day, he asked his mother to sit for him. He called the painting an “arrangement in grey and black” because he cared most about the values.

Look closely

- Find the lightest value in the painting. (Look at her cap and cuffs.)
- Find the darkest value. Where is it?
- Find a middle gray. How many different grays can you count?
- Squint. What big shapes of dark and light do you see?

Talk about it

1. How would you describe Whistler's mother? What makes you think so?
2. Why do you think Whistler used so few colors?
3. Which values on your value scale can you find in this painting?

STUDIO PROJECT

Value Scales and a Gray Portrait of an Object

You will make two careful value scales and then draw a simple object (a mug, a shoe or a piece of fruit) using all five values, like a little arrangement in grey and black.

You will need

- Drawing paper
- Pencils (HB, 2B, 4B, 6B)
- Kneaded eraser
- Ruler
- A tissue or paper stump for blending (optional)
- A simple object and a lamp

Steps

1. Use a ruler to draw a row of five boxes, about 1 inch (2.5 cm) each. Number them 1 to 5.
2. Leave box 1 white. Fill box 5 with your darkest black, using a 6B and many layers.
3. Fill box 3 with a middle gray, halfway between white and black.
4. Fill box 2 with a light gray and box 4 with a dark gray. Squint to check that the steps look even. Adjust.
5. Below it, draw a long rectangle and make a smooth gradation from black to white with no lines between steps.
6. Set your object under a lamp. Draw its outline lightly.
7. Squint at the object. Find areas that match each of your five values and lightly mark them.
8. Shade the object, starting with light layers everywhere except the white areas. Build up the darker values slowly.
9. Add the background in a middle or dark value so the object stands out.

Tips

- Shade in small circles or short, overlapping strokes for smooth tone.
- Keep a scrap paper under your hand so you do not smudge.
- Use the kneaded eraser to lift out light spots.

Check your work

- ☐ My value scale has five even steps from white to black.
- ☐ My gradation is smooth, without stripes.
- ☐ My object drawing uses all five values.

SKETCHBOOK PRACTICE

1. Make a value scale with colored pencil instead of graphite, using one dark color.
2. Squint at a room in your house and draw only the big shapes of light and dark, without details.
3. Make a value scale with hatching (Lesson 1.3) and compare it to your shaded one.

From history. Whistler (1834–1903) was born in Massachusetts and lived most of his life in Europe. He gave his paintings musical names like “arrangement” and “nocturne” because he thought of values and colors like notes in music.

COMMON MISTAKES

- Making the darkest value only dark gray. Push box 5 to a real black with a soft pencil.
- Pressing hard at the start, which makes shiny dents. Build up in layers.
- Jumping too far between steps 1 and 2. Make the light gray very light.

Make it a game • Smooth Steps Challenge. Draw five squares in a row. With a pencil, shade from white to black in smooth, even steps with a two-minute timer. Squint at them: does each step look clearly different from its neighbor? Your parent scores one point per step that is even. Beat your score on a second try with lighter first layers.

4.2 HIGHLIGHT, FORM SHADOW AND CAST SHADOW

OBJECTIVES

- Name and point to the highlight, light side, form shadow and cast shadow on a real object.
- Explain how the direction of light decides where shadows fall.
- Draw simple objects with all the parts of light and shadow.

Warm-up. Darken the room and shine a flashlight on an apple or an orange from the left. Then move the light to the right, and then overhead. Watch the shadow on the table. Which way does it move when the light moves?

WATCH

Learn Lighting and Shading Easy | Simple Lighting Concepts | Art Lessons for Kids

I Love Drawing • 6:25

<https://www.youtube.com/watch?v=bsSveswnQik>

WHEN TO WATCH

After the core ideas. Pause and point to the highlight, form shadow and cast shadow each time the teacher draws one.

BACKUP VIDEO

Cast Shadows

Lam's Art Lessons • 4:13

<https://www.youtube.com/watch?v=ZBTzRcQcoJU>

A short lesson on cast shadows.

KEY TERMS

light source

Where the light comes from, such as the sun, a window or a lamp.

highlight

The brightest spot on an object, where light hits it most directly.

form shadow

The darker side of an object, turned away from the light.

cast shadow

The dark shape an object throws onto the surface next to it.

CORE IDEAS

Every picture of light starts with a question: where is the **light source**? A window, a lamp or the sun shines from one direction, and everything else follows from that. Pick a light source and keep it the same for every object in your drawing.

The **highlight** is the brightest spot, where the light hits the object straight on. Next to it is the **light side**, the part facing the light. As the form turns away from the light, it gets darker, and the side facing away is the **form shadow** (some artists call its darkest band the core shadow).

The **cast shadow** is different: it is not on the object but on the table or ground beside it. It falls on the side opposite the light. It is darkest and sharpest right where the object touches the table, and it gets lighter and softer as it stretches away.

Here is a pattern to remember: light side, highlight, form shadow, cast shadow. Light comes from one side; the shadows go to the other side. If a highlight is on the left, the form shadow and cast shadow will be on the right.

Painters have loved lemons, oranges and cups because their simple round shapes show all the parts of light so clearly. When you can draw these, you can draw anything that light touches.

PICTURE STUDY



Still Life with Lemons, Oranges and a Rose, Francisco de Zurbarán, 1633 · Oil on canvas · Norton Simon Museum, Pasadena, California

Image: [Wikimedia Commons](#), public domain

Francisco de Zurbarán was a Spanish painter who mostly painted saints and monks. This is the only still life he signed and dated. Every object sits in a strong, clear light against a dark background, like a quiet prayer.

Look closely

- Which side is the light coming from? How can you tell?
- Find the highlights on the lemons and on the cup.
- Find the form shadow on the oranges in the basket.
- Find cast shadows on the table. Which way do they fall?

Talk about it

1. Why do you think the painter made the background so dark?
2. The objects are lined up in a row. Does the painting feel calm or busy?
3. Some people think these objects are gifts for Mary, the mother of Jesus. Why might an artist paint ordinary things so carefully?

STUDIO PROJECT

Three Fruits in One Light

You will set up three pieces of fruit under a single lamp and draw them with all four parts of light and shadow, keeping the light consistent across the whole picture.

You will need

- Drawing paper
- Pencils (HB, 2B, 4B)
- Kneaded eraser
- Three pieces of fruit (lemons, oranges, apples or eggs)
- A desk lamp in a darkened room
- A piece of white paper or cloth to set them on

Steps

1. Place the fruit on white paper and shine the lamp from one side and a little above. Turn off other lights.
2. Draw an arrow in the corner of your paper showing where the light comes from.
3. Lightly draw the three fruits. Let one overlap another.
4. Find and draw the outline of each cast shadow on the table. Look carefully at its shape; it is usually an oval stretching away from the light.
5. Shade the whole form shadow side of each fruit with a middle gray.
6. Darken the core of the form shadow and the cast shadows, especially right where each fruit touches the table.
7. Shade the light side with a very light gray, leaving the highlights white.
8. Use your kneaded eraser to clean up and brighten the highlights.
9. Check: do all the highlights face the light? Do all the cast shadows point away from it?

Tips

- The darkest dark is usually a thin line where the fruit meets the table.

- Cast shadows have soft edges farther away; blend them gently.
- Squint often to see the big pattern of light and dark.

Check your work

- ☐ Every fruit has a highlight, light side, form shadow and cast shadow.
- ☐ All highlights and shadows agree on one light source.
- ☐ My cast shadows are darkest where the fruit touches the table.

SKETCHBOOK PRACTICE

1. Draw your shoe under a lamp, labeling the highlight, form shadow and cast shadow.
2. Go outside in the morning and the afternoon. Draw a tree or post and its cast shadow each time.
3. Draw a cup with the light from the left, then again with the light from the right.

From history. Zurbarán (1598–1664) worked in Seville, Spain, during the Spanish Golden Age, the same time as Velázquez. His paintings were sent as far as South America for churches and monasteries.

COMMON MISTAKES

- Putting highlights on different sides of different objects.
- Forgetting the cast shadow, so objects seem to float.
- Drawing a hard dark outline around the whole object instead of letting the shading show the edge.

Make it a game • Point and Name Speed. Place a fruit under a lamp. Your parent calls a term: highlight, light side, form shadow or cast shadow. Touch the right spot with a finger as fast as you can. Do twenty calls. Each correct touch is a point. Speed up as you go. Then move the lamp and explain how the shadows change.

Scripture. “And God said, Let there be light: and there was light.” (Genesis 1:3, KJV)

Light was the first thing God made. Every highlight and shadow we draw depends on the light He created.

4.3 SHADING A SPHERE

OBJECTIVES

- Shade a circle so it becomes a round sphere, with a smooth change from light to dark.
- Include highlight, light side, core shadow, reflected light and cast shadow.
- Use the sphere to shade round objects like eggs, fruit and pots.

Warm-up. Hold a white ball or an egg under a lamp. Slowly turn the lamp around it. Watch the shadow side curve like the night side of the moon. Then draw five circles in your sketchbook, ready for the lesson.

WATCH

How to Draw a 3D Sphere: Shading for Beginners

Circle Line Art School · 4:00

<https://www.youtube.com/watch?v=9r2SIYXQNgI>

WHEN TO WATCH

After the core ideas. Draw a sphere with the video, pausing as each part is added.

BACKUP VIDEO

Shading a Sphere with Colored Pencils

Mrs. Kate Creates · 6:10

<https://www.youtube.com/watch?v=pwBEJZ8u8uo>

Shows the same idea with colored pencils; try it in your sketchbook.

KEY TERMS

sphere

A perfectly round form, like a ball.

core shadow

The darkest band of the form shadow on a round object, where it turns most fully away from the light.

reflected light

Light that bounces back onto the shadow side of an object from the table or wall nearby.

blending

Smoothing tones together so there are no hard lines between them.

CORE IDEAS

A circle is flat. A **sphere** is round like a ball. The only difference on paper is shading. On a sphere, the value changes smoothly, like a sunrise: from bright white, to light gray, to dark, and then a little lighter again at the very edge.

Here are the parts, in order, starting from the light: the **highlight** (a small white spot), the **light side** (light gray), the **core shadow** (the darkest band, curving around the ball like a smile or a crescent moon), then **reflected light** (a slightly lighter edge, made by light bouncing up from the table), and finally the **cast shadow** on the table.

Reflected light is a secret that makes spheres look real. But be careful: reflected light is never as bright as the light side. It is a soft lighter gray inside the shadow, not white.

Shade with curved strokes that follow the roundness of the ball, and build up layers slowly. Blend gently with a tissue if you like, but keep the highlight clean.

Once you can shade a sphere, you can shade eggs, apples, oranges, heads, pots and the moon. Look at how Velázquez painted the eggs, the round pots and the onion in his kitchen scene: they are all spheres in a strong light.

PICTURE STUDY



An Old Woman Cooking Eggs, Diego Velázquez, 1618 · Oil on canvas · Scottish National Gallery, Edinburgh

Image: [Wikimedia Commons](#), public domain

Diego Velázquez painted this when he was only about nineteen years old. He was showing off how well he could paint light falling on round things: eggs, pots, jugs, an onion and a melon.

Look closely

- Find the eggs in the dish. What happens to the whites as they cook?
- Find three round objects. Point to the highlight on each one.
- Find a core shadow and a reflected light on a pot or jug.
- Where is the light coming from? Do all the shadows agree?

Talk about it

1. What do you think the woman and the boy are about to do?
2. Which object looks the most real to you? Why?
3. Why might a young painter choose to paint a simple kitchen instead of a king?

STUDIO PROJECT

Eggs in a Bowl

You will draw two or three eggs and a round bowl from life under a lamp, shading each as a sphere or round form, with highlights, core shadows, reflected light and cast shadows.

You will need

- Drawing paper
- Pencils (HB, 2B, 4B, 6B)
- Kneaded eraser
- Tissue or paper stump
- Two or three eggs (white or brown) and a small round bowl
- A lamp

Steps

1. Practice: shade three spheres in your sketchbook, following the video, with the light from three different directions.
2. Set two eggs in or next to a small bowl on a table, with a lamp shining from one side.
3. Lightly draw the egg shapes and the bowl (the bowl's rim is an ellipse!).
4. Lightly outline the core shadow on each egg: a curved band on the side away from the light.
5. Shade the core shadows first, dark and curved. Then shade the rest of the shadow side, leaving a slightly lighter band at the edge for reflected light.
6. Shade the light side with soft light gray, curving your strokes around the egg. Leave the highlight white.
7. Shade the inside and outside of the bowl the same way.
8. Draw the cast shadows on the table, darkest right under each egg.
9. Blend gently with a tissue. Lift the highlights with the kneaded eraser.

Tips

- Eggs are a little pointed at one end; look carefully at the real shape.

- Do not make the reflected light too bright; it stays inside the shadow family.
- A white egg is not white everywhere. Its shadow side can be fairly dark.

Check your work

- ☐ My eggs look round, not flat.
- ☐ Each egg has a highlight, a core shadow, reflected light and a cast shadow.
- ☐ All the shading agrees on one light source.

SKETCHBOOK PRACTICE

1. Draw the moon at different phases and notice how they look like a lit sphere.
2. Shade a sphere using only hatching and cross-hatching.
3. Turn a shaded sphere into a pearl, an orange, a ball and a cherry.

From history. Velázquez (1599–1660) later became the court painter to King Philip IV of Spain. Even when he painted kings and princesses, he kept the same careful attention to light that he learned painting kitchen scenes like this one.

COMMON MISTAKES

- Shading the dark side to the very edge with no reflected light.
- Making the reflected light as bright as the light side.
- Shading straight back and forth instead of curving around the form.

Make it a game • Five Parts Race. Set a sphere, like an egg or a ball, under a lamp. Shade a circle in three minutes with all five parts: highlight, light side, core shadow, reflected light and cast shadow. Your parent awards a point for each part you included, out of five. Make a second sphere and try to beat your score with smoother blending.

4.4 LIGHT AND DARK IN REMBRANDT

OBJECTIVES

- Describe how Rembrandt used strong light and deep darkness in his paintings.
- Explain how light can show what is most important in a picture.
- Make a drawing on toned paper with dark and light to tell a simple story.

Warm-up. Read (or have someone read to you) the story of the prodigal son in Luke 15:11–24. Close your eyes and picture the moment the father welcomes his son home. Where would you put the brightest light in that picture?

WATCH

Speed Up Your Drawings with Toned Paper

Drawing & Painting - The Virtual Instructor • 2:24

<https://www.youtube.com/watch?v=jgxBufSWer0>

WHEN TO WATCH

Before the studio project, to see why toned paper is so quick for showing light and dark: the paper is the middle value, so you add only darks and lights.

BACKUP VIDEO

How to Draw on Toned Paper

willkempartschool • 8:56

<https://www.youtube.com/watch?v=IIFJ-TZvbKo>

A longer demonstration of a sketch on toned paper, finished with white highlights.

KEY TERMS

chiaroscuro

An Italian word (say “kee-ar-oh-SKOOOR-oh”) meaning “light-dark”: strong contrast between light and shadow in a picture.

contrast

A strong difference, such as bright light next to deep dark.

emphasis

Making one part of an artwork stand out as the most important.

toned paper

Paper that is a middle value (gray, tan or brown) instead of white, so you can draw both darks and lights on it.

CORE IDEAS

Rembrandt van Rijn was a Dutch painter who lived in the 1600s. He is called a master of light. In his paintings, figures glow out of deep darkness, as if lit by a single candle or window. The Italian word for this is **chiaroscuro**, which means “light-dark.”

Rembrandt put his brightest light on the most important part of the story. Your eye goes there first. This is called **emphasis**. Everything less important fades into shadow, so it does not distract.

Strong **contrast** also creates feeling. A bright face in a dark room can feel quiet, serious, holy or tender. Rembrandt was not just showing light; he was showing hearts.

On **toned paper**, you can work like Rembrandt. The paper itself is a middle gray or tan. Use a dark pencil or charcoal for shadows and a white pencil or chalk for the lights. The paper does the work of all the middle values.

Many of Rembrandt’s greatest paintings tell stories from the Bible. Near the end of his life, after much sorrow, he painted the father welcoming home the son who had run away, a picture of God’s forgiveness.

PICTURE STUDY



The Return of the Prodigal Son, Rembrandt van Rijn, about 1668 · Oil on canvas · Hermitage Museum, Saint Petersburg

Image: [Wikimedia Commons](#), public domain

This is one of Rembrandt's last paintings. It shows the moment from Jesus' parable when the son who wasted everything comes home, and his father embraces him. Notice where Rembrandt puts the light.

Look closely

- Find the brightest part of the painting. Whose face and hands are lit?
- Look at the father's hands on his son's back. How do they look different from each other?
- Look at the son's feet and clothes. What do they tell you about his journey?
- Find the people standing in the shadows. Who might the tall man be? (Think of the older brother in the story.)

Talk about it

1. Why do you think Rembrandt put the light on the father and son and left the others in shadow?
2. What feelings do you see in this painting?
3. How does this painting help you understand God's love?

STUDIO PROJECT

A Candlelit Moment on Toned Paper

You will draw a simple scene lit by one strong light, such as a family member reading by a lamp, hands folded in prayer, or a candle on a table with a cup and a book, on toned paper using dark and white pencils.

You will need

- Gray or tan construction paper or toned drawing paper
- A dark pencil (4B or 6B) or a black colored pencil
- A white colored pencil or white chalk
- A lamp in a dim room
- A simple subject: a person reading, praying hands, or a still life with a cup and book

Steps

1. Set up your subject in a dim room with one lamp shining from the side.
2. Squint and decide: what is the most important part? That is where the brightest light should be.
3. Lightly sketch the main shapes with your dark pencil.
4. Shade all the shadow areas with the dark pencil, including the background. Let the darkest areas be really dark.
5. Leave the middle values as the plain toned paper.
6. With the white pencil, add the lights only where the light hits most strongly: the brightest part of the face, the hands, the page of a book.
7. Add the very brightest highlights with firm white strokes on the most important part.
8. Step back and squint. Does your eye go first to the brightest spot? If not, darken the area around it or brighten it more.

Tips

- Do not use white everywhere. Save it for the light; the paper is your middle value.

- A dark background makes the light glow more.
- If you cannot set up a scene, draw your own hand by lamplight.

Check your work

- ☐ My drawing has strong contrast between light and dark.
- ☐ The brightest light is on the most important part.
- ☐ I used the toned paper for middle values, dark pencil for shadows, and white only for lights.

