

SCHOOL LAUNCH · EXPLORE TRACKS

EXPLORE CRAFTS AND MAKING

Track 7 of the Explore Tracks: four trails for children who love to make things: sewing, knitting and needlework, paper and hand crafts, and making, pricing and selling their own work.

First edition

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

COURSE GUIDE

Explore Tracks are for children who want more of what they love. Each track is a set of short stops. At every stop the child hears a true story, studies a great picture, does something with his or her hands, plays a game and adds a page to a Field Notebook.

The Crafts track has four trails of eight stops. Trail A opens the sewing box and learns to thread a needle, stitch, sew on a button and make a drawstring bag. Trail B follows wool from the sheep to the yarn, then finger-knits, knits a first scarf and stitches a verse sampler, as children have done for centuries. Trail C makes paper crafts, from origami and hand-lettering to a hand-bound notebook. Trail D begins with Bezalel and Aholiab, the craftsmen God filled with skill to build the tabernacle, and ends with the child's own small product line, a price list and a profit sheet.

Each stop links to the matching lesson in Art or in Small Business & Economics, and some stops link to History, Life Science or Arithmetic, so the track feeds the full courses.

WHO IT IS FOR

Written for children about ages 7-9 who are read to by a parent, or who read short passages on their own. Brothers and sisters at the Ranger and Expert levels can share the same stops, each at his or her own depth. No sewing experience is needed, and nothing earlier is required.

HOW TO USE THIS COURSE

1. **One stop at a time.** A stop takes 15-25 minutes: read the story aloud, look at the picture, do the hands-on part and play the game. Two or three stops a week works well. Some projects, like the scarf or the sampler, can keep going for a few days after the stop.
2. **Any order.** The four trails are independent. Within a trail, the early stops teach the skills the later ones use, so it helps to go in order there.
3. **Field Notebook.** Every stop ends with a page for the notebook: a stitch sample taped in, a sketch, a pattern or a price list. Each trail builds something: a drawstring bag, a knitted scarf and verse sampler, a hand-bound notebook, or a small shop with its own books. A parent signs each trail certificate.
4. **Badge quizzes.** Each trail has a short, optional oral quiz. They are for fun, not grades.

SCOPE AND SEQUENCE

Trail 1: Crafts and Making ✕ **Trail A: Sewing** (Self-paced)

Trail 2: Crafts and Making ✕ **Trail B: Knitting and Needlework** (Self-paced)

Trail 3: Crafts and Making ✕ **Trail C: Paper and Hand Crafts** (Self-paced)

Trail 4: Crafts and Making ✕ Trail D: Make It, Price It, Sell It (Self-paced)

MATERIALS

- **Field Notebook (a sketchbook or composition book)** One for the whole track. Stitch samples and paper crafts can be taped in.
- **A simple sewing kit: blunt-tip and sharp hand needles, pins, a thimble, thread, felt or cotton scraps, buttons and child-size scissors** For Trail A and the needlework stops. A plastic needle and burlap or plastic canvas are good for first practice.
- **Worsted-weight yarn, a pair of size 8-10 (5-6 mm) knitting needles, an embroidery hoop, embroidery floss and Aida cloth** For Trail B. One skein of yarn is enough for a small scarf.
- **Paper (plain, colored and cardstock), a glue stick, a ruler, a pencil, a fine marker, a large needle and strong thread** For Trail C. Flowers for pressing can come from the yard or the garden.
- **Index cards, a calculator (optional) and a small box or tin for a cash box** For Trail D.
- **A Bible (KJV)** For the verse at each stop.

GRADING

Explore Tracks are not graded. A stop is done when the child has heard the story, done the hands-on part and made a notebook page.

Badges and trail certificates are earned by finishing the stops. A crooked stitch still counts; the goal is careful, cheerful work, not perfection.

A NOTE TO PARENTS

You do not need to sew or knit. Read the story aloud, look at the picture together and ask, “What do you notice?” Each stop has a short *For families* note with sources and any facts that are uncertain. Many stops have a step-by-step picture guide, and a grandparent or friend who sews is a wonderful helper.

Safety: needles, pins, scissors and craft knives are real tools. Keep a pincushion and a lidded box for sharp things, count needles in and out, and keep them away from small children and pets. An adult should sit beside the child for the sewing machine stop (A8), any iron, and any hot glue. Stops that use these say so in a safety line.

Selling: Trail D can end with a family “shop” or a real craft-fair table. Any real selling, whether to neighbors, at church or at a fair, needs a parent’s sign-off, and a parent handles the money, the location and any rules that apply. A family shop with play money works just as well for the lessons.

Pictures are public-domain paintings, textiles and photographs, including Vermeer’s *The Lacemaker*, Velázquez’s *The Spinners*, the Bayeux Tapestry (which is really embroidery),

early American samplers and William Morris's *Strawberry Thief*. Scenes from the Bayeux Tapestry show the Norman Conquest; they are described plainly, without dwelling on the battle.

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- 1.6 A Drawstring Bag
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- 1.8 Meet the Sewing Machine (with a Parent)

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Trails may be done in any order.

CRAFTS AND MAKING ≈ TRAIL A: SEWING

The first trail of the Crafts and Making track opens the sewing box. Children meet the needle, pin, thimble and scissors; thread a needle and tie a knot; learn the running stitch and the backstitch; sew on a button; make a pincushion and a drawstring bag; pin and cut from a paper pattern; and, with a parent, meet the sewing machine.

This is the ● **Scout** level, for ages 7 to 9. A parent reads the story aloud, or a strong reader reads it alone. Every stop stands by itself, and every stop has a hands-on project with a grown-up nearby. Each stop adds a page to the **Sewing pages** of the Field Notebook, with drawings, labels and real stitched samples taped in.

Five stops earn the **Sewing Scout badge, part 1**; eight stops earn part 2 and the **Trail A certificate**.

BEFORE YOU BEGIN

- Listen to a story of about five minutes and tell it back.
- Cut along a line with scissors and follow simple safety rules with a grown-up.

MASTERY CHECKLIST

- ☐ I can name the tools in a sewing box and keep them safely.
- ☐ I can thread a needle and tie a knot.
- ☐ I can sew a running stitch and a backstitch.
- ☐ I can sew on a button and help mend clothes.
- ☐ I have made a pincushion and a drawstring bag.

OPTIONAL BOOKS AND RESOURCES

- **Smithsonian National Museum of American History: Elias Howe Jr.'s sewing machine patent model** (https://www.si.edu/object/nmah_630930): Photos and the story of Howe's 1846 machine, with a 3D view. Good for Stop A8.
- **Victoria and Albert Museum: William Morris** (<https://www.vam.ac.uk>): Search "Strawberry Thief" for pictures of Morris's printed cloth. Good for Stop A6.
- **Amie Petronis Plumley and Andria Lisle, *Sewing School: 21 Sewing Projects Kids Will Love to Make* (2010)** (<https://www.worldcat.org>): Clear, child-sized hand-sewing projects with photos. Look for it at the library.

1.1 THE SEWING BOX: NEEDLES, PINS, THIMBLE AND SCISSORS

OBJECTIVES

- Name the four main tools in a sewing box: needles, pins, thimble and scissors.
- Tell what each tool is for.
- Know the sewing-box safety rules.

Warm-up. Look at your shirt up close. Can you find the tiny stitches along the seams? Every one of them was made with a needle and thread. Today we open the sewing box.

Video slot. Video coming. Basic sewing tools for kids: hand needles, pins, thimble, fabric scissors, pincushion. Search approved channels (Homeschool Pop (Alternate), a 4-H channel, a sewing-machine maker's education channel); preview first.

KEY TERMS

needle

A thin, sharp steel tool with a hole at one end for the thread.

eye

The little hole in a needle that the thread goes through.

pin

A sharp, thin piece of metal with a round head, used to hold cloth in place before sewing.

thimble

A small metal or leather cap worn on a finger to push the needle without getting poked.

CORE IDEAS

Every sewer keeps a sewing box, and every sewing box holds the same good friends. The first is the **needle**. It is thin and sharp at one end, and at the other end it has a tiny hole called the **eye**. The thread goes through the eye, and the needle pulls it in and out of the cloth.

Next come the **pins**. A pin looks like a needle with no eye and a round head on top. Pins do not sew. They hold pieces of cloth together, like helping hands, until the stitches are made. Then the pins come out again.

The **thimble** is a little cap that fits on the middle finger of the hand that holds the needle. When the cloth is thick, you push the end of the needle with the thimble instead of your bare finger. Its name comes from an old English word for “thumb,” because long ago some people wore it on the thumb.

Last are the scissors. Sewing scissors are kept sharp and used only for cloth and thread. Cutting paper makes them dull, so many families tie a ribbon on the sewing scissors so no

one borrows them for crafts. A good sewer puts every tool back in its place when the work is done.

PICTURE STUDY



The Lacemaker, Johannes Vermeer, c. 1669-1670 · Oil on canvas, mounted on panel · Musée du Louvre, Paris
Wikimedia Commons · CC BY-SA 3.0

Johannes Vermeer was a Dutch painter who painted quiet rooms full of light. This painting is very small, only about 9 inches tall, about the size of a page in a book. The young woman is making lace. She uses pins stuck in a pillow to hold each thread in place as she works.

Look closely

- Find the pins in the lace pillow. What are they holding?
- Find the red and white threads spilling out of the sewing cushion in front.
- Look at her eyes and hands. How carefully is she working?

Talk about it

1. Why do you think the painter made this picture so small?
2. Which tools from our sewing box can you see, or guess are nearby?

Safety first. Needles, pins and scissors are sharp. Sew only with a grown-up nearby. Keep needles and pins in a pincushion or case, never in your mouth or clothes. Carry scissors closed, with the points down, and hand them to someone handle first. Count needles and pins out and back in so none are lost on the floor.

HANDS-ON: SET UP MY OWN SEWING BOX

Make a small sewing kit of your own and learn where everything lives.

You will need

- A small box or tin with a lid (a shoe box or cookie tin works)
- 2 or 3 hand-sewing needles with large eyes (embroidery or tapestry needles are easiest)
- A few pins and a scrap of felt or a small pincushion to hold them
- A thimble that fits your middle finger
- Small fabric scissors (child-sized, with a grown-up's say-so)
- Two spools of thread or embroidery floss
- Paper, a marker and tape for labels

Steps

1. With a grown-up, lay all the tools on a table. Say the name of each one out loud.
2. Try the thimble on your middle finger. Is it snug but not tight?
3. Push the needles and pins into the felt so their sharp points are covered.
4. Tie a ribbon on the fabric scissors so everyone knows they are for cloth only.
5. Put everything in the box. Write a label for the lid: "[Your name]'s Sewing Box."
6. Close the box and tell a grown-up the safety rules you will keep.

Check your work

- My box has needles, pins, a thimble, scissors and thread.
- My needles and pins are stuck safely in felt or a pincushion.
- I can name each tool and say what it does.

FIELD NOTEBOOK

1. **Sewing page 1: My sewing box.** Draw the four tools: needle, pin, thimble and scissors. Label each one and write one word that tells its job (sew, hold, push, cut).
2. Draw the eye of a needle very big, with a thread going through it.

Did you know? Long, long ago, needles were made of bone or ivory, with a hole poked through one end. Steel needles came much later. Today a factory can make thousands of needles in a single hour, but each one still has a point and an eye, just like the old bone ones.

Goes deeper in. Art, "Looking at Paintings," and History, "Life in the Dutch Golden Age" (coming soon).

For families. Sources: Musée du Louvre (The Lacemaker, inv. M.I. 1448; about 24 × 21 cm); Oxford English Dictionary on "thimble" (Old English *þȳmel*, from "thumb"). For

young beginners, large-eyed embroidery or tapestry needles and child safety scissors are easiest. No exact date is given for the oldest bone needles because estimates vary from find to find.

PRACTICE

1. **EASY** What is the hole in a needle called?
2. **EASY** What is a thimble for?
3. **MEDIUM** Why should sewing scissors never cut paper?

Make it a game · What's in the Box? A grown-up hides one sewing tool (a thimble, a spool of thread, a closed pair of scissors, a pincushion) in a sock. Each child feels the sock without peeking and guesses the tool. Then they say what it is for. Keep sharp needles and pins out of the game.

Scripture. “Them hath he filled with wisdom of heart, to work all manner of work, of the engraver, and of the cunning workman, and of the embroiderer, in blue, and in purple, in scarlet, and in fine linen, and of the weaver, even of them that do any work, and of those that devise cunning work.” (Exodus 35:35, KJV)

When Israel built the tabernacle, God gave skill to embroiderers and weavers. The work of needle and thread is a gift from God, and we can use it well.

Practice: answers

1. The eye.
2. To push the needle through the cloth without poking your finger.
3. Paper makes them dull, and then they will not cut cloth cleanly.

1.2 THREADING A NEEDLE AND TYING A KNOT

OBJECTIVES

- Cut a thread the right length: about from your fingertips to your elbow.
- Thread a needle, with or without a needle threader.
- Tie a knot at the end of the thread.

Warm-up. Hold out your arm. Have a grown-up lay a piece of string from the tips of your fingers to your elbow. That is just the right length for a sewing thread. Why might a longer thread be trouble?

Video slot. Video coming. How to thread a needle and tie a quilter's knot (wrap-and-roll knot), for children. Search approved channels (Homeschool Pop (Alternate), a 4-H channel, a sewing-machine maker's education channel); preview first.

KEY TERMS

thread

A long, thin strand of cotton or other fiber used for sewing.

threading

Pushing the end of the thread through the eye of the needle.

needle threader

A little tool with a thin wire loop that pulls thread through a needle's eye.

knot

A small tangle tied at the end of the thread so it cannot pull out of the cloth.

CORE IDEAS

Before you can sew a single stitch, you must thread the needle. First, cut a piece of **thread** about as long as from your fingertips to your elbow. Sewers have long said that a thread that is too long will twist and tangle and slow you down. A short thread is a happy thread.

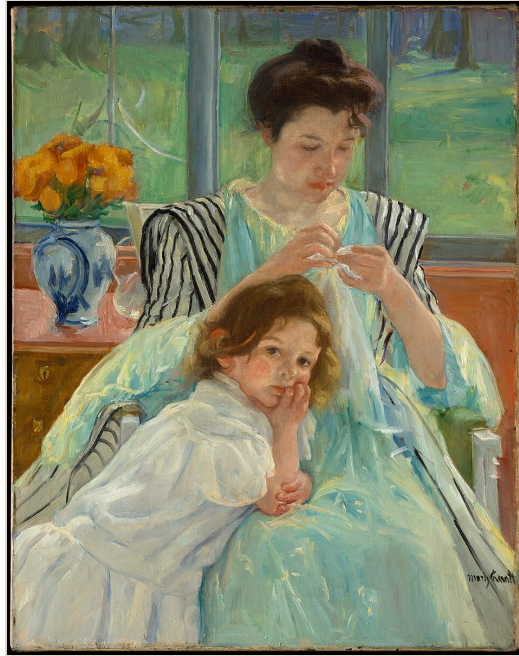
Cut the end of the thread with sharp scissors, so it is clean and not fuzzy. Hold the needle up against a light so you can see the eye. Then pinch the thread close to its tip and push it gently through. This is called **threading**. If it will not go, lick your fingers and smooth the end to a point, then try again.

If your eyes are tired, use a **needle threader**. Push its thin wire loop through the eye, put the thread through the loop, and pull the loop back out. The thread comes with it! Pull a tail of thread through, about as long as your hand.

Now tie a **knot** at the long end. Wrap the end once around your pointer finger. Roll it off with your thumb so the thread twists, then pinch the twist and pull. A little bump forms. That knot

will stop the thread from slipping out when you take your first stitch.

PICTURE STUDY



Young Mother Sewing, Mary Cassatt, 1900 · Oil on canvas · The Metropolitan Museum of Art, New York
Wikimedia Commons · CC0

Mary Cassatt was an American painter who lived and worked in France. She often painted mothers and children at home. In this painting, a woman keeps right on sewing while a little girl leans against her knees.

Look closely

- Find the woman's hands. What is she holding?
- Find the little girl. Where is she looking?
- Look out the window. What season do you think it is?

Talk about it

1. How do you think the little girl feels, leaning there?
2. What would you like to ask the mother about her sewing?

Safety first. Hold the needle by its middle, not its point. Never put a needle or pin in your mouth, even for a moment. When you stop, stick the needle into a pincushion. A grown-up should stay close the first few times.

HANDS-ON: THREAD AND KNOT PRACTICE CARD

Practice threading and knotting until you can do it by yourself, then show it off on a card.

You will need

- A large-eyed needle (an embroidery or plastic tapestry needle)
- Embroidery floss or thick thread in a bright color
- A needle threader (optional)
- Small scissors
- An index card or a square of felt

Steps

1. Measure and cut a thread from your fingertips to your elbow.
2. Thread the needle. Try once without the threader and once with it.
3. Pull a short tail through, about as long as your hand.
4. Tie a knot at the long end by wrapping it around your finger and rolling it off.
5. Push the needle up through the middle of the card or felt until the knot stops it. Then push it down again close by. You have made your first stitch!
6. Tape the card into your notebook with the knot showing on the back.

Check your work

- I cut my thread the right length.
- I threaded the needle.
- My knot held, and the thread did not pull through.

FIELD NOTEBOOK

1. **Sewing page 2: Thread and knot.** Draw the three steps: (1) thread through the eye, (2) thread wrapped around a finger, (3) a knot at the end.
2. Tape in your first-stitch card.

Did you know? Thread is made by twisting many tiny fibers together. Cotton thread comes from the fluffy seed-pods of the cotton plant. One small spool can hold more than 100 yards of thread, longer than a football field!

Goes deeper in. Art, “Mary Cassatt and the Impressionists,” and Life Science, “Plants We Use” (coming soon).

For families. Sources: The Metropolitan Museum of Art, *Young Mother Sewing*, 1900, H. O. Havemeyer Collection (bequeathed 1929). Cassatt used two unrelated models for the mother and child. The wrap-and-roll knot is sometimes called a quilter’s knot or a finger knot; any knot that holds is fine for beginners. Start with a single thread; doubling the thread (knotting both ends together) is stronger and keeps the needle from unthreading, and many children find it easier.

PRACTICE

1. **EASY** How long should your sewing thread be?

2. **EASY** What tool helps pull thread through a needle's eye?
3. **MEDIUM** Why do we tie a knot at the end of the thread?

Make it a game · Thread the Big Needle. Make giant “needles” from paper-towel tubes or cardboard with a big hole cut near one end. Children take turns tossing or poking a jump rope or scarf (the “thread”) through the eye. Count how many tries it takes, then try again to beat your score.

Scripture. “And if one prevail against him, two shall withstand him; and a threefold cord is not quickly broken.” (Ecclesiastes 4:12, KJV)

One thin strand breaks easily, but strands twisted together are strong. That is how thread is made, and it is how friends and families help each other stand strong.

Practice: answers

1. About from your fingertips to your elbow.
2. A needle threader.
3. So the thread cannot pull all the way through the cloth.

1.3 RUNNING STITCH AND BACKSTITCH

OBJECTIVES

- Sew a running stitch: up, down, up, down.
- Sew a backstitch, the strong stitch that goes back to meet the last one.
- End a line of stitches with a knot on the back.

Warm-up. Draw a dotted line on a piece of paper, then a solid line. Which one looks like it would hold two pieces of cloth together better? Today you will sew both.

Video slot. Video coming. Running stitch and backstitch for beginners, hand sewing for kids. Search approved channels (Homeschool Pop (Alternate), a 4-H channel, a sewing-machine maker's education channel); preview first.

KEY TERMS

stitch

One loop of thread made by the needle going into the cloth and out again.

running stitch

A simple stitch that goes up and down in a line, like a dotted line.

backstitch

A strong stitch that steps back to meet the stitch before it, making a solid line.

seam

The line where two pieces of cloth are sewn together.

CORE IDEAS

A **stitch** is one trip of the needle into the cloth and out again. String many stitches in a row and you have a line of sewing. The two oldest and most useful hand stitches are the running stitch and the backstitch.

The **running stitch** is the easiest. Bring the needle up from the back, then down a little way along, then up again, then down again. On the front it looks like a dotted line. It is quick, and it is good for gathering cloth or for stitches that do not need to be very strong. Try to keep your stitches the same size, like neat little dashes.