SKETCHBOOK PRACTICE

1. Draw your hand lit by a flashlight in a dark room.
2. Copy the father's two hands from Rembrandt's painting, focusing on light and dark.
3. Draw a lamp or candle and the circle of light it makes on a table.

From history. Rembrandt (1606–1669) lived in Amsterdam during the Dutch Golden Age. He made more than 300 paintings, about 300 etchings and many drawings, including dozens of self-portraits. He returned to the story of the prodigal son several times in his life.

COMMON MISTAKES

- Using white pencil everywhere, so nothing stands out.
- Making the background light, which weakens the glow.
- Spreading light evenly over the whole picture instead of choosing one place for emphasis.

Make it a game • Rembrandt Look and Cover. Study the Rembrandt in your lesson for thirty seconds. Cover it. Answer from memory: where is the brightest part? What stays in darkness? What did the light make you look at first? Your parent counts correct answers, up to five. Look again and check. Chiaroscuro means strong light and deep darkness.

Scripture. “And he arose, and came to his father. But when he was yet a great way off, his father saw him, and had compassion, and ran, and fell on his neck” (Luke 15:20, KJV)
Rembrandt painted the moment after this verse. The light on the father and son shows the welcome God gives to everyone who comes home to Him.

UNIT 4

VALUE, LIGHT AND SHADOW

Light is what lets us see. When light falls on a ball, an egg or a face, some parts are bright and some are in shadow, and that pattern of light and dark tells our eyes the thing is round and solid. In this unit you will learn to see and draw **value**, the lightness or darkness of things, using a five-step value scale.

You will learn the names of the parts of light and shadow (highlight, form shadow and cast shadow), shade a sphere so it looks like you could pick it up, and study Rembrandt, the Dutch master who used light and darkness to tell one of the most moving stories Jesus ever told.

PREREQUISITES

- Can use hatching and cross-hatching (Lesson 1.3)
- Can draw a cube and a cylinder (Lesson 2.1)
- Knows that value means light and dark, and can mix tints and shades (Lesson 3.2)

MASTERY CHECKLIST

- ☐ I can make a smooth five-step value scale with a pencil.
- ☐ I can point to and name the highlight, form shadow and cast shadow on a real object.
- ☐ I can shade a sphere so it looks round, with a light source that makes sense.
- ☐ I can explain how Rembrandt used light and dark to show what matters most in a picture.

LESSONS IN THIS UNIT

4.1 The Five-Step Value Scale

2 sessions of 45 minutes

4.2 Highlight, Form Shadow and Cast Shadow

2 sessions of 45 minutes

4.3 Shading a Sphere

2 sessions of 45 minutes

4.4 Light and Dark in Rembrandt

2 sessions of 45 minutes

UNIT 4 REVIEW

Answer each question aloud, in writing, or by drawing, whichever the question asks. A parent can read the questions aloud. Total: 50 points.

1. 5 pts

What does value mean in art?

2. 5 pts

Draw a five-step value scale from white to black.

3. 5 pts

Why do artists squint?

4. 5 pts

What is a highlight?

5. 5 pts

What is the difference between a form shadow and a cast shadow?

6. 5 pts

If the light comes from the left, which way does the cast shadow fall?

7. 5 pts

What is reflected light, and why must it stay darker than the light side?

8. 5 pts

Shade a sphere with a highlight, core shadow, reflected light and cast shadow.

9. 5 pts

What does chiaroscuro mean?

10. 5 pts

In *The Return of the Prodigal Son*, where did Rembrandt put the brightest light, and why?

ANSWER KEY

1. How light or dark something is.
2. Five boxes in even steps: white, light gray, middle gray, dark gray, black.
3. To blur details and see the big shapes of light and dark (the values).
4. The brightest spot on an object, where light hits it most directly.
5. A form shadow is on the object, on the side turned away from the light; a cast shadow is thrown onto the table or ground beside it.
6. To the right, away from the light.
7. Light bounced back onto the shadow side from a nearby surface; it is weaker than direct light, so it stays part of the shadow.
8. A round ball with a white highlight, smooth gradation, a dark curved core shadow, a slightly lighter edge, and a cast shadow on the side away from the light.
9. “Light-dark”: strong contrast between light and shadow.
10. On the father and the kneeling son, especially the father’s face and hands, because they are the most important part of the story (emphasis on forgiveness and welcome).

PORTFOLIO PIECE: A STILL LIFE IN FIVE VALUES

Arrange three round or simple objects (such as an egg, an orange and a cup) on a table under one lamp. Draw them carefully in pencil, using all five values from your value scale. Show the highlight, form shadow, reflected light and cast shadow on each object, and make a dark background so the lit objects glow, as Zurbarán and Rembrandt did.

LOOK FOR	WHAT IT MEANS
Light source	Highlights and shadows all agree on where the light comes from.
Full value range	The drawing uses all five values, from white highlights to black darks.
Round forms	Objects look solid and round, with smooth shading and reflected light.
Cast shadows	Each object sits on the table with a cast shadow that is darkest where it touches.
Craftsmanship	The shading is clean and careful, and the composition fills the page.

UNIT 5

MATERIAL SCIENCE: WHAT ART IS MADE OF

Every artist is also a bit of a scientist. To use paint, pencils, paper and brushes well, it helps to know what they are made of and why they behave as they do. Why does watercolor flow while tempera stays put? Why is a 6B pencil darker than a 2H? Why does pastel stick to some papers and slide off others? In this unit you will find out.

You will learn that all paint is made of two things, **pigment** and **binder**; that pencils are made of graphite and clay; that paper is a mat of plant fibers with a surface called **tooth**; and that each brush shape makes its own kind of mark. Our picture studies show master artists who knew their materials well: Fra Angelico with his egg tempera and costly blue, young Dürer with a silver stylus, Liotard with pastel on smooth parchment, and Sargent with his flowing brushes.

PREREQUISITES

- Has painted with tempera and watercolor (Units 3 and 4)
- Can make a value scale with a pencil (Lesson 4.1)
- Knows the color wheel and how to mix colors (Lesson 3.1)

MASTERY CHECKLIST

- ☐ I can explain that paint is pigment plus binder and name the binder in watercolor, tempera and oil paint.
- ☐ I can explain what H and B mean on a pencil and choose the right pencil for light lines or dark shading.
- ☐ I can describe paper tooth and choose a paper for pencil, pastel or watercolor.
- ☐ I can name four brush shapes and show the mark each one makes.
- ☐ I can care for my brushes and materials properly.

LESSONS IN THIS UNIT

5.1 Pigment and Binder

2 sessions of 45 minutes

5.2 Graphite Pencils: H and B

2 sessions of 45 minutes

5.3 Paper and Its Tooth

2 sessions of 45 minutes

UNIT 5 REVIEW

Answer each question aloud or in writing. You may use your charts from this unit. A parent can read the questions aloud. Total: 50 points.

1. (5 pts)

Paint is made of two parts. Name them and tell what each does.

2. (5 pts)

What is the binder in watercolor? In egg tempera? In oil paint?

3. (5 pts)

What stone was ground to make the costly blue called ultramarine?

4. (5 pts)

What is pencil “lead” really made of?

5. (5 pts)

Which makes a darker mark, a 2H or a 4B? Why?

6. (5 pts)

Which pencil would you use for a light first sketch, and which for the darkest shadows?

7. (5 pts)

What is the tooth of paper, and which materials need it?

8. (5 pts)

Why is watercolor paper thick and sized?

9. (5 pts)

Name four brush shapes and one mark each makes.

10. (5 pts)

Name two ways to take good care of brushes.

ANSWER KEY

1. Pigment gives the color; binder is the glue that holds the pigment together and sticks it to the surface.
2. Gum arabic; egg yolk; linseed oil.
3. Lapis lazuli.
4. Graphite mixed with clay.
5. A 4B, because B pencils are softer and have more graphite and less clay.
6. A hard pencil like 2H or HB for the sketch; a soft pencil like 4B or 6B for the darkest shadows.
7. The tiny bumps on the paper's surface; dry materials like pencil, charcoal and pastel need it to grab and hold the color.
8. Thick (heavy) paper holds water without wrinkling much; sizing keeps the paint from soaking in and spreading too fast.
9. Round: thin and thick lines or details; flat: wide strokes and crisp edges; filbert: petal and leaf shapes; fan: grass, fur or leaves.
10. Any two: do not leave them standing in water; wash with mild soap and rinse; reshape the tips; lay flat or stand handle-down to dry; do not scrub; keep paint off the ferrule.

PORTFOLIO PIECE: A MIXED-MEDIA NATURE STUDY

Make a nature study of a flower, a leafy branch or a piece of fruit using three materials on the right papers. On drawing paper, make a careful pencil study with hard and soft pencils. On watercolor paper, paint the same subject with the right brushes. On toothy paper, make a small pastel version. Mount all three on one large sheet and label each with the materials, paper and brushes you used.

LOOK FOR	WHAT IT MEANS
Right material, right paper	Each medium is on a paper that suits it (tooth for pastel, heavy sized paper for watercolor).
Pencil control	The pencil study uses hard pencils for sketching and soft pencils for darks, with a full value range.
Brush choice	The painting shows different brush marks chosen for different parts.
Labels and craftsmanship	All three studies are neatly mounted and labeled with materials and paper.

5.1 PIGMENT AND BINDER

OBJECTIVES

- Explain that paint is made of pigment (color) and binder (glue).
- Name the binders in watercolor, tempera and oil paint.
- Make a simple paint by mixing a powdered pigment with a binder.

Warm-up. Rub a piece of chalk on a dark paper, then blow on it. Where does the color go? Now rub a crayon on the paper and try to blow it away. What is different? (The crayon has a “glue”, wax, that holds the color on.)

WATCH

So THAT'S How You Make Paint? Egg Tempera | #MetKids Microscope

The Met • 2:54

<https://www.youtube.com/watch?v=WeugO7rZZqQ>

WHEN TO WATCH

After the core ideas. Learn why egg yolk is such a good binder before you make your own paint.

BACKUP VIDEO

Reconstructing Historical Methods of Making Oil Paint

University of Delaware • 3:03

<https://www.youtube.com/watch?v=Yu70lO1oqXw>

Shows how painters long ago ground pigments by hand to make oil paint.

KEY TERMS

pigment

A fine colored powder that gives paint, crayons and pastels their color.

egg tempera

Paint made with egg yolk as the binder, used by painters before oil paint.

binder

The sticky ingredient that holds pigment together and glues it to the paper.

gum arabic

A natural gum from acacia trees that is the binder in watercolor paint.

CORE IDEAS

Every paint, crayon and pastel is made of two parts. The **pigment** is the color, a very fine powder. Some pigments come from colored earth and rocks, some from minerals, some from plants, and many today are made in laboratories. Pigment alone is just colored dust; blow on it and it flies away.

The **binder** is the glue. It wraps around each tiny grain of pigment and sticks it to the paper or canvas when it dries. Change the binder and you get a different kind of paint, even with the same pigment.

Here are the main binders: **watercolor** uses gum arabic, a gum from acacia trees that dissolves in water, so watercolor can be wetted again even after it dries. **Egg tempera**, used by painters like Fra Angelico, uses egg yolk; it dries quickly and very hard. **Oil paint** uses linseed oil from flax seeds; it dries slowly, so painters can blend for days. **Crayons** use wax. **Pastels** use just a little gum, which is why they are dusty.

Some pigments were very costly. The most precious blue, ultramarine, was made by grinding a blue stone called lapis lazuli that came by long journeys from the mountains of Afghanistan. It cost more than gold! Painters often saved it for the robe of the Virgin Mary.

When you know what paint is made of, you know how to treat it. Watercolor can be lifted with a wet brush; tempera paint (school tempera) gets chalky if put on too thick; oil and acrylic dry into a skin. Good craftsmen know their materials.

PICTURE STUDY



The Annunciation, Fra Angelico, about 1426 · Egg tempera and gold on panel · Museo del Prado, Madrid

Image: [Wikimedia Commons](#), public domain

Fra Angelico was a monk who painted to help people pray. He made this altarpiece with egg tempera and real gold leaf. Look at the brilliant blue in Mary's cloak; it was made from crushed lapis lazuli.

Look closely

- Find the most brilliant blue in the painting. Where is it?
- Find the gold. Where did the painter use real gold?
- Look at the angel's wings. How many colors can you find in them?
- Notice how smooth and clean the colors are. Egg tempera dries quickly, so painters built it up in many thin strokes.
- On the left, find Adam and Eve leaving the garden. Why might the painter put them next to the angel's good news?

Talk about it

1. Why do you think the most costly blue was saved for Mary's cloak?
2. What is the angel saying to Mary? (Read Luke 1:26–38.)
3. If you could make paint from anything in nature, what would you use?

STUDIO PROJECT

Make Your Own Paint

You will make three small batches of paint from colored powders and different binders, test them side by side, and see how the binder changes the paint.

You will need

- Colored powders: powdered tempera paint, finely crushed colored chalk, or spices like turmeric (yellow) and paprika (red)
- Three binders: an egg yolk, a spoonful of white school glue thinned with a little water, and a spoonful of honey or corn syrup mixed with a little water
- Small cups or a muffin tin
- Spoons or craft sticks for mixing
- Brushes and watercolor paper or cardstock
- Paper towels and an apron

Steps

1. With an adult, separate an egg. Pinch the yolk sac and let the yolk drip into a cup, leaving the skin behind. Add a teaspoon of water.
2. Put a small spoonful of powder into three separate cups.
3. In cup 1, mix the powder with a few drops of egg yolk: egg tempera.
4. In cup 2, mix the powder with thinned glue: a glue paint, a little like acrylic.
5. In cup 3, mix the powder with the honey water: a little like watercolor (which uses gum arabic and some honey).
6. Stir each until smooth, like thin cream. Add more binder or powder as needed.
7. Paint a stripe and a small shape with each paint on your paper. Label each one.
8. Let them dry completely. Then test them: rub each with a dry finger, then touch each with a wet brush. Write down what happens.
9. Wash brushes right away, especially after egg and glue.

Tips

- Do not use too much powder: it should be stirred into the binder, not the other way around.
- Spices fade quickly in light; real artist pigments are chosen because they last.
- Wash hands after handling egg yolk. Do not taste any paint.

Check your work

- ☐ I made three paints with the same pigment and three different binders.
- ☐ I tested each paint and wrote how it behaved (does it rub off? does it lift with water?).
- ☐ I can explain which binder made the strongest paint and why.

SKETCHBOOK PRACTICE

1. Read the labels on your paint, crayons and pastels. Can you find the pigment name or binder? Write what you find.
2. Make a color chart of earth colors found outdoors: rub soil, clay, grass and flower petals on paper and label each.
3. Draw the materials table: what binder is in watercolor, tempera, oil paint, crayon and pastel?

From history. In the 1400s, painters often had to buy their own pigments from an apothecary (a shop like a pharmacy). Contracts for altarpieces sometimes said exactly how much gold and ultramarine the painter had to use. Fra Angelico (about 1395–1455) was a Dominican friar whose real name was Guido di Pietro.

COMMON MISTAKES

- Thinking pigment and paint are the same thing. Pigment is only the color; paint needs a binder.
- Using too much powder and too little binder, so the dry paint dusts off.
- Leaving brushes with egg or glue to dry. Wash them at once.

Make it a game • Who Am I? Paint Riddles. Your parent reads a riddle: 'I am made of pigment and egg yolk. Who am I?' You answer egg tempera. Do the same for watercolor with gum arabic and oil paint with linseed oil. Then write three riddles of your own about paint binders. Can you stump your parent? Each correct answer earns a point.

Scripture. “And I have filled him with the spirit of God, in wisdom, and in understanding, and in knowledge, and in all manner of workmanship, To devise cunning works, to work in gold, and in silver, and in brass,” (Exodus 31:3-4, KJV)

God gave Bezalel, the craftsman of the tabernacle, wisdom and knowledge for his work. Knowing your materials well is part of good workmanship.

5.2 GRAPHITE PENCILS: H AND B

OBJECTIVES

- Explain that pencil “lead” is graphite mixed with clay.
- Tell what H and B mean and which pencils make light or dark marks.
- Make a pencil chart and choose pencils on purpose for sketching and shading.

Warm-up. Take every pencil you can find and read the letters and numbers on the side. Draw a short dark line with each, pressing the same amount. Put them in order from lightest to darkest.

WATCH

Drawing Basics: Understanding Pencil Grades

Leanne Bishop · 4:34

<https://www.youtube.com/watch?v=8IM05ZpBueo>

WHEN TO WATCH

After the core ideas. Have your pencils ready and try each one as the video goes.

BACKUP VIDEO

How are pencils made?

Mystery Science · 5:43

<https://www.youtube.com/watch?v=AWp3lwBgeY8>

To see how graphite and clay become the “lead” in a pencil.

KEY TERMS

graphite

A soft, dark gray mineral made of carbon; it is the gray part of a pencil.

B pencil

A soft pencil with more graphite; it makes dark, rich marks. 6B is softer than 2B.

H pencil

A hard pencil with more clay; it makes light, thin lines. 4H is harder than 2H.

silverpoint

An old way of drawing with a sharp silver wire on specially coated paper, used before pencils.

CORE IDEAS

Pencils do not contain lead, even though we call it “pencil lead.” The gray core is **graphite**, a soft mineral made of carbon, the same element found in coal and diamonds. Graphite is made of thin flat layers that slide off easily onto paper, leaving a gray mark.

Pure graphite is very soft and crumbly. Pencil makers grind it into powder, mix it with fine clay and water, squeeze it into thin rods, and bake them in a hot oven. More clay makes a harder, lighter pencil. More graphite makes a softer, darker pencil. Then the rods are glued between two strips of wood (usually cedar).

That is what the letters mean. **H** stands for *hard*: more clay, lighter and thinner lines, a sharp point that lasts. **B** stands for *black*: more graphite, darker and softer marks that smudge easily. **HB** is in the middle; it is the ordinary school pencil (a “No. 2”). The higher the number, the stronger the effect: 6B is much darker than 2B, and 4H is much lighter than 2H.

Artists use different pencils for different jobs. Use 2H or HB for light first sketches and guidelines that are easy to erase. Use 2B and 4B for shading. Use 6B for the darkest darks. Sharpen often, and keep a scrap paper under your hand, because B pencils smudge.

Before graphite pencils were common, artists drew with a pointed piece of silver, called **silverpoint**. It made fine gray lines that could not be erased at all. Young Albrecht Dürer drew his own face in silverpoint when he was only thirteen!