The **backstitch** is slower but much stronger. Bring the needle up, then go *back* to the end of the last stitch and down. Then come up a stitch-length ahead. Each new stitch touches the one before, so the front looks like a solid line. Before sewing machines, tailors sewed whole coats with backstitch, and it is still the best hand stitch for a **seam**.

When you reach the end of your line, turn the cloth over. Slide the needle under a stitch on the back, make a loop, and pull the needle through the loop to make a knot. Do it twice, then

snip the thread. Your stitches are locked in place.

PICTURE STUDY



Woman Sewing by Lamplight, Jean-François Millet, 1870-1872 · Oil on canvas · The Frick Collection, New York

Wikimedia Commons · Public domain

Jean-François Millet was a French painter who grew up on a farm. He loved to paint country people at their work. Here a mother sews late at night, after the day's chores, by the light of one small lamp, while her little one sleeps in a cradle. Millet wrote that his own wife and daughters sewed and darned around the table by lamplight just like this.

Look closely

- Find the lamp. Which parts of the picture does its light touch?
- Find the woman's hands. Is she pulling the thread up or pushing the needle down?
- Find the cradle and the sleeping child.

Talk about it

1. Why do you think she is sewing so late at night?
2. How did the painter make the room feel quiet and peaceful?

Safety first. Sew with the needle pointing away from your body and your other hand out of its path. Keep your needle in the pincushion whenever you put the work down. A grown-up stays nearby.

HANDS-ON: A TWO-STITCH PRACTICE CARD

Sew one line of running stitch and one line of backstitch on the same piece of cloth, and see how they differ.

You will need

- A square of felt, burlap or cotton, about 6 inches across
- A pencil or washable marker and a ruler
- A large-eyed needle and embroidery floss in two colors
- Small scissors
- An embroidery hoop (optional; it keeps the cloth flat)

Steps

1. Draw two straight lines across the cloth with the ruler, about 2 inches apart.
2. Thread your needle with the first color and knot the end.
3. Sew the top line in running stitch: up, down, up, down. Try to make every stitch the same size.
4. Knot the thread on the back and snip it.
5. Thread the second color. Sew the bottom line in backstitch: up, back, down, up ahead.
6. Knot it on the back. Gently tug both lines. Which one is stronger?

Check your work

- My running stitch looks like a dotted line.
- My backstitch looks like a solid line.
- I knotted each line on the back.

FIELD NOTEBOOK

1. **Sewing page 3: Two stitches.** Draw a running stitch (dashes) and a backstitch (a solid line) and label each one. Draw arrows to show which way the needle goes.
2. Tape in your practice card, or draw it if you want to keep it.

Did you know? Before the sewing machine, every shirt, dress, sail and flag was sewn by hand, one stitch at a time. A plain shirt could take many hours of careful work. Good sewers could make 6 to 10 tiny stitches in a single inch!

Goes deeper in. Art, “Painters of Country Life,” and History, “Home Life Before Machines” (coming soon).

For families. Sources: The Frick Collection, *Woman Sewing by Lamplight*, 1870–72, Henry Clay Frick Bequest. Stitches-per-inch figures for old hand sewing vary widely by garment and maker, so the stitch count is given as a general range. The end-of-line knot here is a simple half-hitch made twice; any secure finishing knot is fine.

PRACTICE

1. **EASY** Which stitch looks like a dotted line?
2. **EASY** Which stitch is stronger, running stitch or backstitch?
3. **MEDIUM** Why does the backstitch make a solid line?

Make it a game • Human Running Stitch. Lay a long rope or a line of tape on the floor for the “cloth.” Children are the needle: they hop over the line (up) and back (down) in even steps for a running stitch. For a backstitch, they take two steps forward and one step back. A grown-up calls “Running!” or “Back!” to switch.

Scripture. “A time to rend, and a time to sew; a time to keep silence, and a time to speak;” (Ecclesiastes 3:7, KJV)

To rend means to tear. God gives a time for everything, even a time to sew. Sewing quietly, stitch by stitch, is a good way to practice patience.

Practice: answers

1. The running stitch.
2. Backstitch.
3. Each new stitch goes back to touch the stitch before it, so there are no gaps.

1.4 SEWING ON A BUTTON

OBJECTIVES

- Tell a two-hole, a four-hole and a shank button apart.
- Sew a button onto cloth so it holds tight.
- Help mend clothes at home.

Warm-up. Go on a button hunt around the house. Look on coats, shirts, cushions and sweaters. How many buttons can you find? How many holes does each one have?

Video slot. Video coming. How to sew on a button by hand, for kids (two-hole and four-hole buttons). Search approved channels (Homeschool Pop (Alternate), a 4-H channel, a sewing-machine maker's education channel); preview first.

KEY TERMS

button

A small round piece that fastens clothes by slipping through a buttonhole.

buttonhole

A narrow slit in cloth, sewn around its edges, that a button slips through.

shank

A little loop or stem on the back of some buttons, used instead of holes.

mend

To fix something that is torn or broken so it can be used again.

CORE IDEAS

A **button** is a small thing that does a big job. It slips through a **buttonhole** and holds a coat or shirt closed. Most buttons have two or four holes. Some have no holes on top at all, but a little loop on the back called a **shank**.

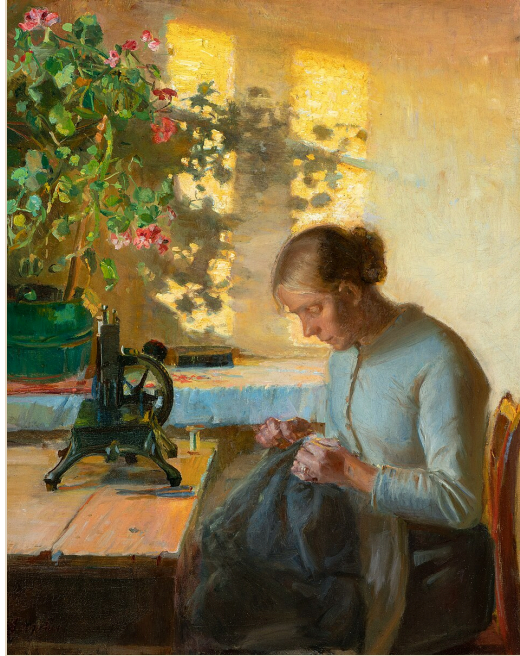
When a button pops off, you do not need a new shirt. You can sew the button back on! Thread your needle, double the thread for strength, and knot the end. Bring the needle up from the back of the cloth right where the old button was. You can often see the old thread marks.

Slip the button onto the needle through one hole. Go down through the next hole and through the cloth. Come back up through the first hole. Do this five or six times. For a four-hole button, sew one pair of holes, then the other, so the stitches make two lines or an X. Leave the button a tiny bit loose, so the cloth around the buttonhole has room to sit under it.

Finish on the back with two small knots and snip the thread. Now you can **mend**! In homes long ago, children learned to sew on buttons and patch holes so clothes could last for years

and be handed down to younger brothers and sisters.

PICTURE STUDY



Sewing Fisherman's Wife, Anna Ancher, 1890 · Oil on canvas · Randers Museum of Art, Denmark
Wikimedia Commons · Public domain

Anna Ancher grew up in Skagen, a fishing village at the very top of Denmark, and painted the people she knew there. In fishing families, clothes had to be strong and were mended again and again. Here a fisherman's wife sews in the sunlight by her window.

Look closely

- Find the window. Where does the light fall?
- Find the flowers. What colors are they?
- Look at her work. Do you think she is making something new or mending?

Talk about it

1. Why would a fisherman's family need to mend clothes often?
2. How does the painter make the room feel warm?

Safety first. Push the needle up and down slowly; buttons are small, and it is easy to poke a finger on the other side. Keep loose buttons away from babies and toddlers, who might swallow them.

HANDS-ON: BUTTON PRACTICE SQUARE

Sew three buttons onto a square of felt, then sew one real button that is missing from something at home.

You will need

- A square of felt, about 5 inches across
- Three large buttons: one with two holes, one with four holes, and one with a shank if you have one
- A needle and strong thread or embroidery floss
- Small scissors
- A toothpick (optional)

Steps

1. Mark three dots on the felt where the buttons will go.
2. Thread your needle, double the thread, and knot the end.
3. Sew on the two-hole button: up through one hole, down through the other, five or six times.
4. Sew on the four-hole button. Make two lines of stitches or an X. Lay a toothpick across the top while you sew, then pull it out so the button is a little loose.
5. If you have a shank button, sew through its loop again and again, close to the felt.
6. Knot on the back and snip. Then ask a grown-up for a real shirt or coat that needs a button, and mend it together.

Check your work

- My buttons do not wiggle off when I tug them.
- My knots are on the back.
- I helped mend something real.

FIELD NOTEBOOK

1. **Sewing page 4: Buttons.** Draw a two-hole, a four-hole and a shank button. Draw the thread lines on each.
2. Write the name of the thing you mended and the date.

Did you know? Very old buttons were mostly for decoration, like jewelry. Buttons with buttonholes, to fasten clothes snugly, became common in Europe in the Middle Ages. Buttons have been made of bone, wood, shell, brass, glass and even carved nuts.

Goes deeper in. History, “Life in the Middle Ages,” and Small Business & Economics, “Saving and Thrift” (coming soon).

For families. Sources: Randers Kunstmuseum (Anna Ancher, *En syende fiskerkone*, 1890). Historians date the spread of functional buttons with buttonholes in Europe to roughly the 13th century; exact origins are debated, so the stop says “Middle Ages.” The toothpick trick leaves room for a thread shank so the button sits over the buttonhole layer.

PRACTICE

1. **EASY** What is a shank on a button?
2. **EASY** What does it mean to mend something?
3. **MEDIUM** Why do we leave a button a little bit loose when we sew it on?

Make it a game • Button Sort. Pour a jar of mixed buttons onto a tray. Children race to sort them: two holes, four holes, shanks. Then sort again by color or size. Who can find the biggest button? The smallest? Count each pile and put every button back in the jar.

Scripture. “Then Peter arose and went with them. When he was come, they brought him into the upper chamber: and all the widows stood by him weeping, and shewing the coats and garments which Dorcas made, while she was with them.” (Acts 9:39, KJV)

Dorcas used her needle to make coats and clothes for poor widows. Her friends remembered her kindness by the work of her hands. Mending and sewing for others is a way to love our neighbors.