PICTURE STUDY



Self-Portrait at the Age of Thirteen, Albrecht Dürer, 1484 · Silverpoint on prepared paper · Albertina, Vienna

Image: [Wikimedia Commons](#), public domain

Dürer drew this when he was thirteen years old, looking in a mirror. He used silverpoint, which cannot be erased, so every line had to be right the first time. Later he wrote at the top: “I drew this from a mirror in 1484, when I was still a child.”

Look closely

- Find the lightest lines and the darkest lines. How did he make the darks with only a thin silver point?
- Look at the hair. What kind of lines did he use?
- Look for hatching in the shadows of the face and coat.
- Find the pointing hand. Why might he have drawn himself pointing?

Talk about it

1. How old are you? How is this boy like you?
2. Why would drawing without an eraser make an artist more careful?
3. What would you draw if you could only make each line once?

STUDIO PROJECT

A Pencil Chart and a Shell (or Pine Cone) Study

You will test your pencils in a chart, then draw a natural object using three pencils on purpose: a hard pencil for the sketch, a middle pencil for the light shading, and a soft pencil for the darks.

You will need

- Drawing paper
- Pencils: 2H, HB, 2B, 4B and 6B
- Kneaded eraser
- Sharpener
- A seashell, pine cone, walnut or acorn
- Ruler

Steps

1. Make a pencil chart: write the five pencil names in a column. Next to each, draw a line, a small patch of the lightest tone you can make, and a patch of the darkest tone you can make.
2. Compare: which pencil makes the lightest marks? The darkest? Which smudges most when you rub it?
3. Look at your shell or pine cone for one minute. Find its overall shape.
4. With the 2H, lightly sketch the overall shape and the main lines.
5. With the HB, draw the details: ridges, scales or bumps.
6. With the 2B, shade the middle values, following the form.
7. With the 4B and 6B, add the darkest shadows and the cast shadow underneath.
8. Use the kneaded eraser to clean up highlights. Label your drawing with the pencils you used.

Tips

- Hold the H pencil loosely for light lines; press a little more with the B pencils.

- Keep B pencils sharp for details and use the side of the lead for broad shading.
- Work from light to dark: it is easy to add dark, but hard to take it away.

Check your work

- ☐ My chart shows that H pencils are lighter and B pencils are darker.
- ☐ I used a hard pencil to sketch and soft pencils for the darks.
- ☐ My drawing has a full range of values from light to dark.

SKETCHBOOK PRACTICE

1. Draw the same apple three times: once with only 2H, once with only HB, once with only 6B. Which looks best?
2. Try a “silverpoint” drawing: draw a small object with a sharp HB and no eraser.
3. Draw your own eyes in a mirror using three different pencils.

From history. A huge deposit of pure graphite was discovered in Borrowdale, England, in the 1500s, and people began wrapping sticks of it in string or wood to draw with. In 1795 a Frenchman, Nicolas-Jacques Conté, invented the method of mixing graphite with clay, which let pencil makers make pencils of different hardness for the first time.

COMMON MISTAKES

- Using a 6B for the first sketch. Its dark lines are hard to erase.
- Pressing hard with an H pencil to get darks. Switch to a B pencil instead.
- Letting your hand rub across soft pencil work, which smudges the whole page.

Make it a game • Blind Pencil Test. Your parent makes a mark with a secret pencil while you look away. Is it an H or a B? Is it light or dark? Guess the type. One point for each correct. After five tests, reverse roles. H means hard and makes a light mark. B means black and makes a darker mark. Make a chart of your pencils.

5.3 PAPER AND ITS TOOTH

OBJECTIVES

- Explain that paper is made from plant fibers pressed into a sheet.
- Describe tooth, weight and sizing, and how they change the way a material behaves.
- Test several papers with pencil, pastel and watercolor and choose the best match.

Warm-up. Tear a piece of copy paper and a paper towel slowly and look closely at the torn edges with a magnifying glass. What do you see sticking out? (Tiny fibers!)

WATCH

How do they turn wood into paper?

Mystery Science · 4:36

<https://www.youtube.com/watch?v=0VEJCWvfhQg>

WHEN TO WATCH

After the warm-up, before the core ideas.

BACKUP VIDEO

Strathmore Papers - Good, Better, Best

Blick Art Materials · 2:57

<https://www.youtube.com/watch?v=mVf2u9vSehU>

An art store explains the difference between drawing papers.

KEY TERMS

fibers

Tiny threads from wood, cotton or other plants that are tangled and pressed together to make paper.

paper weight

How heavy and thick a paper is; heavier paper is stiffer and holds water better.

tooth

The tiny bumps and roughness on the surface of paper that grab and hold pencil, charcoal or pastel.

sizing

A coating or ingredient added to paper so water and ink do not soak in and spread too fast.

CORE IDEAS

Paper is made from plant **fibers**, tiny threads from wood, cotton or rags. Paper makers mash the fibers in water into a soupy pulp, spread a thin layer on a screen, let the water drain, then press and dry it. The fibers tangle together into a sheet. The best art papers are made from cotton because cotton fibers are long and strong.

Run your fingers over different papers. Some are smooth, some bumpy. That roughness is called **tooth**, because it “bites” the drawing material. Dry materials like pencil, charcoal and pastel need tooth: the tiny bumps scrape off bits of color and hold them. On very smooth paper, pastel slides and will not build up.

Paper **weight** tells how thick it is. Copy paper is thin and wrinkles when wet. Watercolor paper is thick and heavy (140 lb is a good student weight) so it can soak up water without buckling as much.

Sizing is a coating, often made from starch or gelatin, that keeps water from soaking in too fast. Without sizing, paper acts like a paper towel and ink spreads in fuzzy blobs. Watercolor paper has extra sizing so the paint stays where you put it.

Jean-Étienne Liotard drew with pastel on parchment, a very smooth surface made from animal skin. To make the pastel stick, he worked with great skill, rubbing and layering the color. The result is so smooth that you cannot see a single stroke.

PICTURE STUDY



The Chocolate Girl, Jean-Étienne Liotard, about 1744 · Pastel on parchment · Old Masters Picture Gallery, Dresden

Image: [Wikimedia Commons](#), public domain

This picture of a young servant carrying hot chocolate is made entirely of pastel, colored chalk sticks, on smooth parchment. It looks almost like a photograph. People have loved it for nearly three hundred years.

Look closely

- Look at the glass of water on the tray. How did Liotard show that it is clear glass?
- Look at the white apron. Find the folds. Are they pure white or many light grays?
- Find the softest edges and the sharpest edges.
- Look for strokes of pastel. Can you see any? Why not?

Talk about it

1. How careful is the girl being? What tells you?
2. Why might a smooth surface make pastel hard to use?
3. What everyday task in your home would make a good picture?

STUDIO PROJECT

The Paper Test Lab

You will test four or five different papers with three different materials, record what happens in a chart, and then make a small pastel drawing on the paper that worked best for pastel.

You will need

- Four or five papers: copy paper, construction paper, cardstock, watercolor paper, and a brown paper bag or sandpaper
- A soft pencil (4B)
- Chalk pastels or oil pastels
- Watercolor paints, brush and water
- Scissors, glue stick and a large sheet to make the chart
- A magnifying glass

Steps

1. Cut a strip about 2 by 6 inches (5 by 15 cm) from each paper.
2. Feel each strip and look at it with the magnifying glass. Write one word for its tooth: smooth, a little rough, or rough.
3. On each strip, shade a patch with the 4B pencil.
4. Next to it, color a patch with pastel, pressing firmly and adding a second color on top.
5. Next to that, paint a stripe of watercolor and a drop of water. Watch whether it soaks in, spreads, or buckles the paper.
6. Let everything dry. Glue the strips onto the large sheet in a row and write your notes next to each one.
7. Decide: which paper was best for pencil? For pastel? For watercolor?
8. On the paper that was best for pastel, make a small drawing of a cup or a piece of fruit with pastel, layering colors as Liotard did.

Tips

- Chalk pastels are dusty: work over newspaper and do not blow the dust; tap it into the trash.
- If a paper buckles with water, it is too thin or has little sizing.
- Sandpaper has huge tooth and grabs pastel well; try it if you have it!

Check your work

- ☐ I tested at least four papers with pencil, pastel and watercolor.
- ☐ My chart describes the tooth and the results for each paper.
- ☐ I can explain which paper is best for each material and why.

SKETCHBOOK PRACTICE

1. Make a rubbing of the surface of three papers with the side of a crayon and compare the textures.
2. Draw the same leaf on smooth paper and on rough paper. Which do you like better?
3. Find out what your sketchbook paper is made of and how heavy it is (read the cover).

From history. Paper was invented in China about two thousand years ago and came to Europe through Spain in the 1100s. Before that, Europeans wrote and drew on parchment and vellum, made from carefully scraped and stretched animal skins. Liotard (1702–1789) was a Swiss artist who traveled as far as Constantinople and became one of the best pastel artists in Europe.

COMMON MISTAKES

- Using copy paper for watercolor; it wrinkles and tears.
- Pressing too hard on smooth paper with pastel, which fills the tooth so no more color will stick.
- Blowing pastel dust into the air. Tap it off instead.

Make it a game • Paper Prediction Lab. Gather four papers. Before testing, predict which will soak up the most water and which has the most tooth. Test each with one drop of water and a pencil mark. Score a point for each right prediction. Then explain paper weight and why watercolor paper is thicker. Say how paper is made from plant fibers.

5.4 BRUSHES AND THEIR SHAPES

OBJECTIVES

- Name the parts of a brush and four common brush shapes.
- Make the special marks of round, flat, filbert and fan brushes.
- Clean and care for brushes properly.

Warm-up. Lay out every brush you have. Sort them by shape. Touch the bristles gently. Which ones are soft? Which are stiff? Which come to a point?

WATCH

PAINTBRUSHES 101: All about paintbrushes! Acrylic painting tips for beginners.

Jennifer Funnell • 5:34

<https://www.youtube.com/watch?v=3daCD6INXRs>

WHEN TO WATCH

After the core ideas. Learn the main brush shapes (round, flat, filbert, fan) and what each one is good for.

Note: Made for adult beginners using acrylics, but clear; the same brush shapes are used with tempera and watercolor.

BACKUP VIDEO

Painting for Kids: Using Different Brushstrokes

Mrs. Ballow's Messy Desk • 10:31

<https://www.youtube.com/watch?v=ql3m0CKZF3k>

Before the studio project. Try each brushstroke along with the video on scrap paper.

KEY TERMS

bristles

The hairs of a brush, made from animal hair or synthetic (man-made) fibers.

ferrule

The metal band that holds the bristles to the handle.

round brush

A brush with a pointed tip, good for lines, details and small shapes.

flat brush

A brush with a square, flat end, good for wide strokes, filling areas and sharp edges.

filbert brush

A flat brush with a rounded tip, good for soft edges, petals and leaves.

CORE IDEAS

A brush has three parts: the **bristles** that hold the paint, the **ferrule** (the metal band) that holds the bristles, and the **handle**. Soft bristles (like watercolor brushes) make smooth, flowing strokes. Stiff bristles (like oil painting brushes) push thick paint around and leave textured strokes.

Each brush shape makes its own marks. A **round** brush comes to a point; press lightly for a thin line and press down for a thicker stroke. A **flat** brush has a square end; use the wide side for broad strokes and the thin edge for crisp lines. A **filbert** is flat but rounded at the tip; it makes soft petal and leaf shapes. A **fan** brush is spread like a fan; dab it for grass, fur and leaves.

Hold the brush farther back on the handle for loose, free strokes, and closer to the ferrule for small details. Let the brush do the work. Big brushes for big areas, small brushes for small details.

Take care of your brushes and they will last for years. Rinse them in clean water while you work and never leave them standing on their bristles in the water cup (that bends them forever). When finished, wash with mild soap, rinse until the water runs clear, gently reshape the tip, and lay them flat or stand them handle-down to dry.

John Singer Sargent was famous for his brushwork. He could paint a flower, a dress or a glowing lantern with just a few confident strokes, choosing exactly the right brush for each.

PICTURE STUDY



Carnation, Lily, Lily, Rose, John Singer Sargent, 1885–1886 · Oil on canvas · Tate Britain, London

Image: [Wikimedia Commons](#), public domain

Sargent painted two little girls lighting paper lanterns in a garden at twilight. To catch the exact light, he painted outdoors for only a few minutes each evening, for two summers, when the glow was just right.

Look closely

- Find the long, thin strokes in the grass. What brush shape might make them?
- Look at the lily petals. Which brush might make those soft, curved shapes?
- Look at the lanterns. How did Sargent make them seem to glow?
- Find the girls' white dresses. Are they pure white, or many colors?

Talk about it

1. What time of day is it? How can you tell?
2. Why would an artist paint for just a few minutes a day?
3. If you could paint any outdoor moment, which would you choose?

STUDIO PROJECT

A Brushstroke Sampler and Garden

You will make a sampler of brushstrokes with four brush shapes, then use those strokes to paint a small flower garden, choosing the right brush for each part.

You will need

- Watercolor paper or heavy cardstock (two sheets)
- Tempera or watercolor paints
- Brushes: a round, a flat, a filbert and a fan (or as many as you have)
- Water cup, palette and paper towels
- Mild soap for cleaning

Steps

1. Fold your first sheet into four boxes. Label them round, flat, filbert and fan.
2. Round: paint thin lines, then press down for thick strokes. Paint dots, a wavy line and a teardrop.
3. Flat: paint wide strokes, then turn the brush to paint thin lines with the edge. Paint a row of square blocks.
4. Filbert: press and lift to make petal and leaf shapes. Make a five-petal flower.
5. Fan: dab grass, fur and leafy clusters. (If you do not have a fan brush, spread the bristles of an old flat brush.)
6. On your second sheet, paint a flower garden at sunset: use the flat brush for the sky, the fan for grass, the filbert for petals and leaves, and the round for stems and small details.
7. Clean every brush with soap and water. Reshape the tips and lay them flat to dry.

Tips

- Use only a little water with tempera so strokes keep their shape.
- Do not scrub with a brush; it splits the bristles.
- Load the brush by dipping just the bristles, not the ferrule.

Check your work

- ☐ My sampler shows at least three marks for each brush shape.
- ☐ In my garden I chose different brushes for different parts.
- ☐ I cleaned my brushes properly and stored them so the bristles stay straight.

SKETCHBOOK PRACTICE

1. Paint a tree using only a round brush; then a tree using only a flat brush.
Compare.
2. Paint a row of ten strokes with one brush, each a little different by pressure.
3. Draw and label the parts of a brush.

From history. Sargent (1856–1925) was an American born in Florence, Italy. The odd title comes from the words of a popular song of the time. He painted this canvas in the English village of Broadway, using his friends’ daughters as models.

COMMON MISTAKES

- Leaving brushes standing in the water cup, which bends the bristles.
- Using a tiny brush to fill a big sky, which makes streaky, slow work.
- Dipping the brush past the ferrule, so paint dries inside and ruins it.

Make it a game • Brush Mark Call. Lay out a round, flat, filbert and fan brush. Your parent calls out a mark: a thin line, a wide stroke, a soft rounded end or a spread of grass. Pick the right brush and make the mark in ten seconds. One point for each correct. Then touch the bristles and ferrule when your parent names them.

Scripture. “And whatsoever ye do, do it heartily, as to the Lord, and not unto men;” (Colossians 3:23, KJV)

Cleaning brushes is not exciting, but caring for tools well is part of doing our work heartily, as for the Lord.

UNIT 5

MATERIAL SCIENCE: WHAT ART IS MADE OF

Every artist is also a bit of a scientist. To use paint, pencils, paper and brushes well, it helps to know what they are made of and why they behave as they do. Why does watercolor flow while tempera stays put? Why is a 6B pencil darker than a 2H? Why does pastel stick to some papers and slide off others? In this unit you will find out.

You will learn that all paint is made of two things, **pigment** and **binder**; that pencils are made of graphite and clay; that paper is a mat of plant fibers with a surface called **tooth**; and that each brush shape makes its own kind of mark. Our picture studies show master artists who knew their materials well: Fra Angelico with his egg tempera and costly blue, young Dürer with a silver stylus, Liotard with pastel on smooth parchment, and Sargent with his flowing brushes.

PREREQUISITES

- Has painted with tempera and watercolor (Units 3 and 4)
- Can make a value scale with a pencil (Lesson 4.1)
- Knows the color wheel and how to mix colors (Lesson 3.1)

MASTERY CHECKLIST

- ☐ I can explain that paint is pigment plus binder and name the binder in watercolor, tempera and oil paint.
- ☐ I can explain what H and B mean on a pencil and choose the right pencil for light lines or dark shading.
- ☐ I can describe paper tooth and choose a paper for pencil, pastel or watercolor.
- ☐ I can name four brush shapes and show the mark each one makes.
- ☐ I can care for my brushes and materials properly.

LESSONS IN THIS UNIT

5.1 Pigment and Binder

2 sessions of 45 minutes

5.2 Graphite Pencils: H and B

2 sessions of 45 minutes

5.3 Paper and Its Tooth

2 sessions of 45 minutes

UNIT 5 REVIEW

Answer each question aloud or in writing. You may use your charts from this unit. A parent can read the questions aloud. Total: 50 points.

1. **5 pts**

Paint is made of two parts. Name them and tell what each does.

2. **5 pts**

What is the binder in watercolor? In egg tempera? In oil paint?

3. **5 pts**

What stone was ground to make the costly blue called ultramarine?

4. **5 pts**

What is pencil “lead” really made of?

5. **5 pts**

Which makes a darker mark, a 2H or a 4B? Why?

6. **5 pts**

Which pencil would you use for a light first sketch, and which for the darkest shadows?

7. **5 pts**

What is the tooth of paper, and which materials need it?

8. **5 pts**

Why is watercolor paper thick and sized?

9. **5 pts**

Name four brush shapes and one mark each makes.

10. **5 pts**

Name two ways to take good care of brushes.

ANSWER KEY

1. Pigment gives the color; binder is the glue that holds the pigment together and sticks it to the surface.
2. Gum arabic; egg yolk; linseed oil.
3. Lapis lazuli.
4. Graphite mixed with clay.
5. A 4B, because B pencils are softer and have more graphite and less clay.
6. A hard pencil like 2H or HB for the sketch; a soft pencil like 4B or 6B for the darkest shadows.
7. The tiny bumps on the paper's surface; dry materials like pencil, charcoal and pastel need it to grab and hold the color.
8. Thick (heavy) paper holds water without wrinkling much; sizing keeps the paint from soaking in and spreading too fast.
9. Round: thin and thick lines or details; flat: wide strokes and crisp edges; filbert: petal and leaf shapes; fan: grass, fur or leaves.
10. Any two: do not leave them standing in water; wash with mild soap and rinse; reshape the tips; lay flat or stand handle-down to dry; do not scrub; keep paint off the ferrule.