Practice: answers

1. A little loop on the back of the button, used instead of holes.
2. To fix it so it can be used again.
3. So the cloth around the buttonhole has room to fit under the button.

1.5 A PINCUSHION

OBJECTIVES

- Tell why every sewer needs a pincushion.
- Sew two pieces of felt together around the edges.
- Stuff and close a small cushion.

Warm-up. Hold up a pin. Now drop it on the carpet and try to find it. Hard, isn't it? Where could we keep pins so they never get lost or poke a bare foot?

Video slot. Video coming. Easy felt pincushion sewing project for kids, hand sewn. Search approved channels (Homeschool Pop (Alternate), a 4-H channel, a sewing-machine maker's education channel); preview first.

KEY TERMS

pincushion

A small, stuffed cushion for keeping pins and needles safe and ready.

felt

A thick cloth made by pressing wool or other fibers together. Its edges do not fray.

stuffing

Soft filling, such as cotton or wool, put inside a cushion to make it plump.

emery

A gritty powder that rubs needles clean and sharp.

CORE IDEAS

Pins and needles are small and sharp, and they love to get lost. A **pincushion** keeps them safe, tidy and ready to grab. Sewers have used pincushions for hundreds of years. Some were plain, some were stitched with pretty flowers, and some were given as gifts at the birth of a baby, with a message spelled out in pins.

Many families today have a red pincushion shaped like a tomato with a little strawberry tied to it. The strawberry is not just for looks! It is filled with **emery**, a gritty powder. Poke a dull needle into the strawberry a few times, and it comes out clean and smooth.

You can make your own pincushion from **felt**. Felt is a good cloth for beginners because its edges do not unravel. Cut two squares the same size, and sew them together around three sides with small running stitches or backstitches.

Then fill the cushion with **stuffing** through the open side. Push it into the corners until the cushion is fat and firm. A firm cushion holds pins tight. Sew the last side shut, knot your thread, and your sewing box has a new helper.

PICTURE STUDY



The Diligent Mother, Jean-Siméon Chardin, 1740 · Oil on canvas · Musée du Louvre, Paris
Wikimedia Commons · CC BY-SA 4.0

Jean-Siméon Chardin was a French painter who loved quiet scenes of everyday life. He showed this painting in Paris in 1740 and then gave it to King Louis XV. A mother checks her daughter's needlework, and points out what to fix.

Look closely

- Find the needlework the girl is holding.
- Find the sewing and spinning things around the room.
- Find the little dog. What is it doing?

Talk about it

1. What do you think the mother is telling her daughter?
2. How does it feel when someone helps you fix a mistake?

Safety first. Cut felt with care, keeping fingers away from the blades. Put pins only into the finished cushion, and check the floor for any dropped pins when you are done.

HANDS-ON: SEW A FELT PINCUSHION

Make a small square pincushion for your sewing box, using the stitches you already know.

You will need

- Two squares of felt, 4 by 4 inches each (any color)
- A needle and embroidery floss in a color that shows up

- Stuffing: polyester fiberfill, cotton balls or clean wool
- Small scissors and a ruler
- A button or a small felt shape for the top (optional)

Steps

1. If you like, sew a button or felt shape onto the center of one square first, to make the top pretty.
2. Lay the two squares on top of each other, edges even.
3. Thread and knot your needle. Starting at a corner, sew around three sides, about a quarter inch from the edge, with small running stitches or backstitches.
4. Stop at the fourth side, but do not cut your thread. Push stuffing in until the cushion is firm, filling the corners.
5. Sew the last side closed. Knot the thread well and hide the tail inside the stuffing.
6. Push your pins and needles into your new cushion.

Check your work

- My stitches go all the way around.
- My cushion is firm and the stuffing stays inside.
- My pins and needles now have a safe home.

FIELD NOTEBOOK

1. **Sewing page 5: My pincushion.** Draw your pincushion with pins in it. Write how many stitches you think went around the edge.
2. Draw a tomato pincushion with its strawberry, and label the emery.

Did you know? Long ago, pins were made by hand and were costly, so people treasured them. Some pincushions were made as gifts for a new baby, with pins pushed in to spell a name or a blessing. Pins in those were stuck in but never used!

Goes deeper in. Art, “Jean-Siméon Chardin and Everyday Life,” and History, “Homes in the 1700s” (coming soon).

For families. Sources: Musée du Louvre (Chardin, *La Mère laborieuse*, shown at the Salon of 1740 and presented to Louis XV). Pin-decorated “welcome” pincushions for newborns are documented in British and American museum collections from the 1700s and 1800s. The tomato-and-strawberry pincushion is a long-standing design; its strawberry is filled with emery (or sometimes fine sand). **Badge 1 checkpoint:** this is the fifth stop, so the child has earned the Sewing Scout badge, part 1.

PRACTICE

1. **EASY** What is a pincushion for?
2. **EASY** Why is felt good cloth for beginners?

3. **MEDIUM** What is inside the little strawberry on a tomato pincushion, and what does it do?

Make it a game • Pin Hunt. A grown-up hides 10 large, bright safety pins (closed) around one room. Children hunt for them and “pin” each one into a cushion or felt square. Then everyone counts: are all 10 home? This is the same counting every sewer does at the end of the day.

Scripture. “He that is faithful in that which is least is faithful also in much: and he that is unjust in the least is unjust also in much.” (Luke 16:10, KJV)

A pin is a very small thing. Taking care of small things, like putting every pin away, trains us to be faithful in big things too.

Practice: answers

1. To keep pins and needles safe and ready to use.
2. Its edges do not fray or unravel.
3. Emery, a gritty powder that cleans and sharpens needles.

1.6 A DRAWSTRING BAG

OBJECTIVES

- Sew two side seams with the right sides of the cloth together.
- Make a casing, a tunnel at the top for a cord.
- Thread a drawstring with a safety pin and pull the bag closed.

Warm-up. Pull the string on a hoodie or a shoe bag. What happens to the top? A cord running through a little cloth tunnel can close a whole bag. Today you will make one.

Video slot. Video coming. Simple hand-sewn drawstring bag for kids: side seams, casing, threading a cord with a safety pin. Search approved channels (Homeschool Pop (Alternate), a 4-H channel, a sewing-machine maker's education channel); preview first.

KEY TERMS

right side

The front or pretty side of the cloth, the side people will see.

seam allowance

The strip of cloth between the stitches and the edge, usually about half an inch.

casing

A folded-over tunnel of cloth that a cord or elastic slides through.

drawstring

A cord that pulls the top of a bag closed.

CORE IDEAS

A drawstring bag is one of the oldest and handiest things a person can sew. Travelers, soldiers and shepherds have carried their bread, coins and small treasures in bags like this. It is made from one long piece of cloth, two seams and a cord.

Most cloth has a **right side**, the bright, pretty side, and a wrong side. To sew a bag, fold the cloth in half with the right sides *inside*, facing each other. It feels backward! Sew up both sides, leaving a **seam allowance** of about half an inch between your stitches and the edge. Use backstitch so the seams are strong.

The top of the bag needs a **casing**, a little tunnel of cloth for the cord. It is easiest to make it first: before you sew the sides, fold each short end of the cloth down about an inch and stitch along the fold. When the casings and side seams are done, turn the whole bag right side out. Like magic, the seams disappear inside and the pretty side shows.

Last, pin a safety pin to the end of a cord. Push the safety pin into the casing and wiggle it all the way around until it comes out the other side. Tie the two ends of the cord together. Pull

the **drawstring**, and the top of the bag closes up tight.

PICTURE STUDY



Strawberry Thief, William Morris, 1883 · Printed cotton (hand block-printed) · Victoria and Albert Museum, London, and other collections
Wikimedia Commons · Public domain

William Morris was an English designer who made beautiful wallpapers and cloth. In his garden at Kelmscott Manor, thrushes kept stealing the strawberries. Instead of being cross, he turned them into this pattern. The cloth was printed by hand with carved wooden blocks, one color at a time, so it took many days to make.

Look closely

- Find a thrush with a strawberry in its beak.
- Find two birds that look the same. How often does the pattern repeat?
- How many colors can you count?

Talk about it

1. Would you like a bag made of this cloth? What would you keep in it?
2. Why do you think the cloth cost a lot when it was new?

Safety first. Keep pins pointing away from your hands while you sew, and pull each one out as you reach it. Close the safety pin before you push it into the casing. A drawstring is not a toy for babies or toddlers; keep bags with cords away from little ones' necks.

HANDS-ON: SEW A DRAWSTRING BAG

Make a small bag to keep your sewing tools, marbles or treasures in. This is one of the big projects of the Sewing trail.

You will need

- A piece of cotton cloth, about 8 inches wide and 16 inches long (an old pillowcase works)
- Pins, a needle and strong thread
- Scissors and a ruler
- A cord, ribbon or shoelace about 24 inches long
- A large safety pin

Steps

1. Fold the top 1 inch of each short end to the wrong side and pin it. Sew along the bottom of each fold with running stitch to make the casing tunnels.
2. Fold the cloth in half the short way, right sides together, so the casings are at the top.
3. Pin both sides. Sew each side seam with backstitch, half an inch from the edge, from the bottom up to just under the casing. Do not sew the casing shut.
4. Knot your thread at the top of each seam. Turn the bag right side out and push out the corners with a pencil.
5. Close the safety pin onto one end of the cord. Push it through the front casing, then the back casing, until it comes out where it started.
6. Tie the cord ends in a knot. Pull, and your bag closes!

Check your work

- My side seams are strong and do not have gaps.
- The pretty side of the cloth is on the outside.
- My drawstring slides and closes the bag.

FIELD NOTEBOOK

1. **Sewing page 6: My bag.** Draw your drawstring bag. Label the seam, the casing and the drawstring.
2. Draw a small square of your own repeating pattern, like Morris did, using a fruit or bird from your yard.

Did you know? A safety pin is a handy sewing helper. It was invented in 1849 by an American named Walter Hunt, who twisted a piece of wire into the shape we still use. Hunt had also built an early sewing machine years before.

Goes deeper in. Art, "Pattern and Design," and Arithmetic, "Measuring Length" (coming soon).