PORTFOLIO PIECE: A MIXED-MEDIA NATURE STUDY

Make a nature study of a flower, a leafy branch or a piece of fruit using three materials on the right papers. On drawing paper, make a careful pencil study with hard and soft pencils. On watercolor paper, paint the same subject with the right brushes. On toothy paper, make a small pastel version. Mount all three on one large sheet and label each with the materials, paper and brushes you used.

LOOK FOR	WHAT IT MEANS
Right material, right paper	Each medium is on a paper that suits it (tooth for pastel, heavy sized paper for watercolor).
Pencil control	The pencil study uses hard pencils for sketching and soft pencils for darks, with a full value range.
Brush choice	The painting shows different brush marks chosen for different parts.
Labels and craftsmanship	All three studies are neatly mounted and labeled with materials and paper.

UNIT 6

TEXTURE AND SCULPTURE

Texture is how something feels, or looks like it would feel: fluffy, rough, smooth, bumpy, prickly, shiny. In a drawing, texture is *implied*: the paper is flat, but clever marks make fur look soft and bark look rough. In sculpture, texture is *real*: you can run your fingers over it.

In this unit you will draw fur and feathers like Dürer, then move into clay. You will learn how potters build with flat **slabs** and join them by scoring and slipping, how sculptors make **relief** pictures that rise out of a flat background like Ghiberti's golden doors, and how simple tools (a fork, a comb, a leaf) can press wonderful textures into clay.

PREREQUISITES

- Can use hatching and value to show form (Units 1 and 4)
- Can draw from observation (Unit 1)
- A space where clay can be used safely (a table covered with a cloth or vinyl, away from carpet)

MASTERY CHECKLIST

- ☐ I can show different textures in a drawing using different kinds of marks.
- ☐ I can roll an even clay slab and join pieces by scoring and slipping.
- ☐ I can explain the difference between relief sculpture and sculpture in the round.
- ☐ I can make a relief with high and low parts.
- ☐ I can use tools and found objects to press texture into clay.

LESSONS IN THIS UNIT

6.1 Implied Texture: Drawing Fur, Feathers and Bark

2 sessions of 45 minutes

6.2 Clay Slabs: Score and Slip

2 sessions of 45 minutes

6.3 Relief Sculpture

2 sessions of 45 minutes

6.4 Texture Tools and a Texture Tile

2 sessions of 45 minutes

UNIT 6 REVIEW

Answer each question aloud, in writing, or by drawing. A parent can read the questions aloud. Total: 50 points.

1. (5 pts)

What is the difference between real texture and implied texture?

2. (5 pts)

Draw small squares showing three textures: fur, bark and stone.

3. (5 pts)

What is a slab?

4. (5 pts)

Name the three steps for joining two pieces of clay.

5. (5 pts)

Why must clay dry slowly?

6. (5 pts)

What is the difference between a relief and a sculpture in the round?

7. (5 pts)

What is the difference between high relief and low relief?

8. (5 pts)

Name four everyday objects that make good texture tools for clay.

9. (5 pts)

What is impasto? Name a painter who used it.

10. (5 pts)

Who made the Gates of Paradise, and what material are they made of?

ANSWER KEY

1. Real texture can be felt with your fingers; implied texture is drawn or painted to look like it would feel a certain way.
2. Fur: short flicked strokes in one direction; bark: long wavy lines with cracks; stone: dots and irregular shapes.
3. A flat sheet of clay rolled to an even thickness.
4. Score, slip, blend (scratch, add slip, press and smooth the seam).
5. If it dries too fast, it shrinks unevenly and cracks or the joins pop apart.
6. A relief rises from a flat background; a sculpture in the round can be seen from every side.
7. High relief stands out far from the background; low relief stands out only a little.
8. Any four, such as a fork, comb, bottle cap, button, shell, leaf, burlap, lace, pencil.
9. Paint put on so thickly the strokes stand up and make real texture; Vincent van Gogh.
10. Lorenzo Ghiberti; gilded (gold-covered) bronze.

PORTFOLIO PIECE: A TEXTURED RELIEF PLAQUE

Make a clay relief plaque (about 6 inches across) of an animal in its home: for example, a rabbit in a meadow, an owl on a branch or a fish among waves. Make the animal in high relief and the background in low relief. Use pressed and carved textures for fur or feathers, grass, bark or water, and score and slip every added piece. Dry it slowly and paint it if you wish.

LOOK FOR	WHAT IT MEANS
Relief levels	The main subject stands out in high relief and the background is in low relief.
Texture	At least three different textures are used on purpose, with a smooth area for contrast.
Clay construction	All joins are scored, slipped and blended; the plaque dried without falling apart.
Craftsmanship	The edges are smooth, the design is clear, and the work shows care.

6.1 IMPLIED TEXTURE: DRAWING FUR, FEATHERS AND BARK

OBJECTIVES

- Explain the difference between real texture and implied texture.
- Use different marks (short strokes, dots, scribbles, curves) to show different textures.
- Draw an animal with convincing fur or feathers.

Warm-up. Collect five things with different textures (a towel, a rock, a pine cone, a feather, a piece of bark). Close your eyes and feel each one. Say one word for how each feels. Then try to draw just a small square of each texture.

WATCH

Learn To Draw Texture! | Jump into Drawing for Kids

Craftsy · 4:56

<https://www.youtube.com/watch?v=7PuXjS43CEk>

WHEN TO WATCH

After the warm-up. Try each texture in your sketchbook along with the video.

BACKUP VIDEO

Element of Art- Texture

Make a Mark Studios · 4:38

<https://www.youtube.com/watch?v=USMLS9eggfo>

A short explanation of texture as an element of art.

KEY TERMS

texture

How something feels, or looks like it would feel if you touched it.

real texture

Texture you can actually feel with your fingers, like the bumps on clay or thick paint.

implied texture

Texture that is drawn or painted to look real, even though the paper is smooth.

mark-making

Using different kinds of lines, dots and strokes on purpose to create effects.

CORE IDEAS

Texture is how something feels: soft, rough, smooth, bumpy, prickly. A drawing is on flat, smooth paper, yet artists can make you *see* fur so soft you want to pet it. That is **implied texture**. When you can really feel bumps with your fingers, as on a clay pot, that is **real texture**.

Every texture needs its own marks. **Fur**: short strokes that follow the direction the hair grows, flicked from the root to the tip, overlapping in layers. **Feathers**: a central line with soft strokes going out from it, layered like shingles. **Bark**: long wavy lines with cracks and dark gaps. **Stone**: dots (stippling) and small irregular shapes.

Smooth things like glass or a shiny apple: very few marks, smooth shading and a crisp highlight.

Texture still needs value. Fur on the shadow side of an animal is darker; on the light side, leave more white paper between strokes. Draw the darks between the clumps of fur, not around every hair.

Do not try to draw every single hair. Look for clumps and the direction they go. A few hundred well-placed strokes look more real than thousands of careless ones.

Dürer's hare is one of the most famous drawings of fur ever made. He used watercolor and gouache with tiny brushes, stroke by stroke, following every turn of the hare's coat.

PICTURE STUDY



Young Hare, Albrecht Dürer, 1502 · Watercolor and gouache on paper · Albertina, Vienna

Image: [Wikimedia Commons](#), public domain

Dürer painted this hare in his workshop, probably from a live animal he kept or one brought to him. He never painted its home or a background; all our attention goes to the fur.

Look closely

- Follow the direction of the fur on the back, the cheek and the legs. Does it all go the same way?
- Find the softest-looking fur and the stiffest whiskers. How are the strokes different?
- Look for the reflection in the hare's eye. Some say it shows a window.
- Find the darkest areas of fur. Where are they?

Talk about it

1. If you could touch this hare, how would it feel? What makes you think so?
2. Why do you think Dürer left out the background?
3. What other animal's texture would be fun to draw?

STUDIO PROJECT

A Furry or Feathered Friend

You will draw an animal with fur or feathers, from a pet or a good photograph, and use careful mark-making to show its texture, plus one or two other textures nearby (grass, wood or stone).

You will need

- Drawing paper
- Pencils (HB, 2B, 4B)
- Kneaded eraser
- A fine black pen (optional)
- A pet, a stuffed animal with fur, or a clear photo of a rabbit, cat, owl or bird

Steps

1. Make a texture chart first: draw six small squares and fill each with a different texture: fur, feathers, bark, stone, grass and something smooth.
2. Lightly draw your animal with simple shapes in proportion (remember Lesson 2.4).
3. Lightly mark arrows on the body showing which way the fur or feathers grow.
4. Start with the darkest areas: under the chin, behind the legs, inside the ears. Use short, dark strokes following your arrows.
5. Move to the middle areas. Use lighter strokes, with a little paper showing between them.
6. On the light side, use just a few strokes and leave most of it white.
7. Add the eyes last, dark and shiny with a small white highlight.
8. Draw a little ground beneath your animal with a different texture (grass, a wooden floor or stones) and a cast shadow.

Tips

- Flick your strokes: press at the start and lift at the end, so each hair tapers.

- Work in layers. A first layer of short strokes, then a second layer of darker strokes in the shadows.
- Use the kneaded eraser pressed to a point to lift a few light hairs or whiskers.

Check your work

- ☐ My fur or feathers follow the direction they grow.
- ☐ My animal has darker and lighter areas, not the same texture everywhere.
- ☐ I showed at least two different textures in my drawing.

SKETCHBOOK PRACTICE

1. Make texture rubbings of five surfaces, then try to draw each texture next to its rubbing.
2. Draw a feather from life, as large as you can.
3. Draw a tree trunk outdoors, focusing on the bark's texture.

From history. Dürer's *Young Hare* is so delicate that the museum shows it only for a few months every several years; the rest of the time it rests in the dark so its colors do not fade. A copy is shown in its place.

COMMON MISTAKES

- Outlining the animal with a hard line, which makes fur look like a cookie cutter. Let fur strokes make the edge.
- Drawing all strokes in one direction. Follow how the fur grows around the body.
- Making the texture the same darkness everywhere. Use value too.

Make it a game • Texture Match. Bring back five real textures: bark, fur, a feather, a rough stone, a smooth spoon. In five seconds each, copy each texture on paper with pencil marks only. Your parent mixes the drawings and objects, and you match them. One point for each match. The marks show implied texture. Which was the hardest?

6.2 CLAY SLABS: SCORE AND SLIP

OBJECTIVES

- Explain what clay is and why it must dry slowly.
- Roll an even slab and cut shapes from it.
- Join clay pieces securely by scoring, slipping and blending.

Warm-up. Take a ball of clay the size of a plum. Squeeze it, pinch it, roll it into a snake, and flatten it with your palm. How does it feel? Does it change as it warms in your hands or starts to dry?

WATCH

Basics of Ceramic Handbuilding: Pinchpot, Coiling & Slab Building

Clay Corner Studio • 8:41

<https://www.youtube.com/watch?v=HgKodil2MMc>

WHEN TO WATCH

After the core ideas. Watch the slab section closely; pause on scoring and slipping.

BACKUP VIDEO

Slip, Score, and Blend (Basic Clay Techniques)

Lisa's Art and Makerspace • 1:48

https://www.youtube.com/watch?v=kdtM_G90rhA

A short, clear look at slip, score and blend.

KEY TERMS

slab

A flat sheet of clay rolled to an even thickness, like cookie dough.

slip

Clay mixed with water into a thick, muddy paste, used as glue between scored pieces.

score

To scratch crisscross lines into clay where two pieces will be joined.

leather-hard

Clay that has dried enough to be firm, like a leather shoe, but is still slightly damp.

CORE IDEAS

Clay is earth: tiny, flat mineral particles that formed over a long time from weathered rock. When mixed with water, the flat particles slide over each other, so clay can be squeezed into any shape. When the water dries out, the particles lock together and the clay gets hard. Potters fire clay in a kiln to make it as hard as stone; air-dry clay has glue added so it hardens without firing.

A **slab** is a flat sheet of clay. To make one, flatten a ball with your palm, then roll it with a rolling pin, turning it over and around as you roll, until it is about as thick as your finger (about 1/4 inch or 6 mm). Two paint stirrers or rulers on either side of the clay make a guide for even thickness.

Clay pieces will not stick just by pushing them together; when they dry, they shrink and pop apart. So potters always use three steps: **score**, **slip**, **blend**. Scratch crisscross lines on both edges to be joined. Brush on slip (clay mixed with water into a paste). Press the pieces together, then smooth the seam with your finger or a tool so the two pieces become one.

Clay must dry **slowly**. If it dries fast, the outside shrinks before the inside, and it cracks. Cover your work loosely with a plastic bag for the first day, then let it dry in the open for several days, away from heaters and direct sun. Thin parts dry faster than thick parts, so keep thicknesses even.

Luca della Robbia, a sculptor in Florence, discovered how to cover clay sculptures with shining glazes that last for centuries, even outdoors. His nephew Andrea carried on the family workshop. Their white, blue, green and yellow clay plaques still decorate churches and buildings all over Italy.

PICTURE STUDY



Emblem of the Wool Guild, Andrea della Robbia, late 1400s · Glazed terracotta (fired clay) · Museo dell'Opera del Duomo, Florence

Image: [Wikimedia Commons](#), public domain

This round plaque was made of clay, then covered with shining glazes, which are a kind of melted glass. It was the emblem of the wool makers of Florence, so it shows a lamb. The lamb also stands for Jesus, the Lamb of God (John 1:29). Because it is fired clay and glass, its colors are as bright today as five hundred years ago.

Look closely

- Find the lamb's wool. How did the sculptor make it look thick and curly?
- Look at the wreath. How many kinds of fruit and leaves can you find? Which parts stick out the farthest?
- Find the smooth areas and the bumpy areas. Why might the artist put them side by side?
- Notice the main colors: white, blue, green and yellow. Why do you think the lamb is white against blue?

Talk about it

1. This was made from the same material as a flowerpot. Does that surprise you?
2. Why would glazed clay last longer outdoors than a painting?

3. If you made a clay emblem for your family, what would you put on it?

STUDIO PROJECT

A Slab Tray with a Rim

You will roll a clay slab, cut a shape for a small tray, and build up its sides with a strip of clay joined by scoring and slipping. It can hold paper clips, buttons or treasures.

You will need

- Air-dry clay (about a fist-sized ball)
- Rolling pin or smooth jar
- Two paint stirrers or rulers as thickness guides
- A plastic knife or craft stick
- A fork or toothpick for scoring
- A small cup of water and an old brush for slip
- A paper template (a square, circle or leaf shape about 4–5 inches across)
- A vinyl placemat, cloth or wax paper to work on
- A plastic bag for slow drying

Steps

1. Cover your table. Keep clay off carpets and wash hands after working.
2. Make slip: put a small lump of clay in a cup with a little water and stir with the brush into a thick paste.
3. Roll a slab between the two guides until it is even, about 1/4 inch thick. Turn it a few times as you roll.
4. Lay your paper template on the slab and cut around it with the plastic knife. This is the base.
5. Roll a second slab and cut a strip about 1 inch tall and long enough to go around the base.
6. Score the top edge of the base all the way around and the bottom edge of the strip.
7. Brush slip onto both scored edges.

8. Stand the strip on the base edge and press it gently into place, joining the ends of the strip with score and slip too.
9. Blend the seams inside and outside with your finger or a craft stick until you cannot see them. Roll a thin coil and press it into the inside seam for extra strength.
10. Smooth any rough edges with a damp finger. Cover loosely with a plastic bag for a day, then let it dry slowly for several days.

Tips

- Keep your clay damp but not sticky. If it cracks while you work, dab a little water on it.
- If the strip is floppy, let it firm up for 10 minutes before standing it up.
- Paint your tray with tempera or acrylic when it is completely dry.

Check your work

- ☐ My slab is about the same thickness all over.
- ☐ I scored and slipped every join, and the seams are blended smooth.
- ☐ My tray dried slowly without cracking apart at the joins.

SKETCHBOOK PRACTICE

1. Draw your clay tray from three angles and label the parts where you scored and slipped.
2. Draw a cup, a flowerpot and a vase, and next to each write whether you think it was made from slabs, coils or on a wheel.
3. Draw the three steps of joining clay as a comic strip.

From history. Luca della Robbia (1400–1482) kept his glaze recipe a family secret. His nephew Andrea della Robbia (1435–1525) and Andrea’s sons carried on the workshop for nearly a hundred years. Florence’s guilds, like the wool makers, ordered glazed emblems from them to show on their buildings.

COMMON MISTAKES

- Pressing pieces together without scoring and slipping, so they fall apart when dry.
- Rolling the slab too thin in some places, so it cracks.
- Drying clay near a heater or in hot sun, which makes it crack.

Make it a game • Slab Steps in Order. Write the slab tray steps on strips of paper: roll an even slab, cut shapes, score, add slip, join, let it become leather-hard. Mix them up and race to arrange them in order. Your parent times you. Then teach each step aloud. If you get stuck, say why clay must dry slowly.

Scripture. “And the vessel that he made of clay was marred in the hand of the potter: so he made it again another vessel, as seemed good to the potter to make it.” (Jeremiah 18:4, KJV)

When a pot goes wrong, a potter does not throw the clay away; he reshapes it. God, the Potter, patiently shapes us too.

6.3 RELIEF SCULPTURE

OBJECTIVES

- Explain the difference between relief sculpture and sculpture in the round.
- Tell the difference between low relief and high relief.
- Make a clay relief tile with raised and carved parts.

Warm-up. Look at a coin with a magnifying glass. Feel it with your fingertip. The picture rises out of the flat metal. Then draw the coin large in your sketchbook, shading the raised parts on one side.

WATCH

Kylee Makes Relief Sculptures | Clay Activity for Kids | Easy 3D Art Project with Toys and Flowers

Kylee Makes It - Art Videos for Kids · 11:47

<https://www.youtube.com/watch?v=V6HhZrbYVzU>

WHEN TO WATCH

Watch before the studio project and pause after each step.

BACKUP VIDEO

Creating a Clay Relief Tile

Marianne Galyk · 15:15

<https://www.youtube.com/watch?v=NMrTzuubV5E>

A teacher makes a clay relief tile step by step. Watch the first part if time is short.

KEY TERMS

relief

A sculpture in which shapes rise out of a flat background, like the picture on a coin.

low relief

A relief whose shapes stand out only a little from the background (also called bas-relief).

sculpture in the round

A sculpture you can walk all the way around and see from every side.

high relief

A relief whose shapes stand out far from the background, sometimes almost free.

additive and subtractive

Adding clay to build up shapes, or carving clay away to cut down into the surface.

CORE IDEAS

Some sculptures stand free, and you can walk all the way around them. These are **sculptures in the round**. Others are attached to a flat background, like a picture that rises up out of a wall or a coin. These are **reliefs**.

In **low relief**, the shapes stand out just a little from the background, like the face on a coin. In **high relief**, the shapes stand out far, and some parts may be almost free of the background. Many reliefs mix both: the closest figures are high, and the faraway buildings are low.

You can make a relief two ways. In the **additive** way, you add pieces of clay on top of a slab (scored and slipped!) and shape them. In the **subtractive** way, you carve or press into the slab to cut away clay. Most relief artists do both.

Light makes a relief come alive. The raised parts catch light on one side and cast small shadows on the other. Deep carved lines make dark shadows; gentle slopes make soft shadows. So a relief is a drawing made with light and shadow.

Lorenzo Ghiberti spent twenty-seven years making bronze doors for the baptistery in Florence. The panels tell Old Testament stories in relief, with people in front in high relief and buildings and hills behind in low relief. Michelangelo said they were fit to be the gates of Paradise.

PICTURE STUDY



The Story of Joseph, from the Gates of Paradise, Lorenzo Ghiberti, 1425–1452 · Gilded bronze relief · Museo dell’Opera del Duomo, Florence (copies on the Baptistery doors)

Image: [Wikimedia Commons](#), public domain

This golden panel shows the story of Joseph and his brothers from Genesis: the brothers come to Egypt to buy grain, and a silver cup is found in Benjamin’s sack. Ghiberti fit several moments of the story into one square of bronze.

Look closely

- Find the figures that stand out the most. Are they in front or in back?
- Find the round building. Is it in high relief or low relief?
- Look for sacks of grain and a donkey among the crowd.
- Notice how the background gets flatter and lower as it goes back. How does that help it look far away?

Talk about it

1. What part of the story of Joseph can you find here? (Read Genesis 44.)
2. Why do you think Ghiberti covered the bronze with gold?
3. How is a relief like a drawing, and how is it different?

STUDIO PROJECT

A Relief Tile of a Story or Scene

You will make a clay tile with a simple scene in relief, such as a tree and a house, an animal in a field, or a Bible scene like Noah's ark, using both additive and subtractive techniques.

You will need

- Air-dry clay
- Rolling pin and thickness guides
- Plastic knife, toothpicks, a pencil and a paper clip as tools
- Fork and slip for scoring and slipping
- A paper square 5×5 inches as a template
- A small sketch of your scene

Steps

1. Sketch your scene on paper the size of your tile. Keep it simple: one main subject in front and one or two things behind.
2. Roll a slab about 1/2 inch (1 cm) thick and cut a 5-inch square for the tile.
3. Lay your sketch on the tile and trace over the main lines with a pencil, pressing gently to transfer them.
4. Additive: roll and shape clay for the main subject in front. Score and slip the back, press it onto the tile and blend the edges. Build it up so it is the highest part.
5. Add smaller, flatter pieces for things in the background, so they stand out only a little (low relief).
6. Subtractive: carve lines and details with a toothpick or paper clip: windows, leaves, waves, eyes.
7. Add a simple border by pressing a pencil along the edges, or by adding a thin coil.
8. Hold your tile under a lamp from the side. Do the shadows show your shapes clearly? Deepen any lines that are too faint.

9. Poke two small holes at the top if you want to hang it. Dry slowly under a loose plastic bag.

Tips

- Make the front subject the highest part and the background the lowest.
- If added pieces are thicker than about 1/2 inch, hollow them a little from the back so they dry without cracking.
- Keep a damp cloth over parts you are not working on.

Check your work

- ☐ My tile has some parts in high relief and some in low relief.
- ☐ I used both adding clay and carving into clay.
- ☐ All added pieces are scored, slipped and blended so they stay on.

SKETCHBOOK PRACTICE

1. Draw a coin large, shading it so the picture looks raised.
2. Find a relief on a building, church door, monument or picture frame and sketch it. (Ask an adult to help you look online or in a book.)
3. Draw the same scene twice: once as a flat drawing, once as you would carve it in relief, marking high and low parts.

From history. In 1401 the city of Florence held a contest to choose who would make new bronze doors for its baptistery. Young Lorenzo Ghiberti won over Brunelleschi. After finishing those doors, he was asked to make a second set: the Gates of Paradise. The originals are now kept indoors in a museum, and copies hang on the baptistery.

COMMON MISTAKES

- Making everything the same height. Front things should be higher than back things.
- Adding clay pieces without scoring and slipping.
- Carving lines too shallow to catch any shadow.

Make it a game • Relief or Round?. Close your eyes while your parent gives you an item: a coin, a medal, a toy figure, a decorated plate. Feel it. Is it relief (stuck to a background) or sculpture in the round? If it is relief, is it low or high? One point for each right answer. Then make a relief tile of your own.

6.4 TEXTURE TOOLS AND A TEXTURE TILE

OBJECTIVES

- Make and use simple texture tools to press patterns into clay.
- Plan a design that uses several different textures on purpose.
- Compare real texture in clay with the brush texture in a painting.

Warm-up. Gather ten small objects from around the house (a fork, a button, a bottle cap, a comb, a shell, a leaf, a pencil eraser, a bolt, burlap, a lace doily). Press each into a flat piece of clay or play dough and guess which object made each print.

WATCH

How to Make Textured Tiles | Easy Clay Tutorial

That Art Teacher • 9:58

<https://www.youtube.com/watch?v=o2ammJpSiaY>

WHEN TO WATCH

Watch before the studio project and pause after each step. Notice the different tools used to press texture into the clay.

BACKUP VIDEO

Decorating techniques in clay: impressions

Jessalyn Canavan • 2:55

<https://www.youtube.com/watch?v=KSru9kTkfR4>

Shows how to decorate clay with impressions from everyday objects.

KEY TERMS

impression

A mark made by pressing an object into a soft surface like clay.

stamp

A tool with a raised design that is pressed into clay to repeat the same mark.

impasto

Paint put on so thickly that the brushstrokes stand up from the canvas and make real texture.

pattern

A design made by repeating shapes, lines or textures.

CORE IDEAS

Soft clay remembers whatever touches it. Press in a fork, and you get rows of lines. Press a leaf, and every vein appears. These marks are called **impressions**, and they make **real texture** you can feel.

You can find texture tools everywhere: forks, combs, bottle caps, buttons, shells, burlap, lace, pine cones, bolts, pencil ends, and leaves. You can also make your own **stamp**: roll a small cylinder of clay, carve a simple design into one end, let it dry hard, and press it again and again.

Plan your textures on purpose. A design with five textures that are all equally busy looks messy. Choose one main texture for the background (quiet and repeated), and stronger, deeper textures for the main shapes. Contrast smooth areas against textured ones so each shows up.

Repeating a texture makes a **pattern**. Pressing a bottle cap in neat rows makes a pattern; pressing it randomly makes a texture field. Both can be beautiful.

Painters can make real texture too. Vincent van Gogh often laid paint on so thickly that his strokes stand up from the canvas like ridges in clay. This is called **impasto**. In his wheat field, the paint itself swirls like the wind.

PICTURE STUDY



Wheat Field with Cypresses, Vincent van Gogh, 1889 · Oil on canvas · Metropolitan Museum of Art, New York

Image: [Wikimedia Commons](#), public domain

Van Gogh painted this wheat field in summer in southern France. He used thick, curving strokes so you can almost feel the wind moving the wheat, the clouds and the trees.

Look closely

- Find three different kinds of brushstrokes: in the wheat, the cypresses and the clouds.
- Which part of the painting looks thickest and bumpiest?
- Follow the curves in the sky with your finger. Where do they lead your eye?
- Find the calmest, smoothest part of the painting.

Talk about it

1. If you could touch this painting (please never touch a real one!), how would the clouds feel?
2. How do the brushstrokes make the painting feel windy?
3. What tool could you use to make wheat-like texture in clay?

STUDIO PROJECT

A Nature Texture Tile

You will make a texture tool and a clay tile with a nature design, such as a tree, a wheat field or a sun, using at least four different textures, so the textures help tell what each part is.

You will need

- Air-dry clay
- Rolling pin and thickness guides
- Plastic knife
- Texture tools: fork, comb, bottle caps, buttons, burlap or lace, a leaf, a pencil
- A small extra piece of clay to make a stamp
- Toothpick for carving

Steps

1. Make a stamp: roll a thumb-sized cylinder of clay, flatten one end, and carve a simple design (a star, a cross, a spiral, an initial) into it with a toothpick. Let it firm up while you work.
2. Sketch a simple nature design on paper the size of your tile: for example, a tree on a hill under a sun.
3. Roll a slab about 1/2 inch thick and cut a square or circle.
4. Lightly draw your design into the clay with a toothpick.
5. Choose a texture for each part: fork lines for wheat or grass, a comb dragged in curves for wind or water, a leaf pressed for foliage, bottle caps or buttons for the sun, burlap for the ground.
6. Press the textures in, one area at a time. Keep one area smooth for contrast (like the sky or the tree trunk).
7. Use your stamp to make a repeated pattern around the border.
8. Smooth the edges with a damp finger and dry slowly under a loose plastic bag.

9. When dry, you can paint the tile, then gently wipe some paint off the high parts so the textures show.

Tips

- Test each tool on a scrap of clay first.
- Press straight down and lift straight up for clean impressions.
- If you make a mistake, smooth it with a damp finger and press again.

Check your work

- ☐ My tile uses at least four different textures.
- ☐ Each texture helps show what that part is (grass, sky, leaves).
- ☐ I made and used my own stamp, and I left at least one smooth area for contrast.

SKETCHBOOK PRACTICE

1. Make a chart of ten found objects and draw the impression each made.
2. Draw a small part of van Gogh's wheat field using only short curving lines to show its brushstrokes.
3. Design three stamps you could carve: a simple shape, a letter and a nature symbol.

From history. Potters have pressed textures into clay since the most ancient times; some of the oldest pots in the world are decorated with impressions of cords and shells. Van Gogh (1853–1890) painted *Wheat Field with Cypresses* three times; this version is in New York, and another is in London.

COMMON MISTAKES

- Using every texture everywhere, which makes the design messy.
- Pressing too lightly, so impressions are faint.
- Forgetting a smooth area for contrast.

Make it a game • Impression Detective. Press found objects, like a button, fork, leaf or shell, into clay or dough, making five impressions while your parent looks away. Your parent studies the marks and guesses which object made each. One point for each correct. Swap. Then plan a texture tile with at least three textures on purpose.

UNIT 6

TEXTURE AND SCULPTURE

Texture is how something feels, or looks like it would feel: fluffy, rough, smooth, bumpy, prickly, shiny. In a drawing, texture is *implied*: the paper is flat, but clever marks make fur look soft and bark look rough. In sculpture, texture is *real*: you can run your fingers over it.

In this unit you will draw fur and feathers like Dürer, then move into clay. You will learn how potters build with flat **slabs** and join them by scoring and slipping, how sculptors make **relief** pictures that rise out of a flat background like Ghiberti's golden doors, and how simple tools (a fork, a comb, a leaf) can press wonderful textures into clay.

PREREQUISITES

- Can use hatching and value to show form (Units 1 and 4)
- Can draw from observation (Unit 1)
- A space where clay can be used safely (a table covered with a cloth or vinyl, away from carpet)

MASTERY CHECKLIST

- ☐ I can show different textures in a drawing using different kinds of marks.
- ☐ I can roll an even clay slab and join pieces by scoring and slipping.
- ☐ I can explain the difference between relief sculpture and sculpture in the round.
- ☐ I can make a relief with high and low parts.
- ☐ I can use tools and found objects to press texture into clay.

LESSONS IN THIS UNIT

6.1 Implied Texture: Drawing Fur, Feathers and Bark

2 sessions of 45 minutes

6.2 Clay Slabs: Score and Slip

2 sessions of 45 minutes

6.3 Relief Sculpture

2 sessions of 45 minutes

6.4 Texture Tools and a Texture Tile

2 sessions of 45 minutes

UNIT 6 REVIEW

Answer each question aloud, in writing, or by drawing. A parent can read the questions aloud. Total: 50 points.

1. (5 pts)

What is the difference between real texture and implied texture?

2. (5 pts)

Draw small squares showing three textures: fur, bark and stone.

3. (5 pts)

What is a slab?

4. (5 pts)

Name the three steps for joining two pieces of clay.

5. (5 pts)

Why must clay dry slowly?

6. (5 pts)

What is the difference between a relief and a sculpture in the round?

7. (5 pts)

What is the difference between high relief and low relief?

8. (5 pts)

Name four everyday objects that make good texture tools for clay.

9. (5 pts)

What is impasto? Name a painter who used it.

10. (5 pts)

Who made the Gates of Paradise, and what material are they made of?

ANSWER KEY

1. Real texture can be felt with your fingers; implied texture is drawn or painted to look like it would feel a certain way.
2. Fur: short flicked strokes in one direction; bark: long wavy lines with cracks; stone: dots and irregular shapes.
3. A flat sheet of clay rolled to an even thickness.
4. Score, slip, blend (scratch, add slip, press and smooth the seam).
5. If it dries too fast, it shrinks unevenly and cracks or the joins pop apart.
6. A relief rises from a flat background; a sculpture in the round can be seen from every side.
7. High relief stands out far from the background; low relief stands out only a little.
8. Any four, such as a fork, comb, bottle cap, button, shell, leaf, burlap, lace, pencil.
9. Paint put on so thickly the strokes stand up and make real texture; Vincent van Gogh.
10. Lorenzo Ghiberti; gilded (gold-covered) bronze.

PORTFOLIO PIECE: A TEXTURED RELIEF PLAQUE

Make a clay relief plaque (about 6 inches across) of an animal in its home: for example, a rabbit in a meadow, an owl on a branch or a fish among waves. Make the animal in high relief and the background in low relief. Use pressed and carved textures for fur or feathers, grass, bark or water, and score and slip every added piece. Dry it slowly and paint it if you wish.

LOOK FOR	WHAT IT MEANS
Relief levels	The main subject stands out in high relief and the background is in low relief.
Texture	At least three different textures are used on purpose, with a smooth area for contrast.
Clay construction	All joins are scored, slipped and blended; the plaque dried without falling apart.
Craftsmanship	The edges are smooth, the design is clear, and the work shows care.

UNIT 7

SPACE AND PERSPECTIVE

Your paper is flat, but the world is deep. Mountains stand miles away; a road stretches to the edge of sight. How can a painter make a flat picture look as if you could walk into it? In this unit you will learn the tricks artists use to show **space**: overlapping, size, placement and detail; the soft blue haze of **atmospheric perspective**; the **horizon line** at your eye level; and the clever, mathematical trick of **one-point perspective**, where every line runs to a single point.

Our picture studies take us into Bruegel's snowy village, Bierstadt's glowing mountains, Homer's windy sea, and Hobbema's famous avenue of trees, one of the clearest one-point perspective paintings ever made.

PREREQUISITES

- Can draw from observation and with simple shapes (Units 1 and 2)
- Can mix tints and use cool colors (Unit 3)
- Can use value to show light and dark (Unit 4)

MASTERY CHECKLIST

- ☐ I can name four ways to show space: overlap, size, placement and detail.
- ☐ I can paint a landscape with atmospheric perspective, making far things paler, bluer and less detailed.
- ☐ I can explain that the horizon line is at my eye level and place it on purpose.
- ☐ I can draw a one-point perspective road with a vanishing point.
- ☐ I can point out foreground, middle ground and background in a painting.

LESSONS IN THIS UNIT

7.1 Overlap, Size, Placement and Detail

2 sessions of 45 minutes

7.2 Atmospheric Perspective

2 sessions of 45 minutes

7.3 The Horizon Line

2 sessions of 45 minutes

UNIT 7 REVIEW

Answer each question aloud, in writing, or by drawing. A parent can read the questions aloud. Total: 50 points.

1. (5 pts)

Name four ways to show space in a picture.

2. (5 pts)

What are the foreground, middle ground and background?

3. (5 pts)

Where on the page do faraway things on flat ground usually go: higher or lower?

4. (5 pts)

Name three ways faraway things change because of atmospheric perspective.

5. (5 pts)

Why do faraway mountains look blue and pale?

6. (5 pts)

Where is the horizon line in a picture?

7. (5 pts)

What feeling does a low horizon give a picture?

8. (5 pts)

What is a vanishing point?

9. (5 pts)

Draw a road in one-point perspective with three trees on one side.

10. (5 pts)

Name a painting from this unit that shows one-point perspective, and its painter.

ANSWER KEY

1. Overlap, size, placement and detail.
2. The closest part, the in-between part, and the farthest part of a picture.
3. Higher, closer to the horizon.
4. Any three: lighter/paler, bluer/cooler, softer/less sharp, less detail, less contrast.
5. Because we see them through lots of air full of tiny bits of water and dust.
6. At the viewer's eye level.
7. A big sky; the picture feels open, airy or grand.
8. The point on the horizon where parallel lines going away from you seem to meet.
9. A horizon line, a vanishing point on it, road edges meeting there, and trees getting shorter and closer together toward the point.
10. *The Avenue at Middelharnis* by Meindert Hobbema.

PORTFOLIO PIECE: A JOURNEY INTO THE DISTANCE

Paint or draw a landscape that invites the viewer to travel into it: a road, river or path in one-point perspective leading from the foreground to faraway hills or mountains. Place the horizon on purpose, use overlap, size, placement and detail, and make the far hills paler and bluer with atmospheric perspective. Add at least one person or animal for scale.

LOOK FOR	WHAT IT MEANS
One-point perspective	The road, river or path leads to a vanishing point on the horizon line.
Four depth tools	Overlap, size, placement and detail are all used.
Atmospheric perspective	Far things are paler, bluer and softer than near things.
Horizon and composition	The horizon is level and placed on purpose; there is a clear foreground, middle ground and background.
Craftsmanship	Guide lines are erased, colors are clean, and the picture is finished with care.

7.1 OVERLAP, SIZE, PLACEMENT AND DETAIL

OBJECTIVES

- Name and use four ways to show depth: overlap, size, placement and detail.
- Identify the foreground, middle ground and background in a picture.
- Draw a winter landscape that shows deep space.

Warm-up. Look out a window. Hold up your thumb and compare it to a tree far away. Which looks bigger? Now find something close that hides part of something farther away. Draw a quick thumbnail of what you see.