For families. Sources: Victoria and Albert Museum (William Morris, *Strawberry Thief*, designed 1883, indigo-discharge and block-printed cotton, printed at Merton Abbey); Smithsonian National Museum of American History (Walter Hunt's safety pin, U.S. Patent 6,281, 1849). For a cleaner top edge, a parent may press the casing fold with an iron first. Cotton from an old pillowcase or shirt is ideal; avoid stretchy knits for a first bag.

PRACTICE

1. **EASY** What is a casing?
2. **MEDIUM** When you sew the side seams, which side of the cloth faces in?
3. **MEDIUM** How does a safety pin help put the drawstring in?

Make it a game · What's in the Bag?. Put one small object in your new drawstring bag and pull it shut. Others feel the bag from the outside and ask yes-or-no questions ("Is it round?" "Is it from the kitchen?") until they guess. The one who guesses fills the bag next.

Scripture. "And he took his staff in his hand, and chose him five smooth stones out of the brook, and put them in a shepherd's bag which he had, even in a scrip; and his sling was in his hand: and he drew near to the Philistine." (1 Samuel 17:40, KJV)

A scrip is a shepherd's bag. David carried his five stones in a simple bag like the one you made, and he trusted God, not the size of his bag, to win the day.

Practice: answers

1. A folded tunnel of cloth that a cord slides through.
2. The right (pretty) side faces in. You turn the bag right side out afterward.
3. You pin it to the cord's end and push it through the casing, pulling the cord along behind it.

1.7 PATTERNS AND PINNING

OBJECTIVES

- Tell what a sewing pattern is: a paper guide for cutting cloth.
- Pin a pattern to cloth with the pins crosswise to the edge.
- Cut out a shape along the pattern's line.

Warm-up. Lay your hand flat on a piece of paper and trace around it. Cut it out. Now you could trace that same hand onto cloth again and again. You have made a pattern!

Video slot. Video coming. What is a sewing pattern? Pinning and cutting a simple paper pattern for kids. Search approved channels (Homeschool Pop (Alternate), a 4-H channel, a sewing-machine maker's education channel); preview first.

KEY TERMS

pattern

A paper shape used as a guide for cutting out cloth pieces.

tailor

A person whose trade is making coats, suits and other clothes to fit.

grain

The direction the threads run in woven cloth, along its length and across it.

measure

To find how long or wide something is, often with a tape measure.

CORE IDEAS

Before you can sew a shirt, you must cut the cloth into the right shapes: a front, a back and two sleeves. But how do you know what shapes to cut? You use a **pattern**. A sewing pattern is a set of paper pieces, each one the shape of a part of the clothes. You lay the paper on the cloth, pin it down and cut around it.

Long ago, a **tailor** or dressmaker would first **measure** each customer with a tape: around the chest, along the arm, down the back. Then the tailor drew the shapes on the cloth or on paper, to fit just that one person. Later, printed paper patterns were sold in shops and in magazines, so families could sew clothes at home.

Woven cloth has a **grain**, like wood. Its threads run up and down and side to side. The pattern piece has an arrow on it, and you lay that arrow along the up-and-down threads. Then the clothes will hang straight and not twist.

To pin the pattern, push each pin in and out of the paper and cloth, across the edge like a little bridge, not along it. Put pins at the corners first, then every few inches. Cut slowly with

long, smooth snips, right on the line. Keep the pins in until the piece is cut out, then slide each one back into your pincushion.

PICTURE STUDY



The Tailor's Workshop, Quiringh van Brekelenkam, 1661-1662 · Oil on panel · Rijksmuseum, Amsterdam
Wikimedia Commons · Public domain

Quiringh van Brekelenkam lived in the Dutch city of Leiden and painted tailors at work many times. In this shop, the tailors sit up on a raised platform by the window to catch the daylight. A woman with a market bucket on her arm has stopped by to look at a coat.

Look closely

- Find the window. Why do the tailors sit so close to it?
- Find the hank of thread hanging over the table.
- Find the coat. What do you think the woman is asking about it?

Talk about it

1. How do the tailors sit? Why might they sit that way?
2. How would a tailor know how big to make the coat?

Safety first. Pin with the points facing away from the hand that holds the cloth. Keep your fingers away from the scissor blades and cut slowly. Lift the scissors only when they are closed.

HANDS-ON: MAKE A PAPER PATTERN AND CUT IT OUT

Draw your own pattern for a felt shape, pin it to cloth and cut it out. You can sew it into a bookmark, an ornament or a patch.

You will need

- Paper (old wrapping paper or newspaper works) and a pencil
- A ruler and a tape measure
- Felt or cotton cloth
- Pins and fabric scissors
- Paper scissors (keep them separate from the fabric scissors!)

Steps

1. With a tape measure, measure your hand from wrist to fingertip. Write the number down.
2. On paper, draw a simple shape: a heart, a star, a fish or a mitten for a toy. Draw an arrow on it to show the grain.
3. Cut out the paper pattern with paper scissors.
4. Lay the pattern on the cloth with the arrow running straight up and down the cloth. Pin it at the corners, then every few inches, with the pins crossing the edge.
5. Cut around the pattern with fabric scissors, slowly, right on the edge.
6. Unpin the pattern and save it in your notebook. Use it again to cut a second piece, and sew the two together with backstitch if you like.

Check your work

- I made a paper pattern with a grain arrow.
- I pinned it across the edges.
- My cloth piece is the same shape as my pattern.

FIELD NOTEBOOK

1. **Sewing page 7: Pattern.** Tape in your paper pattern, or trace it. Label the grain arrow.
2. Write your hand length and one other measurement, such as around your wrist.

Did you know? Tailors in old paintings often sit cross-legged up on their worktables. That way the cloth rested in their laps and stayed off the dusty floor, and they sat close to the light from the window. The tape measure was not common until about two hundred years ago; before that, tailors marked measurements on strips of paper or parchment.

Goes deeper in. Arithmetic, “Measuring Length,” and History, “Trades and Guilds” (coming soon).

For families. Sources: Rijksmuseum (Brekelenkam, *The Tailor's Workshop*, 1661–1662, SK-C-112, on loan from the City of Amsterdam, A. van der Hoop Bequest). Mass-produced, graded paper patterns spread in the mid-1800s (Ebenezer Butterick in the United States began selling them in the 1860s). The date given for the tape measure is approximate. If a parent sews, show a commercial pattern envelope and its grain-line arrows.

PRACTICE

1. **EASY** What is a sewing pattern?
2. **EASY** Do pins go along the edge or across it?
3. **MEDIUM** Why do we line up the pattern's arrow with the threads of the cloth?

Make it a game • Tailor's Shop. One child is the tailor with a tape measure and a notepad; the others are customers. The tailor measures each customer's arm, waist or head and writes it down. Then everyone checks the numbers together. Switch so everyone gets a turn to be the tailor.

Scripture. "And look that thou make them after their pattern, which was shewed thee in the mount." (Exodus 25:40, KJV)

God gave Moses a pattern for the tabernacle and everything in it. A good pattern shows how to make something right, and God's Word is the pattern for how we should live.

Practice: answers

1. A paper shape used as a guide for cutting cloth.
2. Across the edge.
3. So the finished piece hangs straight and does not twist.

1.8 MEET THE SEWING MACHINE (WITH A PARENT)

OBJECTIVES

- Name five parts of a sewing machine: needle, presser foot, bobbin, spool and foot pedal.
- Tell how a machine stitch uses two threads.
- Sew straight lines on paper with a parent beside you.

Warm-up. Count how many stitches you can sew by hand in one minute. A sewing machine can make hundreds of stitches in that time. Today, with a parent, you will meet one.

Video slot. Video coming. Parts of a sewing machine for kids; how a lockstitch is made with a needle thread and a bobbin. Search approved channels (Homeschool Pop (Alternate), Smithsonian, a sewing-machine maker's education channel); preview first.

KEY TERMS

presser foot

The little metal foot that holds the cloth flat while the needle sews.

bobbin

A small spool of thread that sits under the needle plate and gives the bottom thread.

foot pedal

The control on the floor that makes the machine go; press harder to go faster.

lockstitch

A machine stitch where the top thread and the bobbin thread loop together inside the cloth.

CORE IDEAS

For thousands of years, every stitch was made by hand. Then, in the 1800s, inventors began to build machines that could sew. One of them was Elias Howe, a young machinist in Massachusetts. He watched his wife sew for other families to help pay the bills and thought there must be a faster way. In 1846 he was given a patent for his sewing machine.

One clever idea in Howe's machine was to put the eye of the needle near the *point*, not at the top. The needle pushes a loop of thread down through the cloth. Underneath, a second thread from a little spool called a **bobbin** passes through that loop. The two threads lock together inside the cloth. This is called a **lockstitch**, and nearly every sewing machine still makes it today.

Other inventors improved the machine. Isaac Singer built one in 1851 that sold all over the world, and soon many homes had a sewing machine run by a foot treadle. Today most

machines run by electricity, and you make them go with a **foot pedal**.

Look at a machine with your parent. Find the spool of thread on top, the needle, and the **presser foot** that holds the cloth down. Find the handwheel on the side that turns the needle up and down by hand. A sewing machine is fast and strong, so it is used only with a grown-up, slowly and carefully.

PICTURE STUDY



Sewing Machine Patent Model, Elias Howe Jr., 1845–1846 · A working machine of metal on a wooden case · Smithsonian National Museum of American History, Washington, D.C.
Wikimedia Commons · Public domain

When Elias Howe asked for a patent, he took a working machine to the Patent Office in Washington to show how it worked. That very machine was kept, and it is now in the Smithsonian. This picture study is not a painting but a real invention, built by hand by its inventor.

Look closely

- Find the needle. Is it straight or curved?
- Find the spool of thread.
- Find the gears and wheels. What do you think they turn?

Talk about it

1. How is this machine different from a sewing machine today?
2. Why do you think Howe built his own model to show the Patent Office?

Safety first. A sewing machine is used only with a parent beside you. Keep your fingers at least a hand's width from the needle; let the machine pull the cloth, never push or pull

it yourself. Take your foot off the pedal before you touch the needle, the presser foot or the thread. A parent unplugs the machine when you are done. Tie back long hair and keep sleeves away from the needle.

HANDS-ON: PAPER DRIVING LESSONS

Sewers learn to steer a machine by sewing on paper with no thread. The holes show how straight you sewed. A parent must sit beside you for this whole project.