WATCH

How To Draw A Winter Landscape - version 2

[Art for Kids Hub](#) · 8:00

https://www.youtube.com/watch?v=aGJwPWk_dIM

WHEN TO WATCH

Draw along after the core ideas. Notice how the trees and hills in front are big and low on the page and the ones far away are small and high.

BACKUP VIDEO

Foreground, Middleground, Background

[Kenwood K-8 Center Art Class](#) · 6:30

<https://www.youtube.com/watch?v=q75cDS-ZnbQ>

Another clear lesson on foreground, middle ground and background.

KEY TERMS

space

The feeling of depth or distance in a picture.

middle ground

The part of a picture between the foreground and the background.

foreground

The part of a picture that seems closest to you, usually at the bottom.

background

The part of a picture that seems farthest away, usually near the top.

overlap

When one object is placed in front of another and hides part of it.

CORE IDEAS

Artists have four simple tools for showing **space**, and you can use all of them in one picture.

1. Overlap. When one thing hides part of another, the one in front looks closer. A tree that covers part of a house is in front of the house. **2. Size.** Things that are far away look smaller. A person near you may be as tall as your page; the same person far away is as small as your fingernail.

3. Placement. On flat ground, things that are far away are placed higher on the page, closer to the horizon. Things near you are placed lower, near the bottom of the page.

4. Detail. You can see every twig on a nearby tree, but a faraway forest is just a soft shape. Put more detail in front and less in the back.

These tools divide a picture into three zones. The **foreground** is closest to you (bottom of the page, big, detailed, overlapping). The **middle ground** is in between. The **background** is far away (higher up, small, simple).

Pieter Bruegel's *Hunters in the Snow* uses all four tools at once. Your eye starts with the big hunters in front and travels down the hill, across the frozen ponds, to tiny skaters and far-off mountains.

PICTURE STUDY



The Hunters in the Snow, Pieter Bruegel the Elder, 1565 · Oil on panel · Kunsthistorisches Museum, Vienna

Image: [Wikimedia Commons](#), public domain

This is one of a series of paintings Bruegel made of the months of the year. It shows a cold winter day in a village. The hunters are coming home tired, and down below, families are skating and playing on the ice.

Look closely

- Find the foreground. What is there? How big are the hunters and dogs?
- Find the skaters on the ponds. How big are they compared with the hunters?
- Find an example of overlap: something in front hiding part of something behind.
- Look at the far mountains. How much detail can you see compared with the trees in front?

Talk about it

1. How does this painting make you feel: cold, cozy, tired, cheerful?
2. What are the people on the ice doing? Find three different activities.
3. Why might Bruegel have put the hunters high on a hill looking down?

STUDIO PROJECT

A Winter Valley in Three Zones

You will draw and color a winter (or any season) landscape with a clear foreground, middle ground and background, using overlap, size, placement and detail.

You will need

- Drawing paper or light blue construction paper
- Pencil and eraser
- Colored pencils or oil pastels, including white
- A black fine marker (optional)

Steps

1. Lightly draw two lines across your paper to divide it into three zones: foreground (bottom third), middle ground and background (top part).
2. In the background, draw a line of hills or mountains. Keep them simple: no details.
3. In the middle ground, draw a small village: a few houses, a church with a steeple, a frozen pond with tiny skaters. Keep everything small.
4. In the foreground, draw one or two large trees and a big figure or animal (a person with a sled, a dog, a deer). Make them large and low on the page.
5. Make some things overlap: let a foreground tree cover part of a middle-ground house.
6. Add details only in the foreground: bark texture, twigs, footprints, a scarf.
7. Color the background lightly, the middle ground medium, and the foreground with your strongest colors and darks.
8. Check: can a viewer's eye travel from the front to the back of your picture?

Tips

- The farther away something is, the higher and smaller it should be.
- Draw the foreground objects last so they overlap the things behind.
- Tiny people on a pond can be made with just a few marks.

Check your work

- ☐ My picture has a clear foreground, middle ground and background.
- ☐ I used overlap, size, placement and detail.
- ☐ Things in the foreground are bigger and more detailed than things far away.

SKETCHBOOK PRACTICE

1. Draw a row of five fence posts going back into the distance, each smaller and higher than the last.
2. Draw three apples overlapping, then three apples spread out. Which looks deeper?
3. Draw the view from your front door in three zones.

From history. Pieter Bruegel the Elder (about 1525–1569) was a Flemish painter famous for his pictures of village life, seasons and peasants at work and play. Children love his paintings because they are full of tiny people doing interesting things.

COMMON MISTAKES

- Lining everything up along the bottom of the page. Place far things higher.
- Making faraway people as big as near people.
- Putting the same amount of detail everywhere.

Make it a game • Four Ways to Show Depth. Draw a small winter valley in ninety seconds. Your parent gives you a point for each way you showed depth: overlap, size, placement and detail. Then point to the foreground, middle ground and background. Try again and aim for all four. Which one made the picture look deepest? Say it out loud.

7.2 ATMOSPHERIC PERSPECTIVE

OBJECTIVES

- Explain why faraway things look paler, bluer and less sharp.
- Paint layered mountains that fade into the distance.
- Identify atmospheric perspective in a landscape painting.

Warm-up. Look out a window at the farthest thing you can see (hills, trees, buildings). What color does it look? Is it as dark and sharp as something close? Draw two hills: a near one and a far one, choosing colors from what you see.

WATCH

How to Draw a Landscape using Atmospheric Perspective

[Circle Line Art School](#) · 6:27

https://www.youtube.com/watch?v=M_HG8yn7KJ8

WHEN TO WATCH

After the core ideas. Watch how each layer gets lighter as it goes back.

BACKUP VIDEO

Aerial Perspective | Atmospheric Perspective - What is it and how is it used?

[Riecreate](#) · 3:24

<https://www.youtube.com/watch?v=r8GgE4BYhyA>

A short, clear explanation of atmospheric (aerial) perspective.

KEY TERMS

atmospheric perspective

Showing distance by making faraway things paler, bluer, softer and less detailed (also called aerial perspective).

contrast

The difference between light and dark; near things have strong contrast, far things have weak contrast.

atmosphere

The air around the earth, with its tiny bits of water and dust.

layers

Bands of land, one behind another, each painted a little lighter as they go back.

CORE IDEAS

Air is not empty. The **atmosphere** is full of tiny drops of water and bits of dust. When you look at a mountain far away, you are looking through miles of air, like looking through a thin blue curtain. So faraway things change in four ways.

Faraway things become **lighter** (paler), **bluer** (or cooler, sometimes violet), **softer** (with fuzzy edges and no sharp details), and they have **less contrast** (their darks are not as dark). This is called **atmospheric perspective**. Leonardo da Vinci wrote about it more than five hundred years ago.

To paint it, work in **layers** from back to front. Mix a pale blue-violet for the farthest mountains. For the next layer, add a little more blue and a touch of green, making it darker. Each layer coming forward gets darker, warmer and greener. The nearest layer has the strongest colors, the darkest darks and the most detail.

Atmospheric perspective works with the four tools from Lesson 7.1. Together they can make a small sheet of paper look as if it stretches for miles.

Albert Bierstadt traveled to the mountains of the American West and painted them glowing in golden light, with distant peaks melting into misty blue. He wanted people back east to see the grandeur of the land God made.

PICTURE STUDY



Among the Sierra Nevada, California, Albert Bierstadt, 1868 · Oil on canvas · Smithsonian American Art Museum, Washington, D.C.

Image: [Wikimedia Commons](#), public domain

Albert Bierstadt made this huge painting, about ten feet wide, to show Europeans and Americans the wonder of the western mountains. Look how the cliffs fade into golden mist as they go back.

Look closely

- Find the darkest, sharpest parts of the painting. Are they near or far?
- Find the palest mountains. What colors are they?
- Look for the deer by the lake. How big are they?
- Follow the valley from the lake back into the light. How many layers of land can you count?

Talk about it

1. How does this painting make you feel about the mountains?
2. Why do the far mountains look so soft and pale?
3. If you could step into this painting, where would you go first?

STUDIO PROJECT

Layers of Mountains

You will paint a landscape of at least four layers of mountains or hills that fade into the distance, using atmospheric perspective.

You will need

- Watercolor paper
- Watercolor or tempera paints (blue, white, a little violet, green and yellow)
- Large flat brush and medium round brush
- Palette, water cup and paper towels
- Pencil
- Masking tape

Steps

1. Tape the edges of your paper to the table.
2. Lightly draw four or five wavy mountain or hill lines across the paper, one below the other. Make the top one the highest and simplest.
3. Paint the sky with a pale blue or a soft yellow near the horizon. Let it dry.
4. Mix a very pale blue-violet (lots of white or lots of water). Paint the farthest mountain layer.
5. When it is dry, add a little more blue to your mix and paint the next layer down.
6. For each layer coming forward, make the color a little darker and a little greener.
7. Paint the nearest layer at the bottom with a strong dark green, and add detail: tree shapes, rocks or grass.
8. Add a small detail in the middle ground, such as a lake, a tiny cabin or a few birds, to show scale.

Tips

- Let each layer dry before painting the next, so the edges stay clean.

- Keep the farthest layers smooth and simple; save details for the front.
- If a far layer is too dark, it will jump forward. Lighten it.

Check your work

- ☐ My painting has at least four layers.
- ☐ The farthest layers are palest and bluest; the nearest are darkest and greenest.
- ☐ Details are only in the foreground.

SKETCHBOOK PRACTICE

1. With one blue colored pencil, draw five rows of hills, pressing lighter for farther ones.
2. Watch the sky on a hazy day and write which things look bluest.
3. Draw a row of trees going back into fog: dark and sharp in front, pale and soft in back.

From history. Albert Bierstadt (1830–1902) was born in Germany and grew up in Massachusetts. He joined an expedition to the Rocky Mountains in 1859 and later visited the Sierra Nevada and Yosemite. He is often grouped with the Hudson River School painters, who loved the American wilderness.

COMMON MISTAKES

- Making the far mountains as dark as the near ones.
- Adding lots of detail to the far mountains.
- Painting the next layer before the last one is dry, so they run together.

Make it a game • Haze Layers. Draw a dark mountain on paper. Lay tracing paper or tissue over it, one sheet at a time, and count how many sheets until the mountain looks pale and fuzzy. Predict the number first. This is atmospheric perspective: faraway things look paler, bluer and less sharp. Closest guess earns a point.

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

The psalmist looked up at the far hills and remembered that his help comes from the Lord, who made heaven and earth.

7.3 THE HORIZON LINE

OBJECTIVES

- Explain that the horizon line is always at the viewer's eye level.
- Place a high, middle or low horizon on purpose to change a picture.
- Paint a seascape with a straight, level horizon.

Warm-up. Look at a wall and imagine a line at the height of your eyes. Sit on the floor: where is the line now? Stand on a chair (carefully, with permission): where is it? Your eye level moves with you!

WATCH

Winslow Homer-Inspired Seascape - Project #205

UnitedArtAndEd · 5:07

<https://www.youtube.com/watch?v=qolxJjLMnDk>

WHEN TO WATCH

Watch before the studio project and pause after each step.

BACKUP VIDEO

Where Should the Horizon Line Go? 🌊 Acrylic Seascape Tips for Beginners

Acrylic Arts Academy · 4:37

https://www.youtube.com/watch?v=l_0m2SL5DSQ

A painter explains where to place the horizon line in a seascape.

KEY TERMS

horizon line

The line where the sky seems to meet the land or sea; in a picture, it is always at the viewer's eye level.

eye level

The height of your eyes; everything above it you look up at, and everything below it you look down on.

seascape

A picture of the sea.

low horizon

A horizon placed near the bottom of a picture, giving lots of room to the sky.

CORE IDEAS

When you look out at the sea or a flat field, there is a line where the sky meets the earth. That is the **horizon line**. Here is the surprising fact: the horizon is always at your **eye level**. Climb a hill and it rises with you; lie on the beach and it drops down with you.

In a picture, the horizon line shows where the viewer's eyes are. Things above the horizon we look up at (the bottoms of clouds, birds overhead). Things below it we look down on (the top of a table, the deck of a boat). A boat on a calm sea sits below the horizon, and a tall mast may poke above it.

You can choose where to put the horizon. A **low horizon** (near the bottom) gives a big sky, so the picture feels open, airy and grand. A **high horizon** (near the top) gives lots of land or sea, so the picture feels full and busy. Avoid putting it exactly in the middle; that cuts the picture in two equal halves and can feel stiff.

Over water, the horizon must be **straight and level**. A tilted sea looks like water pouring out of the picture! Use a ruler or a strip of tape.

Winslow Homer loved the sea. In *Breezing Up*, the horizon is low and level, and the little sailboat tilts against it in the wind. The tilt of the boat against the straight horizon is what makes us feel the wind.

PICTURE STUDY



Breezing Up (A Fair Wind), Winslow Homer, 1873–1876 · Oil on canvas · National Gallery of Art, Washington, D.C.

Image: [Wikimedia Commons](#), public domain

Three boys and a fisherman sail home in a fresh breeze. Homer placed the horizon low so the sky is huge, and he tilted the boat against it so we feel the wind and the motion of the waves.

Look closely

- Find the horizon line. Is it high, middle or low? Is it straight?
- Look at the boat. How does it tilt compared with the horizon?
- Find other boats on the horizon. How big are they?
- Look at the waves. Are they bigger near us or far away?

Talk about it

1. How would the painting feel different if the horizon were near the top?
2. What do you think the boys are feeling?
3. Where do you think they are sailing?

STUDIO PROJECT

A Sailboat on a Windy Sea

You will paint a seascape with a low, straight horizon and a sailboat tilting in the wind, using what you learned about space: bigger waves in front, tiny boats far away.

You will need

- Watercolor paper
- Masking tape and a ruler
- Watercolor or tempera paints
- Flat and round brushes
- Oil pastels (white and dark blue) for waves and details
- Pencil

Steps

1. Decide where your horizon goes. For a big sky, put it about one-third up from the bottom.
2. Use a ruler to draw a light, level horizon line. Lay a strip of masking tape just above it to protect the sea while you paint the sky.
3. Paint the sky with clouds: blue sky, white and gray clouds, a little yellow near the horizon.
4. When dry, remove the tape. Lay tape just below the horizon line, and paint the sea: lighter and bluer near the horizon, darker and greener near the bottom.
5. Draw your sailboat in the foreground. Tilt the mast and sail against the horizon to show wind.
6. Paint the boat and sail. Add a figure or two with simple shapes.
7. Add two or three tiny sails on the horizon, very small.
8. With oil pastel, add waves: big curving strokes and white caps in front, smaller and flatter lines toward the horizon.

Tips

- Check that the horizon is level by looking at your paper from the side.
- The sea is usually darker than the sky.
- Make the waves smaller as they go back, just like trees and people.

Check your work

- ☐ My horizon is straight and level and placed on purpose (not in the exact middle).
- ☐ My sailboat tilts against the horizon to show wind.
- ☐ Waves and boats get smaller toward the horizon.

SKETCHBOOK PRACTICE

1. Draw the same field with a cow three times: low horizon, middle horizon and high horizon.
2. Draw a cup on a table from standing, then from sitting with your eyes at table height. How does the horizon change?
3. Draw a lighthouse on a cliff with a low horizon.

From history. Winslow Homer painted *Breezing Up* after summers in Gloucester, Massachusetts, a fishing town. Later he moved to Prouts Neck, Maine, where he lived right by the sea and painted the crashing waves for the rest of his life.

COMMON MISTAKES

- Tilting the horizon over water. Use a ruler.
- Putting the horizon exactly in the middle of the page.
- Making faraway waves as big as nearby ones.

Make it a game • Eye Level Horizon. Hold your hand flat at your eye level. That is your horizon line. Stand, crouch, then sit on the floor, and see where it moves. Your parent calls high, middle or low. Show it with your hand and draw a mini seascape in twenty seconds for each. Which horizon leaves the most sky?

7.4 ONE-POINT PERSPECTIVE: A ROAD TO THE DISTANCE

OBJECTIVES

- Define vanishing point, horizon line and orthogonal lines.
- Draw a road and a row of trees or fence posts in one-point perspective.
- Find the vanishing point in a painting.

Warm-up. Look down a long hallway, a sidewalk or a straight road. The two edges are really parallel, but what do they seem to do as they go away from you? Draw a quick sketch of what you see.

WATCH

How to Draw a Simple Road using One-Point Perspective for Beginners

Circle Line Art School · 4:00

https://www.youtube.com/watch?v=fL967_0vYA0

WHEN TO WATCH

After the core ideas. Draw along, pausing after each step.

BACKUP VIDEO

Kids art one point perspective road drawing

Ms. Martinez Art Pop · 2:43

https://www.youtube.com/watch?v=4P_N2urJCy8

A short kid-friendly road drawing in one-point perspective for extra practice.

KEY TERMS

linear perspective

A system of drawing with lines that meet at a point, to make things look farther away.

orthogonal lines

Lines that go back into space and lead to the vanishing point.

vanishing point

The point on the horizon line where parallel lines going away from you seem to meet and disappear.

one-point perspective

Perspective with a single vanishing point, used when you look straight down a road, hallway or row.

CORE IDEAS

Stand in the middle of a straight road. The edges of the road are parallel, but as they go away, they seem to come closer and closer together until they meet at a single dot on the horizon. That dot is the **vanishing point**. This is how our eyes see the world, and artists of the Renaissance worked out how to draw it with a ruler. It is called **linear perspective**.

In **one-point perspective**, there is just one vanishing point, and it sits on the horizon line (your eye level). All lines that go straight back into the picture (road edges, fence tops, rows of trees, railroad tracks) slant toward that point. These lines are called **orthogonals**.

To draw a road: draw the horizon line. Put a dot on it for the vanishing point. From the bottom of the paper, draw two lines that meet at the dot: these are the road edges. A center line down the road also goes to the dot.

To add a row of trees or fence posts: draw the first tree tall, near the front. Draw a light line from its top to the vanishing point and one from its bottom to the vanishing point. Every tree in the row fits between these two guide lines, so each one gets shorter as it goes back. Space them closer together as they go back too.

Meindert Hobbema's *Avenue at Middelharnis* is a perfect example. The road and its tall trees run straight to a vanishing point in the middle of the picture, and our eye travels right along it.

PICTURE STUDY



The Avenue at Middelharnis, Meindert Hobbema, 1689 · Oil on canvas · National Gallery, London

Image: [Wikimedia Commons](#), public domain

Hobbema was a Dutch landscape painter. This view of a road lined with young trees leading to the village of Middelharnis is one of the most famous Dutch landscapes. It is a lesson in one-point perspective.