You will need

- A sewing machine and a parent who knows how to use it
- Plain paper or notebook paper
- A ruler and a marker
- An old needle (paper dulls needles, so the parent may swap in a used one)

Steps

1. With your parent, name the parts: spool, needle, presser foot, bobbin, handwheel and foot pedal.
2. Draw three straight lines on the paper with a ruler, then a gentle curve and a zigzag.
3. Your parent removes the thread (or leaves it unthreaded) and sets the machine to a slow speed.
4. Put the paper under the presser foot, lower the foot, and press the pedal gently. Guide the paper with both hands flat, fingers away from the needle, and follow the line.
5. At the end of each line, take your foot off the pedal, raise the needle with the handwheel, lift the foot and pull the paper out.
6. Hold the paper up to a window. Can you see your line of tiny holes?
7. When the lines look good, your parent may thread the machine so you can sew one straight seam on a scrap of cotton.

Check your work

- I can name five parts of the machine.
- I kept my fingers away from the needle the whole time.
- My lines of holes follow the drawn lines.

FIELD NOTEBOOK

1. **Sewing page 8: The machine.** Draw a sewing machine and label five parts: spool, needle, presser foot, bobbin and foot pedal.
2. Tape in your best paper “driving lesson.”

Did you know? The first sewing machines in many homes had no motor. A sewer rocked a big iron treadle under the table with both feet to make the needle go. Some families still have a treadle machine that belonged to a great-grandparent, and many of them still sew.

Goes deeper in. History, “Inventions of the 1800s,” and Small Business & Economics, “Tools That Changed Work” (coming soon).

For families. Sources: Smithsonian National Museum of American History (Elias Howe Jr.’s sewing machine patent model; U.S. Patent 4,750, September 10, 1846); Linda Hall Library. Howe’s patent was not the first U.S. sewing-machine patent; Walter Hunt had built a lockstitch machine with an eye-pointed needle in the 1830s but did not patent it, so the stop credits Howe with using the idea rather than inventing it. Singer’s first machine was patented in 1851. The medium line describes the model generally; check the Smithsonian page for exact materials. Paper sewing with an unthreaded machine is a standard beginner exercise; it dulls needles, so use an old one. **Trail A complete:** eight stops earn the Sewing Scout badge, part 2, and the Trail A certificate.

PRACTICE

1. **EASY** What part of a sewing machine holds the cloth flat?
2. **EASY** Who got a patent for a sewing machine in 1846?
3. **MEDIUM** Where is the eye of a sewing-machine needle, and why?

Make it a game • Needle and Bobbin. Two children face each other. One is the “needle” and holds a loop of yarn; the other is the “bobbin” and holds a straight piece. The needle pokes the loop down through a hula hoop or a hole in a cardboard “cloth,” and the bobbin passes its yarn through the loop. Pull both, and you have a lockstitch! Switch jobs and see who can make one fastest.

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

Whether we sew by hand or by machine, slowly or fast, we can do our work with our whole heart, as a gift to the Lord.

Practice: answers

1. The presser foot.
2. Elias Howe.
3. Near the point, so the needle can carry a loop of thread down through the cloth for the bobbin thread to lock with.

TRAIL 1 BADGE QUIZ

The badge quiz is optional. Read each question aloud; the child may answer by talking, pointing, drawing or showing with real tools. Four right out of five earns the first badge; four right out of five earns the second. Badges and the certificate are earned by doing the stops, not by scores.

Badge quiz 1 (Stops 1-5)

1. What is the hole in a needle called?
2. How long should a sewing thread be?
3. Which stitch is stronger, running stitch or backstitch?
4. Name two kinds of buttons.
5. Why is felt a good cloth for a first pincushion?

Badge quiz 2 (Stops 6-8)

6. What is the tunnel at the top of a drawstring bag called?
7. When you sew the side seams of a bag, is the pretty side in or out?
8. What is a sewing pattern?
9. Do pins go along the edge or across it?
10. Name one safety rule for the sewing machine.

TRAIL CERTIFICATE: MY SEWING PAGES, DRAWSTRING BAG AND TRAIL A CERTIFICATE

Gather your eight Sewing pages, with your practice cards and paper pattern taped in: "My Sewing Book," with your name and dates.

Show your pincushion and drawstring bag, and tell what you keep in the bag.

When the pages are done, a parent signs the Trail A certificate.

- **Pages:** A page for each stop, with a labeled drawing or a stitched sample.
- **Stitches:** The child can sew a running stitch and a backstitch and knot the thread.
- **Projects:** The pincushion and drawstring bag hold together and are put to use.
- **Care:** The child handles needles, pins and scissors safely and puts tools away.

Answer key

1. The eye.
2. About from your fingertips to your elbow.
3. Backstitch.
4. Any two: two-hole, four-hole, shank.
5. Its edges do not fray.
6. The casing.
7. In. You turn it right side out afterward.
8. A paper shape used as a guide for cutting cloth.
9. Across it.

10. Any one: only with a parent; fingers away from the needle; foot off the pedal before touching the needle; let the machine pull the cloth.

CRAFTS AND MAKING ≈ TRAIL B: KNITTING AND NEEDLEWORK

The second trail of the Crafts track follows wool from the sheep to the finished scarf and then picks up the embroidery needle: shearing, carding and spinning, finger knitting, casting on and the knit stitch, a first scarf, four embroidery stitches, the samplers children stitched for centuries, a cross-stitched Bible verse, and the quilts and quilting bees of early America.

This is the ● **Scout** level, for ages 7 to 9. A parent reads the story aloud, or a strong reader reads it alone. Every stop stands by itself, and the needle and knitting stops work best with a grown-up close by. Each stop adds a page to a **Stitch Book** in the Field Notebook, with a drawing and, when possible, a real piece of the child's yarn or stitching taped in.

Five stops earn the **Needlework Scout badge, part 1**; eight stops earn part 2 and the **Trail B certificate**.

BEFORE YOU BEGIN

- Listen to a story of about five minutes and tell it back.
- Cut with child's scissors and tie a simple knot (a grown-up may help).

MASTERY CHECKLIST

- ☐ I can tell how wool goes from a sheep to yarn: shear, wash, card and spin.
- ☐ I can finger-knit a cord and knit rows with needles.
- ☐ I can cast on, knit and bind off a simple scarf.
- ☐ I can make stem, chain, satin and cross-stitches and a French knot.
- ☐ I can tell what a sampler and a quilting bee were, and I have made eight Stitch Book pages.

OPTIONAL BOOKS AND RESOURCES

- **Smithsonian: American Samplers** (<https://www.si.edu/spotlight/american-samplers>): Photos and stories of more than a hundred American samplers; good for Stops B6 and B7.
- **Smithsonian National Museum of American History: Harriet Powers's Bible Quilt** (https://www.si.edu/object/nmah_556462): Large photos of each square of the Bible Quilt for Stop B8.
- **Bayeux Museum: the Bayeux Tapestry** (<https://www.bayeuxmuseum.com/en/>): Zoomable pictures of the whole embroidered story for Stop B5.
- **Melanie Falick, *Kids Knitting* (1998)** (<https://www.worldcat.org>): A clear, friendly how-to book with finger knitting, first stitches and simple projects. Look for it at the library.

2.1 WOOL: FROM SHEEP TO YARN

OBJECTIVES

- Tell the four steps from sheep to yarn: shear, wash, card and spin.
- Say what a spindle and a distaff are for.
- Read Proverbs 31:13 and 19 and tell what the woman in those verses did with wool.

Warm-up. Find something made of wool, like a sweater, a hat or a pair of socks. Feel it, then feel a cotton T-shirt. Which one is springier? Which one feels warmer? The wool once grew on the back of a sheep.

Video slot. Video coming. Sheep shearing and how wool becomes yarn: washing, carding and spinning on a spindle and a spinning wheel. Search approved channels (a living-history farm such as Colonial Williamsburg or Old Sturbridge Village, a 4-H or county fair sheep channel, Homeschool Pop (Alternate)); preview first.

KEY TERMS

fleece

The whole woolly coat of a sheep, taken off in one piece.

shearing

Cutting the fleece off a sheep, usually once a year in spring. It does not hurt the sheep, just as a haircut does not hurt you.

carding

Brushing wool between two combs with wire teeth so all the fibers lie the same way and get fluffy.

spinning

Pulling and twisting fibers into a long, strong thread called yarn.

CORE IDEAS

All winter a sheep wears a thick wool coat. When warm spring days come, the farmer catches each sheep and cuts the coat off with shears. This is called **shearing**. A good shearer takes the whole coat off in one big piece, like a fluffy rug. That piece is the **fleece**, and by next winter the sheep will have grown a new one.

A fresh fleece is greasy and full of bits of hay and dirt. First it is washed in warm, soapy water and dried in the sun. Then comes **carding**. The wool is brushed between two cards, flat paddles covered with little wire teeth, until it is soft and fluffy like a cloud.

Now the fluffy wool must become yarn. That is **spinning**. Long ago, a spinner tied the clean wool onto a stick called a **distaff**. With her fingers she drew out a few fibers at a time and let a twirling stick called a **spindle** twist them into thread. Twisting is the secret: a loose puff of

wool pulls apart easily, but twisted wool is strong. Later, people built spinning wheels to twirl the thread much faster.

The Bible tells of a wise and hard-working woman in Proverbs 31. “She seeketh wool, and flax,” it says, and “she layeth her hands to the spindle.” Thousands of years ago, families depended on hands like hers. Every warm cloak began as a sheep in a field and a spinner at her spindle.

PICTURE STUDY



The Spinners (Las Hilanderas), Diego Velázquez, c. 1657 · Oil on canvas · Museo del Prado, Madrid, Spain
Wikimedia Commons · Public domain

Diego Velázquez was the court painter to King Philip IV of Spain. In this painting, women in a workshop spin and wind wool. Behind them, in a bright room, ladies look at a finished tapestry, a big woven picture made from yarn like theirs.

Look closely

- Find the spinning wheel on the left. Can you see the spokes? Why do they look blurry?
- Find the woman on the right winding yarn into a ball.
- Find the bright room at the back. What hangs on its wall?

Talk about it

1. Why did the painter make the spinning wheel look blurry?
2. How is the work in the front connected to the picture in the back?

Safety first. Wash your hands after touching raw wool. Carding brushes and pet slicker brushes have sharp wire teeth, so brush slowly and keep fingers away from the teeth.

HANDS-ON: TWIST YOUR OWN YARN

Turn a puff of wool into a short piece of real yarn with nothing but your fingers.

You will need

- A handful of clean wool roving from a craft store (or cotton balls if you have no wool)
- Two pet slicker brushes or two wide-tooth combs for carding
- A pencil
- Tape

Steps

1. Pull a small puff of wool apart gently with your fingers. Feel how easily it breaks.
2. Card it: lay the puff on one brush and stroke it lightly with the other brush, five or six times, until it is fluffy.
3. Pinch a few fibers at one end. Twist them between your thumb and pointer finger while you slowly pull back with the other hand. Keep twisting and pulling.
4. Tape the start of your thread to a pencil. Twirl the pencil like a spindle while a grown-up feeds out more fibers.
5. Now pull gently on your yarn. Is it stronger than the puff you started with?

Check your work

- I carded the wool until it was fluffy.
- I twisted fibers into a piece of yarn.
- I can tell why twisting makes yarn strong.

FIELD NOTEBOOK

1. **Stitch Book page 1: Sheep to yarn.** Draw four boxes like a comic strip: a woolly sheep, shearing, carding, spinning. Label each box.
2. Tape a piece of the yarn you twisted at the bottom of the page.

Did you know? A fleece is greasy because sheep make a natural oil called **lanolin**. It helps keep rain off the sheep, and people put it in hand cream. A single fleece often weighs several pounds, enough for a sweater or more.

Goes deeper in. Gardening & Animals, “Farm Animals,” and History, “Daily Life in Bible Times” (coming soon).

For families. Sources: Proverbs 31:13, 19 (KJV); Museo del Prado. Fleece weights vary a great deal by breed and sheep, so the stop says “several pounds” rather than a single number. Many scholars think *The Spinners* shows the royal tapestry workshop of Santa Isabel in Madrid and tells the old story of Arachne in the tapestry at the back; the stop does not go into the myth. Painting dates are given as about 1655–1660.

PRACTICE

1. **EASY** What is it called when the farmer cuts the wool off a sheep?
2. **MEDIUM** Put these in order: spin, shear, card, wash.
3. **MEDIUM** Why does a spinner twist the wool?

Make it a game • Sheep to Sweater. Write SHEAR, WASH, CARD, SPIN and KNIT on five cards and hide them around the room. Children find them and line up holding the cards in the right order. Then they act out each step together: snip, scrub, brush, twirl and knit.

Scripture. “She seeketh wool, and flax, and worketh willingly with her hands. ... She layeth her hands to the spindle, and her hands hold the distaff.” (Proverbs 31:13, 19, KJV)

The wise woman of Proverbs 31 worked “willingly,” glad to make things for her family. God gave us sheep for wool and hands to turn it into warm clothes.

Practice: answers

1. Shearing.
2. Shear, wash, card, spin.
3. Twisting makes the loose fibers hold together into strong yarn.

2.2 FINGER KNITTING

OBJECTIVES

- Tell how knitting works: a loop pulled through a loop.
- Finger-knit a cord on two fingers.
- Finish the cord so it does not come undone.

Warm-up. Make a circle with your thumb and pointer finger. Now hook a circle from your other hand through it. Two loops holding on to each other! That is the whole idea of knitting.

Video slot. Video coming. Two-finger or four-finger finger knitting for children, step by step. Search approved channels (a library or 4-H crafts channel, a yarn company such as Lion Brand or Red Heart kids' tutorials, Homeschool Pop (Alternate)); preview first.

KEY TERMS

loop

A curve of yarn that makes a little ring.

knitting

Making fabric by pulling loops of yarn through other loops, row after row.

cord

A long, thick, round rope of yarn.

tail

The loose end of yarn left at the start or the end of your work.

CORE IDEAS

Look closely at a knitted sock or hat. You will see rows of tiny V shapes. Each V is a **loop** of yarn, and each loop is pulled through the loop below it. One long piece of yarn, looped again and again, makes a whole hat. That is **knitting**.

Most knitters use long sticks called needles to hold their loops. But you already own the first tools any knitter ever had: your fingers. In finger knitting, your fingers hold the loops while you lift each bottom loop over the top one and let it drop off.

Finger knitting grows a soft **cord** that hangs down behind your hand. It grows fast! In a few minutes you can make a cord as long as your arm. A finger-knit cord can tie up a bag, hold back a curtain, or become a bracelet, a belt or a doll's scarf.

Finger knitting is a good first step because it teaches your hands the knitter's main job: catching a loop and pulling it over another. When you hold needles later, your hands will already know what to do.

PICTURE STUDY



The Knitting Girl, William-Adolphe Bouguereau, 1869 · Oil on canvas · Joslyn Art Museum, Omaha, Nebraska
Wikimedia Commons · Public domain

William-Adolphe Bouguereau was a French painter famous for very lifelike pictures of children. This was one of the first paintings he made of country girls at their daily work. Children in the French countryside often knitted while they watched the sheep or rested.

Look closely

- Find her hands. What is she holding?
- Follow the yarn with your finger. Where does it go?
- Look behind her. Is she inside or outside?

Talk about it

1. Why might a country child knit while she sat outdoors?
2. What do you think she is making?

Safety first. Wrap the yarn loosely. If your fingers turn red or tingle, slide the loops off and start again looser. Never wrap yarn or a finished cord around your neck.

HANDS-ON: A TWO-FINGER CORD

Make a cord on your pointer and middle fingers. A grown-up can help with the first two wraps.

You will need

- A ball of thick (chunky) yarn in a bright color

- Child's scissors

Steps

1. Hold up your pointer and middle fingers with your palm facing you. Tuck the yarn tail between your thumb and pointer finger and hold it there.
2. Wrap the yarn in a figure eight: behind the pointer, in front of the middle finger, behind the middle finger and back in front of the pointer.
3. Wrap one more figure eight just above the first. Now each finger has two loops.
4. On each finger, lift the bottom loop up, over the top loop and off the back of the finger. Now each finger has one loop.
5. Wrap once more and lift again. Keep going! Every few rows, gently tug the tail down behind your hand.
6. To finish, cut the yarn, leaving a tail as long as your hand. Slide the loops off, push the tail through them and pull tight.

Check your work

- I lifted the bottom loop over the top loop.
- My cord is at least as long as my arm.
- I finished the end so it will not come undone.

FIELD NOTEBOOK

1. **Stitch Book page 2: Loops.** Draw two loops hooked together. Under it write: "Knitting is a loop pulled through a loop."
2. Tape a short piece of your finger-knit cord to the page and write how long the whole cord is.

Did you know? You can finger-knit on four fingers to make a wider, flatter cord. If you sew long finger-knit cords side by side, you can make a mat, a pillow or even a small blanket.

Goes deeper in. Art, "Line and Texture," and Arithmetic, "Measuring Length" (coming soon).

For families. Sources: Joslyn Art Museum; Bouguereau painted his first idealized peasant-girl pictures in the mid-1860s, and *The Knitting Girl* (1869) is usually named as one of the first. No one knows when or where finger knitting began, so the stop makes no claim about its history. Chunky yarn is easiest for small hands; avoid slippery or fuzzy yarn at first.

PRACTICE

1. **EASY** What tools do you use for finger knitting?

2. **EASY** In finger knitting, which loop do you lift over the other, the top one or the bottom one?
3. **MEDIUM** Name two things you could do with a finger-knit cord.

Make it a game • Cord Snake. Everyone lays their finished cords end to end on the floor to make one long “snake.” Guess how many of your own feet long it is, then walk heel to toe beside it to find out. Whose guess was closest?

Scripture. “And if one prevail against him, two shall withstand him; and a threefold cord is not quickly broken.” (Ecclesiastes 4:12, KJV)

One strand of yarn snaps easily, but many loops and strands together make a strong cord. In the same way, God made people to be stronger together than alone.

Practice: answers

1. Your fingers (and yarn).
2. The bottom one.
3. Any two: tie a bag, make a bracelet or belt, hold back a curtain, a doll’s scarf, a bookmark.

2.3 CASTING ON AND THE KNIT STITCH

OBJECTIVES

- Cast on ten stitches with a simple loop cast-on.
- Knit a row using the “front door” rhyme.
- Name the working yarn, the stitches and the row.

Warm-up. Hold a pencil in each hand like two chopsticks and tap the points together gently. Knitting needles are held almost the same way. Today you will make your first real knitted stitches.

Video slot. Video coming. How to cast on (backward-loop or long-tail) and work the knit stitch, slow and close-up for beginners. Search approved channels (a yarn company such as Lion Brand or Red Heart, a 4-H or library crafts channel, Homeschool Pop (Alternate)); preview first.

KEY TERMS

cast on

To put the first loops of yarn onto a knitting needle.

stitch

One loop of yarn sitting on the needle.

working yarn

The yarn that runs from your stitches to the ball. It is the yarn you wrap.

row

One line of stitches knitted from one needle to the other.

CORE IDEAS

For hundreds of years, children learned to knit at home, at school, or beside a mother or grandmother by the fire. They knitted stockings, mittens and caps for the whole family. Shepherds knitted while they watched their flocks, and fishermen’s families knitted thick sweaters for the cold sea.

Every piece of knitting starts the same way. First you **cast on**: you put a row of loops onto one needle. Each loop is a **stitch**. You can count them, and you should! Ten stitches is a good number to learn with.

Next comes the knit stitch. You hold the needle full of stitches in your left hand and the empty needle in your right. Then you say the old rhyme as you go: “In through the front door, once around the back, out through the window, and off jumps Jack.” Each time you say it, one new stitch moves to the right-hand needle.

When all the stitches have jumped across, you have knitted one **row**. Swap the needles between your hands, and knit back again. Row by row, your loops become fabric. Your first rows may be loose or tight or lumpy. That is how every knitter began.

PICTURE STUDY



The Knitting Lesson, Jean-François Millet, 1869 · Oil on canvas · Saint Louis Art Museum, Missouri
Wikimedia Commons · Public domain

Jean-François Millet was a French painter who loved to show farm families at their work. Here a mother teaches her daughter to knit a sock. Millet's own wife and one of his daughters helped him plan the picture.

Look closely

- Count the girl's needles. How many do you see?
- Look at the mother's hands. How is she helping?
- Find the ball of yarn.