Look closely

- Follow the two edges of the road with your fingers. Where do they meet?
- Is the vanishing point on the horizon line? Is the horizon high or low?
- Look at the trees. How do they change in height and spacing as they go back?
- Find the man with his dog walking toward us. Is he in the foreground or middle ground?

Talk about it

1. Where does the road lead? What is at the end?
2. How does the low horizon change the feeling of the painting?
3. If you walked down this road, what would you hear and smell?

STUDIO PROJECT

A Tree-Lined Road

You will draw a road in one-point perspective with a row of trees or fence posts on each side, then add color and atmospheric perspective.

You will need

- Drawing paper
- Pencil, eraser and ruler
- Colored pencils, markers or watercolor
- A fine black marker (optional)

Steps

1. Draw a horizon line about one-third up from the bottom, using a ruler.
2. Put a dot on the horizon near the middle: your vanishing point.
3. From the bottom edge, draw two lines to the vanishing point for the edges of the road.
4. On the left, draw one tall tree trunk near the front. Use the ruler to draw light guide lines from its top and bottom to the vanishing point.
5. Draw more trees between the guide lines, each shorter and closer together as they go back. Do the same on the right side.
6. Add leafy tops to the trees, smaller as they go back.
7. At the end of the road, add a small village or a church steeple near the vanishing point.
8. Erase the guide lines. Color the picture: bright and detailed in front, paler and bluer near the horizon.
9. Add a figure walking on the road, sized correctly for where he stands.

Tips

- Keep your guide lines very light; they are scaffolding, not part of the picture.
- Every line going “back” must go to the same vanishing point.
- Vertical lines (tree trunks, posts) stay straight up and down.

Check your work

- ☐ My road edges meet at a vanishing point on the horizon.
- ☐ My trees or posts get smaller and closer together as they go back.
- ☐ Far things are paler and less detailed than near things.

SKETCHBOOK PRACTICE

1. Draw railroad tracks going to a vanishing point, with the ties getting closer together.
2. Draw a hallway in your home using one-point perspective.
3. Draw a row of telephone poles along a road.

From history. The architect Filippo Brunelleschi worked out the rules of linear perspective in Florence around 1415, and soon painters everywhere were using them. Hobbema (1638–1709) painted this avenue late in life, after he had taken a job as a wine-gauger (a tax official) and painted only now and then.

COMMON MISTAKES

- Putting the vanishing point above or below the horizon line. It belongs on it.
- Drawing trees that do not shrink as they go back.
- Slanting the tree trunks toward the vanishing point. Trunks stay straight up and down.

Make it a game • Road to the Dot. Draw a horizon line and a dot on it for the vanishing point. Race a sixty-second timer to draw six orthogonal lines from the bottom of the page to the dot, with a ruler. One point for each that hits the dot. Add fence posts along the road. Beat your best by being faster and more exact.

UNIT 7

SPACE AND PERSPECTIVE

Your paper is flat, but the world is deep. Mountains stand miles away; a road stretches to the edge of sight. How can a painter make a flat picture look as if you could walk into it? In this unit you will learn the tricks artists use to show **space**: overlapping, size, placement and detail; the soft blue haze of **atmospheric perspective**; the **horizon line** at your eye level; and the clever, mathematical trick of **one-point perspective**, where every line runs to a single point.

Our picture studies take us into Bruegel's snowy village, Bierstadt's glowing mountains, Homer's windy sea, and Hobbema's famous avenue of trees, one of the clearest one-point perspective paintings ever made.

PREREQUISITES

- Can draw from observation and with simple shapes (Units 1 and 2)
- Can mix tints and use cool colors (Unit 3)
- Can use value to show light and dark (Unit 4)

MASTERY CHECKLIST

- ☐ I can name four ways to show space: overlap, size, placement and detail.
- ☐ I can paint a landscape with atmospheric perspective, making far things paler, bluer and less detailed.
- ☐ I can explain that the horizon line is at my eye level and place it on purpose.
- ☐ I can draw a one-point perspective road with a vanishing point.
- ☐ I can point out foreground, middle ground and background in a painting.

LESSONS IN THIS UNIT

7.1 Overlap, Size, Placement and Detail

2 sessions of 45 minutes

7.2 Atmospheric Perspective

2 sessions of 45 minutes

7.3 The Horizon Line

2 sessions of 45 minutes

UNIT 7 REVIEW

Answer each question aloud, in writing, or by drawing. A parent can read the questions aloud. Total: 50 points.

1. (5 pts)

Name four ways to show space in a picture.

2. (5 pts)

What are the foreground, middle ground and background?

3. (5 pts)

Where on the page do faraway things on flat ground usually go: higher or lower?

4. (5 pts)

Name three ways faraway things change because of atmospheric perspective.

5. (5 pts)

Why do faraway mountains look blue and pale?

6. (5 pts)

Where is the horizon line in a picture?

7. (5 pts)

What feeling does a low horizon give a picture?

8. (5 pts)

What is a vanishing point?

9. (5 pts)

Draw a road in one-point perspective with three trees on one side.

10. (5 pts)

Name a painting from this unit that shows one-point perspective, and its painter.

ANSWER KEY

1. Overlap, size, placement and detail.
2. The closest part, the in-between part, and the farthest part of a picture.
3. Higher, closer to the horizon.
4. Any three: lighter/paler, bluer/cooler, softer/less sharp, less detail, less contrast.
5. Because we see them through lots of air full of tiny bits of water and dust.
6. At the viewer's eye level.
7. A big sky; the picture feels open, airy or grand.
8. The point on the horizon where parallel lines going away from you seem to meet.
9. A horizon line, a vanishing point on it, road edges meeting there, and trees getting shorter and closer together toward the point.
10. *The Avenue at Middelharnis* by Meindert Hobbema.

PORTFOLIO PIECE: A JOURNEY INTO THE DISTANCE

Paint or draw a landscape that invites the viewer to travel into it: a road, river or path in one-point perspective leading from the foreground to faraway hills or mountains. Place the horizon on purpose, use overlap, size, placement and detail, and make the far hills paler and bluer with atmospheric perspective. Add at least one person or animal for scale.

LOOK FOR	WHAT IT MEANS
One-point perspective	The road, river or path leads to a vanishing point on the horizon line.
Four depth tools	Overlap, size, placement and detail are all used.
Atmospheric perspective	Far things are paler, bluer and softer than near things.
Horizon and composition	The horizon is level and placed on purpose; there is a clear foreground, middle ground and background.
Craftsmanship	Guide lines are erased, colors are clean, and the picture is finished with care.

COMPOSITION AND THE MASTERS

Composition is the way an artist arranges everything in a picture. Even with good drawing, color and shading, a picture can feel confusing if it is not well arranged. In this unit you will learn two big ideas of composition: the **focal point**, the place your eye goes first, and **balance**, the way the visual weight of a picture is spread out so it feels steady.

Then you will take a walk through the Renaissance, the great age of art in Italy from about 1300 to 1550, when painters like Giotto, Fra Angelico, Perugino, Leonardo and Raphael learned to paint space, light and people as never before, mostly to tell the stories of the Bible. Finally, you will plan and make a final piece that uses everything you have learned this year.

PREREQUISITES

- Can draw from observation and with proportions (Units 1–2)
- Can use color schemes and values (Units 3–4)
- Can show space with overlap, atmospheric perspective and one-point perspective (Unit 7)

MASTERY CHECKLIST

- ☐ I can point out the focal point in a painting and explain how the artist made it stand out.
- ☐ I can tell the difference between symmetrical and asymmetrical balance.
- ☐ I can name four Renaissance painters and one work by each.
- ☐ I can plan a picture with thumbnail sketches before I begin.
- ☐ I can make a finished artwork that uses line, form, color, value, space and composition together.

LESSONS IN THIS UNIT

8.1 The Focal Point

2 sessions of 45 minutes

8.2 Balance: Symmetrical and Asymmetrical

2 sessions of 45 minutes

8.3 A Walk Through the Renaissance

2 sessions of 45 minutes

8.4 Final Piece: Putting It All Together

2 sessions of 45 minutes

UNIT 8 REVIEW

Answer each question aloud, in writing, or by drawing. A parent can read the questions aloud. Total: 50 points.

1. (5 pts)

What is composition?

2. (5 pts)

What is a focal point?

3. (5 pts)

Name three ways artists make a focal point stand out.

4. (5 pts)

In *The Milkmaid*, what is the focal point and how did Vermeer make it stand out?

5. (5 pts)

What is the difference between symmetrical and asymmetrical balance?

6. (5 pts)

Name three things that give a shape more visual weight.

7. (5 pts)

What does the word Renaissance mean, and about when did it happen?

8. (5 pts)

Name four Renaissance painters.

9. (5 pts)

What is a thumbnail sketch, and why do artists make them?

10. (5 pts)

Name one thing from this year's lessons you can find in *The Last Supper* or *Delivery of the Keys*, and explain it.

ANSWER KEY

1. The arrangement of all the parts of an artwork.
2. The place in an artwork where the eye goes first; the center of interest.
3. Any three: contrast, color, detail, placement, leading lines.
4. The maid's hands and the stream of milk; light from the window, bright yellow and blue, contrast and detail, and lines leading to it.
5. Symmetrical: both halves match like a mirror. Asymmetrical: the sides are different but still feel equal in weight.
6. Any three: larger size, darker value, brighter color, more detail, strong contrast.
7. "Rebirth"; about 1300 to 1600, starting in Italy.
8. Any four: Giotto, Fra Angelico, Perugino, Leonardo da Vinci, Raphael (Ghiberti as a sculptor).
9. A small, quick sketch used to try out ideas for a composition before making the final piece.
10. Any well-explained example: one-point perspective with a vanishing point, symmetrical balance, a focal point at the center, atmospheric perspective in the hills.

PORTFOLIO PIECE: FINAL PIECE AND YEAR-END ART SHOW

Your final piece from Lesson 8.4 is this unit's portfolio piece. Mount it on a larger sheet of colored paper as a frame, with a label showing the title, your name, the date and the materials. Then choose your best piece from each unit and hold a family art show. Stand beside your final piece and tell your guests about it: what place it shows, how you planned it, and which skills you used.

LOOK FOR	WHAT IT MEANS
Planning	At least three thumbnails were made and the best one was chosen and followed.
Composition	The piece has one clear focal point and feels balanced.
Space and light	There is a foreground, middle ground and background, and light and shadow agree on one light source.
Color and texture	A color scheme and textures were chosen on purpose and work together (unity).
Presentation and reflection	The piece is mounted and labeled, and the student explains it clearly at the art show.

8.1 THE FOCAL POINT

OBJECTIVES

- Define focal point and emphasis.
- Name five ways artists create a focal point: contrast, color, detail, placement and leading lines.
- Make a picture with a clear focal point.

Warm-up. Open a picture book and look at one page for three seconds, then close it. What did you see first? Do it with three pages. Why do you think your eye went there?

WATCH

Art Education - Principles of Design - Emphasis - Getting Back to the Basics - Art Lesson

Paint It Kids • 4:15

<https://www.youtube.com/watch?v=I9tvLdNTRJI>

WHEN TO WATCH

After the core ideas. Watch for the different ways an artist makes one part of a picture the star.

BACKUP VIDEO

How to Create Focal Points in Art

Drawing & Painting - The Virtual Instructor • 2:02

https://www.youtube.com/watch?v=bFEC9v4_TUM

A short summary of the ways to make a focal point.

KEY TERMS

composition

The arrangement of all the parts of an artwork.

emphasis

Making one part of an artwork stand out more than the rest.

focal point

The place in an artwork where the eye goes first; the center of interest.

leading lines

Lines in a picture that guide the viewer's eye toward the focal point.

CORE IDEAS

Every good picture has a “star,” the part the artist most wants you to see. That is the **focal point**. Making it stand out is called **emphasis**. If everything in a picture shouts equally, nothing is heard; a focal point gives the picture a clear voice.

Artists have five main ways to make a focal point. **Contrast**: put the lightest light next to the darkest dark there. **Color**: make it the brightest color or a complement to everything around it. **Detail**: put the most detail and sharpest edges there and keep other areas simpler. **Placement**: put it in an important spot, often a little off center, not jammed in a corner. **Leading lines**: let roads, arms, edges and gazes point toward it.

A good trick for placement: divide your page into thirds both ways, like a tic-tac-toe board. The four places where the lines cross are strong spots for a focal point. A focal point dead center can feel stiff, unless you want a calm, still picture.

Only one star! You can have smaller points of interest, but they should be quieter than the main one.

Johannes Vermeer made a kitchen maid, pouring milk in a quiet room, the star of his painting. Everything in it leads us to her hands and the thin stream of milk.

PICTURE STUDY



The Milkmaid, Johannes Vermeer, about 1658 · Oil on canvas · Rijksmuseum, Amsterdam

Image: [Wikimedia Commons](#), public domain

Johannes Vermeer painted ordinary people doing ordinary tasks in quiet rooms full of light. Here a maid pours milk, perhaps to make bread pudding. It is a simple moment, but Vermeer made it feel important and peaceful.

Look closely

- Where does your eye go first? Follow the light from the window to the maid.
- Find the stream of milk. How did Vermeer make it stand out?
- Look at her yellow and blue clothes. Which colors are these on the color wheel? Why do they look so bright?
- Find the edges of the table and the line of her arm. Where do they lead your eye?

Talk about it

1. Why do you think Vermeer chose such an ordinary moment to paint?
2. What is the focal point, and what five things help it stand out?
3. How does this painting make you feel?

STUDIO PROJECT

A Quiet Moment at Home

You will draw and color a picture of someone in your family doing an everyday task (pouring, reading, cooking, sewing, building), with a clear focal point on their hands and the task.

You will need

- Drawing paper
- Pencil, eraser and ruler
- Colored pencils or oil pastels
- A family member willing to pose for a few minutes (or a photo you take)

Steps

1. Ask a family member to do an everyday task near a window or lamp. Watch for a moment you like.
2. Make three small thumbnail sketches (about 2×3 inches) trying different arrangements. Lightly draw tic-tac-toe lines on each and place the focal point near a crossing.
3. Choose the best thumbnail. Draw it large on your paper.
4. Decide your focal point: the hands and the object they hold.
5. Add leading lines: let the arms, a table edge or a window frame point toward the focal point.
6. Color the picture. Put your strongest contrast (lightest light next to a dark) and brightest color at the focal point.
7. Keep the background simpler and softer.
8. Step back. Does your eye go to the hands first? If not, add contrast there or quiet down another area.

Tips

- A window or lamp beside your model gives beautiful light, like Vermeer's.
- Hands are hard; use simple shapes first (mitten shape, then fingers).
- It is fine to leave out things that distract from the focal point.

Check your work

- ☐ My picture has one clear focal point.
- ☐ I used at least three of the five ways to make it stand out.
- ☐ I planned my picture with thumbnail sketches first.

SKETCHBOOK PRACTICE

1. Draw a tic-tac-toe grid in three boxes and place a single tree at a different crossing in each.
2. Find a focal point in three pictures in a book and write how each artist made it stand out.
3. Draw a row of five identical cups and make one the focal point using color or contrast.

From history. Vermeer (1632–1675) lived in Delft, in the Netherlands. Only about 35 of his paintings are known today, because he worked slowly and carefully. He loved the costly blue made from lapis lazuli and used it even for the maid’s apron.

COMMON MISTAKES

- Making everything equally bright and detailed, so there is no star.
- Putting the focal point at the very edge of the page.
- Having two equally strong focal points that fight for attention.

Make it a game • Eye Magnet. Arrange a small tabletop scene. Choose one object to be the focal point and use one of the five ways to make it stand out: contrast, color, detail, placement or leading lines. Your parent glances for two seconds and says where their eye went first. Then guess which way you used. Score a point.

Scripture. “whatsoever things are lovely, whatsoever things are of good report; if there be any virtue, and if there be any praise, think on these things.” (Philippians 4:8, KJV)

A focal point tells the viewer where to look. Paul tells us where to fix our thoughts: on what is true, pure and lovely.

8.2 BALANCE: SYMMETRICAL AND ASYMMETRICAL

OBJECTIVES

- Define visual balance and visual weight.
- Tell the difference between symmetrical and asymmetrical balance.
- Make two compositions, one symmetrical and one asymmetrical.

Warm-up. Balance a ruler on your finger. Put one coin on each end: it balances. Now put two coins on one end. How can you balance it? (Move the finger, or put the two coins closer to the middle.) Pictures balance the same way.

WATCH

Principles of Design: BALANCE Art Tutorial - Art With Trista

Art With Trista • 6:48

https://www.youtube.com/watch?v=RNyTNJzy3_w

WHEN TO WATCH

After the core ideas. Pause after each type of balance and point to an example in the room.

KEY TERMS

balance

The way the parts of a picture are arranged so it feels steady, not tipping to one side.

visual weight

How much a part of a picture attracts the eye; big, dark, bright or detailed things look heavier.

symmetrical balance

Balance where both halves of a picture are the same or nearly the same, like a mirror image.

asymmetrical balance

Balance where the two sides are different but still feel equal in weight.

CORE IDEAS

A picture can feel steady or it can feel as if it is tipping over. **Balance** is how artists make a picture feel steady. They think about **visual weight**: big things look heavier than small things; dark things heavier than light; bright colors heavier than dull; detailed areas heavier than plain ones.

In **symmetrical balance**, both halves of the picture are the same or nearly the same. Draw a line down the middle and each side mirrors the other. It feels calm, formal, steady and dignified. Churches, altarpieces and many Renaissance paintings use symmetrical balance.

In **asymmetrical balance**, the two sides are different but still feel equal. A big tree on one side might be balanced by a small, bright red barn on the other. A large dark shape near the center can be balanced by a smaller shape near the edge, just like the coins on the ruler. Asymmetrical balance feels lively and natural.

Both kinds are good. Choose symmetry when you want peace, order and importance; choose asymmetry when you want movement and a natural feeling.

Leonardo da Vinci's *The Last Supper* is one of the most famous symmetrical paintings in the world. Jesus sits exactly in the center, framed by a window, with six apostles on each side. Yet each group of apostles moves and reacts differently, so the painting is both still and full of life.

PICTURE STUDY



The Last Supper, Leonardo da Vinci, 1495–1498 · Tempera and oil on plaster (wall painting) · Santa Maria delle Grazie, Milan

Image: [Wikimedia Commons](#), public domain

Leonardo painted this on the wall of a monastery dining room. It shows the moment after Jesus said, “One of you shall betray me,” and the apostles react in shock. The room’s lines all lead to Jesus.

Look closely

- Draw an imaginary line down the middle. Who is exactly in the center?
- Count the apostles on each side. How are they grouped?
- Follow the lines of the ceiling and walls. Where do they lead? (This is one-point perspective!)
- Find the window behind Jesus. How does it help make him the focal point?

Talk about it

1. How does the symmetry make the painting feel?
2. How are the apostles feeling? Find three different reactions.
3. Why do you think Leonardo put Jesus in the very center?

STUDIO PROJECT

Two Arrangements: Balanced Two Ways

You will make two cut-paper and drawing compositions of the same subject: one with symmetrical balance and one with asymmetrical balance, then decide which feeling you like better.

You will need

- Two sheets of cardstock
- Construction paper in several colors
- Child scissors and glue stick
- Pencil, ruler, markers or colored pencils

Steps

1. Choose a subject: a church front with trees, a table set for dinner, or a garden with a gate.
2. Symmetrical: fold your first sheet in half and open it. Put the most important object in the center on the fold.
3. Cut shapes in pairs (fold the colored paper and cut two at once) so each side matches. Glue one of each pair on either side of the center.
4. Add drawn details, matching them on both sides.
5. Asymmetrical: on the second sheet, place the most important object a little off center, near a tic-tac-toe crossing.
6. Balance it with things of different sizes on the other side: for example, a large tree on the left balanced by a small bright red flower bed on the right.
7. Before gluing, move the pieces around until the picture feels steady. Ask someone: does it tip to one side?
8. Glue and add details. Write “symmetrical” and “asymmetrical” on the backs.

Tips

- Use scissors safely: cut away from your fingers and pass them handle-first.
- A small, bright shape can balance a big, dull one.

- Turn your asymmetrical picture upside down to check its balance with fresh eyes.

Check your work

- ☐ My symmetrical picture has matching halves.
- ☐ My asymmetrical picture has different sides that still feel balanced.
- ☐ I can explain which one feels calmer and which feels livelier.

SKETCHBOOK PRACTICE

1. Draw the front of your house or church and decide whether it is symmetrical.
2. Draw a simple landscape twice: once with a tree in the center, once with a tree off to the side balanced by a small house.
3. Find three symmetrical things in nature and draw them.

From history. Leonardo da Vinci (1452–1519) tried a new way of painting on a dry wall with tempera and oil, instead of fresco. Sadly, it began to flake within his own lifetime. It has been carefully restored many times; the latest restoration took more than twenty years.

COMMON MISTAKES

- Thinking asymmetrical means unbalanced. It must still feel steady.
- Putting all the big, dark shapes on one side.
- In symmetry, forgetting to match the details on both sides.

Make it a game • Button Balance. Balance a ruler on a pencil as a seesaw. Put two buttons on the ends so it stays level: symmetrical balance. Now put one big button near the middle and several small ones far out: asymmetrical balance. Which balance feels steadier? Then arrange paper shapes in two ways and tell your parent what visual weight means.

8.3 A WALK THROUGH THE RENAISSANCE

OBJECTIVES

- Explain what the Renaissance was and when it happened.
- Name four Renaissance painters and describe one thing each is known for.
- Find perspective, balance and focal point in a Renaissance painting, and make a small study of it.

Warm-up. Make a quick timeline across a sketchbook page: mark 1300, 1400, 1500 and 1600. As you go through the lesson, add the painters and paintings you meet in the right places.

WATCH

Linear Perspective: Brunelleschi's Experiment

[Smarthistory](#) · 4:16

<https://www.youtube.com/watch?v=bkNMM8uiMww>

WHEN TO WATCH

After the core ideas, to see how Brunelleschi discovered one-point perspective in Florence. Look for Perugino's *Delivery of the Keys* near the end.

Note: Made for older students; watch together and pause to talk.

KEY TERMS

Renaissance

A French word meaning “rebirth”: the time in Europe from about 1300 to 1600 when art, learning and science flourished.

altarpiece

A painting or carving placed above or behind the altar in a church.

fresco

A painting made on wet plaster, so the colors become part of the wall as it dries.

patron

A person or group who pays an artist to make a work of art.

CORE IDEAS

The **Renaissance** began in Italy around 1300 and spread across Europe. Painters began to study nature, light, the human body and space more carefully than ever. Most of their paintings were made for churches, to help people understand and remember the stories of the Bible.

Giotto (about 1267–1337) is often called the first Renaissance painter. Before him, figures in paintings often looked flat and stiff. Giotto painted people with weight and feelings, standing on real ground, in his frescoes in Padua and Assisi.

Fra Angelico (about 1395–1455), whom you met in Lesson 5.1, painted with pure, glowing colors and gentle faces. Around his time, **Brunelleschi** worked out one-point perspective, and painters quickly used it.

Perugino (about 1450–1523) painted calm, balanced pictures with wide open squares and buildings in perfect perspective. His most famous student was **Raphael** (1483–1520), known for his graceful Madonnas and harmonious compositions. And **Leonardo da Vinci** (1452–1519) was a painter, inventor and scientist who filled notebooks with studies of everything.

Perugino's *Delivery of the Keys* brings together almost everything you learned this year: a one-point perspective square, atmospheric perspective in the hills, symmetrical balance, a clear focal point and careful figures.

PICTURE STUDY



Delivery of the Keys, Pietro Perugino, 1481–1482 · Fresco · Sistine Chapel, Vatican City

Image: [Wikimedia Commons](#), public domain

This fresco shows Jesus giving the keys of the kingdom of heaven to Peter (Matthew 16:19). Perugino painted it on the wall of the Sistine Chapel in Rome. Look how far back the great square seems to go.

Look closely

- Follow the lines in the pavement. Where do they meet? Find the vanishing point.
- Find the focal point: the keys between Jesus and Peter. How did Perugino lead your eye there?
- Draw an imaginary line down the middle. Is the picture balanced symmetrically?
- Look at the hills far away. How did Perugino use atmospheric perspective?

Talk about it

1. How many of this year's lessons can you find used in this one painting?
2. Why do you think the people in the middle of the square are so tiny?
3. What do the keys mean in the Bible story? (Read Matthew 16:13–19.)

STUDIO PROJECT

A Master Study and a Renaissance Timeline

Artists have always learned by copying the masters. You will make a careful study (a copy) of part of a Renaissance painting and add it to a timeline of the painters you have met.

You will need

- Drawing paper and a long strip of paper (or tape several sheets together) for a timeline
- Pencils, ruler and eraser
- Colored pencils
- Printed or on-screen images of the Renaissance paintings in this unit and in Lesson 5.1

Steps

1. Draw a long line on your timeline strip. Mark 1300, 1400, 1500 and 1600 evenly along it.
2. Add the painters you have met in the right places: Giotto, Fra Angelico, Perugino, Leonardo, Raphael (and Ghiberti, from Unit 6). Write one fact under each.
3. Choose a part of *Delivery of the Keys* to copy: the domed temple with the square in front of it is a good choice.
4. Draw a horizon line and find the vanishing point. Lightly draw the pavement lines going to it.
5. Draw the temple carefully, starting with its big shapes: a box with a dome on top. Check the proportions often.
6. Add a few tiny figures in the square, sized correctly for their distance.
7. Color your study with soft colors, making the far hills pale and blue.
8. Write the title, painter and date under your study and add a small version to your timeline.

Tips

- Look back and forth between the painting and your drawing often.

- Copying is not cheating when you are learning; label it as “after Perugino.”
- Use your ruler for the perspective lines and buildings.

Check your work

- ☐ My timeline shows at least five Renaissance artists in order.
- ☐ My study uses a vanishing point and careful proportions.
- ☐ I labeled my study with the title, painter and date.

SKETCHBOOK PRACTICE

1. Copy the face of one apostle from *The Last Supper*.
2. Draw a domed building from your town or from a picture of a cathedral.
3. Write three sentences about which Renaissance painter you like best and why.

From history. Pope Sixtus IV invited the best painters of Italy, including Perugino, Botticelli and Ghirlandaio, to paint the walls of his new chapel in Rome in 1481. The famous ceiling by Michelangelo was painted later, from 1508 to 1512.

COMMON MISTAKES

- Trying to copy the whole painting at once. Choose a small part.
- Ignoring the vanishing point, so the pavement looks tilted.
- Drawing faraway figures too large.

Make it a game • Mystery Painter. Choose one of the four Renaissance painters on your timeline. Give clues in the first person: 'I painted an altarpiece. A patron paid me.' Your parent guesses after each clue. Fewer clues score more points. Then your parent gives clues and you guess. Say what the Renaissance was and when it happened.

8.4 FINAL PIECE: PUTTING IT ALL TOGETHER

OBJECTIVES

- Plan a finished artwork with thumbnail sketches.
- Use line, form, color, value, texture, space and composition together.
- Reflect on growth over the year and present work to others.

Warm-up. Lay out your sketchbook and portfolio pieces from the whole year in order. Look at your first drawing and your most recent one. Write down three things you can do now that you could not do in the fall.

WATCH

About Thumbnail Sketches

Owings Art · 6:42

<https://www.youtube.com/watch?v=gYTukZ3TbMk>

WHEN TO WATCH

Before you plan your final piece. Watch how small, quick thumbnail sketches help choose the best arrangement, then make your own thumbnails.

BACKUP VIDEO

Raphael, Marriage of the Virgin, 1504

Smarthistory · 5:03

https://www.youtube.com/watch?v=H_Guv2Mk1E0

Before the picture study, to look closely at Raphael's *Marriage of the Virgin*.

KEY TERMS

thumbnail sketch

A small, quick sketch used to try out ideas for a composition.

elements of art

The building blocks of art: line, shape, form, color, value, texture and space.

unity

When all the parts of an artwork work together as a whole.

reflection

Thinking and writing about your own work: what went well and what you learned.

CORE IDEAS

This year you learned the **elements of art**: line, shape, form, color, value, texture and space, and two principles of composition: focal point and balance. Now you will use them all in one final piece.

Great artists plan. Before Raphael painted a large altarpiece, he made many drawings. You will start with **thumbnail sketches**: small, quick boxes (about 2×3 inches) where you try different arrangements. Make at least three. Move the horizon, the focal point and the big shapes around. Pick the best.

As you work, ask the questions of the whole year. *Line*: are my contours careful? *Form*: do my objects look solid? *Color*: did I choose a color scheme? *Value*: is there a light source, with highlights and shadows? *Space*: is there a foreground, middle ground and background? *Composition*: is there one focal point, and is the picture balanced?

When all the parts work together, a picture has **unity**. Unity does not mean every part is the same; it means every part belongs.

Raphael's *Marriage of the Virgin*, painted when he was only twenty-one, has wonderful unity: a temple in perfect perspective, a balanced group of figures, a clear focal point at the ring, and soft hills fading into the distance. It is a picture of order and grace, and a good model for your final piece.

PICTURE STUDY



The Marriage of the Virgin, Raphael, 1504 · Oil on panel · Pinacoteca di Brera, Milan

Image: [Wikimedia Commons](#), public domain

Raphael painted this when he was just twenty-one, and it showed that he had already surpassed his teacher, Perugino. It shows the marriage of Mary and Joseph, from an old story told about them.

Look closely

- Find the focal point. What is happening at the very center of the picture?
- Follow the lines of the pavement. Where is the vanishing point? (Look at the temple doorway.)
- Compare the left group and the right group. Is the picture symmetrical?
- Find the young man on the right breaking a rod over his knee. The old story says the suitors' rods did not blossom, but Joseph's did.

Talk about it

1. Which of this year's lessons can you find in this painting?
2. How does Raphael's painting compare to Perugino's *Delivery of the Keys*?
3. What does the painting tell you about how Raphael saw order and beauty?

STUDIO PROJECT

My Final Piece: A Place I Love

You will plan and make a finished artwork of a place you love (your home, a garden, a church, a park, a farm, the seashore), with at least one person or animal in it, using as many of this year's skills as you can.

You will need

- Sketchbook for thumbnails
- Watercolor paper or heavy drawing paper (at least 9×12 inches)
- Your choice of materials: pencils, colored pencils, watercolor, tempera or oil pastels
- Ruler and eraser
- Your color wheel and value scale from earlier in the year

Steps

1. Choose your place. If you can, go there (or look at it from a window) and make a few quick sketches from life.
2. In your sketchbook, make three thumbnail sketches with different arrangements: try a high and a low horizon, and move your focal point.
3. Choose the best thumbnail. Write down your plan: focal point, color scheme (analogous or with a complementary accent), light source, and which perspective you will use.
4. Lightly draw your composition large on good paper. Use a horizon line and, if there is a road, path or building, a vanishing point.
5. Check your shapes and proportions. Draw forms as solid (cubes, cylinders) and figures with good proportions.
6. Add color, working from background to foreground. Use atmospheric perspective for far things.
7. Add value: highlights, form shadows and cast shadows that agree with your light source.
8. Add texture and detail, mostly in the foreground and at the focal point.

9. Step back and squint. Is there one clear focal point? Is it balanced? Make final adjustments.
10. Write a short reflection: what the place means to you, which skills you used, and what you are proudest of.

Tips

- Take two or three sessions if you need them; this is your most important piece of the year.
- Keep the most detail and strongest contrast at your focal point.
- Work carefully, but do not fear mistakes. Fix them, or let them become part of the picture.

Check your work

- ☐ I planned with at least three thumbnails.
- ☐ My piece has a clear focal point, balance, and a foreground, middle ground and background.
- ☐ I used a color scheme, a consistent light source and texture on purpose.
- ☐ I wrote a reflection about my work.

SKETCHBOOK PRACTICE

1. Make a sketchbook “table of contents”: list your favorite page from each unit.
2. Draw yourself as an artist at work, with your favorite tools.
3. Write a letter to next year’s self about what you want to learn next.

From history. Raphael (1483–1520) moved to Florence and then to Rome, where the Pope asked him to paint rooms in the Vatican palace. He died young, on his 37th birthday, but he was already honored as one of the greatest painters who ever lived.

COMMON MISTAKES

- Skipping the thumbnails and starting large right away.
- Trying to use every skill everywhere, which makes the picture busy. Choose what serves the picture.
- Rushing the end. The last details and adjustments make a picture finished.

Make it a game • Elements Sprint. In two minutes, name each element of art and give an example from the room: line, form, color, value, texture and space. For instance: line, the edge of the table. Your parent keeps score. Then do three thumbnail sketches of your place and choose the best. Say which element will be the strongest.

Scripture. “He hath made every thing beautiful in his time” (Ecclesiastes 3:11, KJV)

Like a picture coming together over many sessions, God makes all things beautiful in His time. Your skills this year grew one lesson at a time, too.

COMPOSITION AND THE MASTERS

Composition is the way an artist arranges everything in a picture. Even with good drawing, color and shading, a picture can feel confusing if it is not well arranged. In this unit you will learn two big ideas of composition: the **focal point**, the place your eye goes first, and **balance**, the way the visual weight of a picture is spread out so it feels steady.

Then you will take a walk through the Renaissance, the great age of art in Italy from about 1300 to 1550, when painters like Giotto, Fra Angelico, Perugino, Leonardo and Raphael learned to paint space, light and people as never before, mostly to tell the stories of the Bible. Finally, you will plan and make a final piece that uses everything you have learned this year.

PREREQUISITES

- Can draw from observation and with proportions (Units 1–2)
- Can use color schemes and values (Units 3–4)
- Can show space with overlap, atmospheric perspective and one-point perspective (Unit 7)

MASTERY CHECKLIST

- ☐ I can point out the focal point in a painting and explain how the artist made it stand out.
- ☐ I can tell the difference between symmetrical and asymmetrical balance.
- ☐ I can name four Renaissance painters and one work by each.
- ☐ I can plan a picture with thumbnail sketches before I begin.
- ☐ I can make a finished artwork that uses line, form, color, value, space and composition together.

LESSONS IN THIS UNIT

8.1 The Focal Point

2 sessions of 45 minutes

8.2 Balance: Symmetrical and Asymmetrical

2 sessions of 45 minutes

8.3 A Walk Through the Renaissance

2 sessions of 45 minutes

8.4 Final Piece: Putting It All Together

2 sessions of 45 minutes

UNIT 8 REVIEW

Answer each question aloud, in writing, or by drawing. A parent can read the questions aloud. Total: 50 points.

1. (5 pts)

What is composition?

2. (5 pts)

What is a focal point?

3. (5 pts)

Name three ways artists make a focal point stand out.

4. (5 pts)

In *The Milkmaid*, what is the focal point and how did Vermeer make it stand out?

5. (5 pts)

What is the difference between symmetrical and asymmetrical balance?

6. (5 pts)

Name three things that give a shape more visual weight.

7. (5 pts)

What does the word Renaissance mean, and about when did it happen?

8. (5 pts)

Name four Renaissance painters.

9. (5 pts)

What is a thumbnail sketch, and why do artists make them?

10. (5 pts)

Name one thing from this year's lessons you can find in *The Last Supper* or *Delivery of the Keys*, and explain it.

ANSWER KEY

1. The arrangement of all the parts of an artwork.
2. The place in an artwork where the eye goes first; the center of interest.
3. Any three: contrast, color, detail, placement, leading lines.
4. The maid's hands and the stream of milk; light from the window, bright yellow and blue, contrast and detail, and lines leading to it.
5. Symmetrical: both halves match like a mirror. Asymmetrical: the sides are different but still feel equal in weight.
6. Any three: larger size, darker value, brighter color, more detail, strong contrast.
7. "Rebirth"; about 1300 to 1600, starting in Italy.
8. Any four: Giotto, Fra Angelico, Perugino, Leonardo da Vinci, Raphael (Ghiberti as a sculptor).
9. A small, quick sketch used to try out ideas for a composition before making the final piece.
10. Any well-explained example: one-point perspective with a vanishing point, symmetrical balance, a focal point at the center, atmospheric perspective in the hills.

PORTFOLIO PIECE: FINAL PIECE AND YEAR-END ART SHOW

Your final piece from Lesson 8.4 is this unit's portfolio piece. Mount it on a larger sheet of colored paper as a frame, with a label showing the title, your name, the date and the materials. Then choose your best piece from each unit and hold a family art show. Stand beside your final piece and tell your guests about it: what place it shows, how you planned it, and which skills you used.

LOOK FOR	WHAT IT MEANS
Planning	At least three thumbnails were made and the best one was chosen and followed.
Composition	The piece has one clear focal point and feels balanced.
Space and light	There is a foreground, middle ground and background, and light and shadow agree on one light source.
Color and texture	A color scheme and textures were chosen on purpose and work together (unity).
Presentation and reflection	The piece is mounted and labeled, and the student explains it clearly at the art show.