Talk about it

1. How does the girl show that she is trying hard?
2. Who taught you something with their hands on yours?

Safety first. Knitting needles have points. Walk, don't run, while holding them; keep the points down when you carry them; and push the points into a cork or eraser when you put your knitting away.

HANDS-ON: MY FIRST TEN STITCHES

Cast on and knit a small square. It does not need to be neat; it needs to be yours.

You will need

- A ball of smooth, light-colored medium or chunky yarn (light colors make stitches easier to see)
- A pair of knitting needles, US size 9 to 10½ (5.5 to 6.5 mm)
- Child's scissors

Steps

1. With a grown-up, tie a slip knot and put it on one needle. That is stitch number 1.
2. Hold that needle in your right hand. Wrap the working yarn around your left thumb, slide the needle up under the yarn on your thumb, and let the loop drop onto the needle. Snug it gently. That is stitch 2.
3. Do it again until you have ten stitches. Count them out loud.
4. Move that needle to your left hand. Push the empty needle into the first stitch from front to back: "In through the front door."
5. Wrap the working yarn around the right needle: "Once around the back." Pull the new loop toward you through the stitch: "Out through the window." Slide the old stitch off the left needle: "And off jumps Jack."
6. Keep going until all ten stitches are on the right needle. Swap hands and knit more rows. Count your stitches at the end of each row.

Check your work

- I cast on ten stitches.
- I knitted at least two rows.
- I counted my stitches after each row.

FIELD NOTEBOOK

1. **Stitch Book page 3: The knit stitch.** Draw four little pictures for the rhyme: a front door, a wrap around the back, a window and Jack jumping off.
2. Write how many rows you knitted today.

Did you know? When you knit every row, the fabric gets little bumpy ridges on both sides. Knitters call this **garter stitch**. It lies flat and does not curl, so it is perfect for a first scarf.

Goes deeper in. History, "Home and Farm Life Long Ago," and Art, "Jean-François Millet" (coming soon).

For families. Sources: Saint Louis Art Museum, which notes the girl is knitting a sock on four needles and that Millet drew on studies of his wife, Catherine Lemaire, and a daughter; Millet also made an earlier drawing and etching of the same subject. The “front door” rhyme has several versions; any one works. The backward-loop (thumb) cast-on is used because it is easiest; long-tail cast-on can be taught later.

PRACTICE

1. **EASY** What do we call putting the first loops onto a needle?
2. **MEDIUM** Say the knit stitch rhyme.
3. **MEDIUM** You cast on ten stitches. How many should you have after one row?

Make it a game • Off Jumps Jack. Players stand in a row. A grown-up says the rhyme slowly: at “In through the front door,” step forward; “once around the back,” turn around; “out through the window,” turn back and peek through your hands; “off jumps Jack,” jump! Say it faster each time.

Scripture. “That their hearts might be comforted, being knit together in love, and unto all riches of the full assurance of understanding, to the acknowledgement of the mystery of God, and of the Father, and of Christ;” (Colossians 2:2, KJV)

Paul prayed that Christians would be “knit together in love.” Like stitches in knitting, each one holds on to the others, and together they make something whole.

Practice: answers

1. Casting on.
2. “In through the front door, once around the back, out through the window, and off jumps Jack.”
3. Still ten. Knitting a row moves each stitch across; it does not add or take away stitches.

2.4 A FIRST SCARF

OBJECTIVES

- Plan a scarf: how wide, how long and what color.
- Knit row after row in garter stitch, a little each day.
- Bind off and weave in the ends when the scarf is long enough.

Warm-up. Hold your arms out wide. A scarf for you is about as long as you are tall. How many rows do you think that will take? Make a guess and write it down; you will find out later.

Video slot. Video coming. How to bind off (cast off) knitting and weave in ends; a child's first garter-stitch scarf. Search approved channels (a yarn company such as Lion Brand or Red Heart, a 4-H or library crafts channel, Homeschool Pop (Alternate)); preview first.

KEY TERMS

garter stitch

Knitting every stitch on every row. It makes soft, bumpy ridges that lie flat.

skein

A bundle of yarn as it comes from the store (say “SKANE”).

bind off

To take the stitches off the needle one by one so the knitting cannot unravel.

fringe

Short pieces of yarn tied along the ends of a scarf for decoration.

CORE IDEAS

A scarf is the perfect first project. It is a long rectangle, so you never have to add stitches or take any away. You simply knit every row, back and forth, in **garter stitch**. Each ridge you make is two rows.

A scarf is not made in one day. A knitter does a few rows after breakfast and a few more after supper. Little by little it grows: first as long as your hand, then your arm, then you! Knitting teaches patience. Each small row matters, even when you cannot yet see the whole thing.

Long ago, every home needed warm things for winter, and a scarf made by hand was a real gift. During the First World War, many American families, children too, knitted scarves, socks and sweaters to send to soldiers, sailors and the Red Cross. A child's rows of plain knitting helped keep someone warm far away.

When your scarf is as long as you want, you **bind off**. You lift each stitch over the next until only one is left, then pull the yarn through it. Weave in the loose ends, add a **fringe** if you like, and your scarf is ready to wear or to give away.

PICTURE STUDY



The Lacemaker, Johannes Vermeer, c. 1669–1670 · Oil on canvas · Musée du Louvre, Paris, France
Wikimedia Commons · CC BY-SA 3.0

Johannes Vermeer was a Dutch painter who lived in the town of Delft. This is one of his smallest paintings, only about the size of a sheet of notebook paper. The young woman is making lace, a fine, open needlework made by twisting many threads around pins. It takes great patience, just like knitting a scarf.

Look closely

- Find her hands. What are her fingers holding?
- Find the red and white threads spilling out of the cushion.
- Look at her face. How can you tell she is paying close attention?

Talk about it

1. Why do you think the painter made the picture so small and close?
2. What helps you keep going on a long job?

Safety first. Keep needle points down when you carry your knitting. A scarf should always be worn loose, never tied tight, and never used in pulling or tug-of-war games.

HANDS-ON: KNIT MY FIRST SCARF

Start your scarf today and knit a little each day. A grown-up can help with the bind-off at the end.

You will need

- Two skeins of chunky (bulky) yarn, about 200 yards in all
- A pair of knitting needles, US size 10½ or 11 (6.5 or 8 mm)
- A large, blunt yarn needle (tapestry needle)
- Child’s scissors and a tape measure

Steps

1. Cast on 15 stitches. Count them twice.
2. Knit every stitch, every row. Count your stitches at the end of each row. Still 15? Good.
3. Knit at least four rows today. Each day, measure your scarf and write the length in your Stitch Book.
4. When the first skein runs out, a grown-up helps you tie on the next one at the start of a row, leaving long tails.
5. When the scarf is as long as you are tall, bind off: knit two stitches, then lift the first one over the second and off the needle. Knit one more and lift again. Keep going until one stitch is left. Cut the yarn and pull the tail through that last loop.
6. Thread each loose tail on the yarn needle and weave it in and out along the edge. Add a fringe if you like.

Check your work

- I knitted every row with the same number of stitches.
- I measured my scarf as it grew.
- I bound off and wove in my ends.

FIELD NOTEBOOK

1. **Stitch Book page 4: My scarf chart.** Draw a tall, thin rectangle. Each day, color in how far your scarf has grown and write the date.
2. When it is finished, write who will wear it.

Did you know? In 1917 and 1918, the American Red Cross asked people across the country to knit for the troops. Schools held knitting clubs, and some children knitted squares that grown-ups sewed into blankets. The slogan “Knit Your Bit” came from those years.

Goes deeper in. History, “The First World War,” and Arithmetic, “Measuring Length” (coming soon).

For families. Sources: American Red Cross history pages; the Musée du Louvre. The Red Cross knitting campaign of 1917–1918 is well documented; “Knit Your Bit” is associated with it and is also used today by the National WWII Museum’s knitting program. *The Lacemaker* shows bobbin lace, not knitting; it was chosen to show patient handwork. It measures about 24 × 21 cm. This scarf takes most children one to three weeks of short daily sessions.

PRACTICE

1. **EASY** What is it called when you knit every stitch on every row?
2. **MEDIUM** Why do we bind off at the end?
3. **MEDIUM** You cast on 15 stitches. After 20 rows, how many stitches should be on your needle?

Make it a game • Guess the Length. Lay out a scarf, a towel, a jump rope and a belt. Each player guesses how long each one is, using “hand spans” or “feet.” Then measure with a tape measure. The closest guess for each item earns a point.

Scripture. “She is not afraid of the snow for her household: for all her household are clothed with scarlet.” (Proverbs 31:21, KJV)

The wise woman of Proverbs 31 made warm clothes ahead of time, so winter did not frighten her family. A scarf made with care is a way to love the people in your home.

Practice: answers

1. Garter stitch.
2. So the stitches cannot slip off and unravel.
3. Fifteen. A scarf in garter stitch keeps the same number of stitches all the way.

2.5 EMBROIDERY STITCHES: STEM, CHAIN, SATIN AND FRENCH KNOT

OBJECTIVES

- Put cloth in an embroidery hoop and thread an embroidery needle.
- Stitch a line of stem stitch and a line of chain stitch.
- Fill a small shape with satin stitch and make a French knot.

Warm-up. Look at the clothes and towels in your house. Can you find any letters, flowers or pictures sewn on with thread? That is embroidery: drawing with a needle.

Video slot. Video coming. Beginner hand embroidery: stem stitch, chain stitch, satin stitch and French knot, close-up and slow. Search approved channels (Royal School of Needlework, a museum textile channel such as the V&A, a 4-H or library crafts channel); preview first.

KEY TERMS

embroidery

Decorating cloth with stitches of thread or yarn, like drawing with a needle.

floss

Soft, shiny embroidery thread made of six thin strands twisted loosely together.

hoop

Two rings, one inside the other, that hold cloth tight like a drum while you stitch.

French knot

A tiny knot that sits on top of the cloth like a bead, made by wrapping thread around the needle.

CORE IDEAS

Over 900 years ago, after Duke William of Normandy crossed the sea and won the Battle of Hastings in 1066, needleworkers, probably in England, stitched the whole story onto a long strip of linen. It is called the Bayeux Tapestry, but it is really **embroidery**: the pictures are stitched on top of the cloth with colored wool. It is about 230 feet long, more than three-quarters as long as a football field.

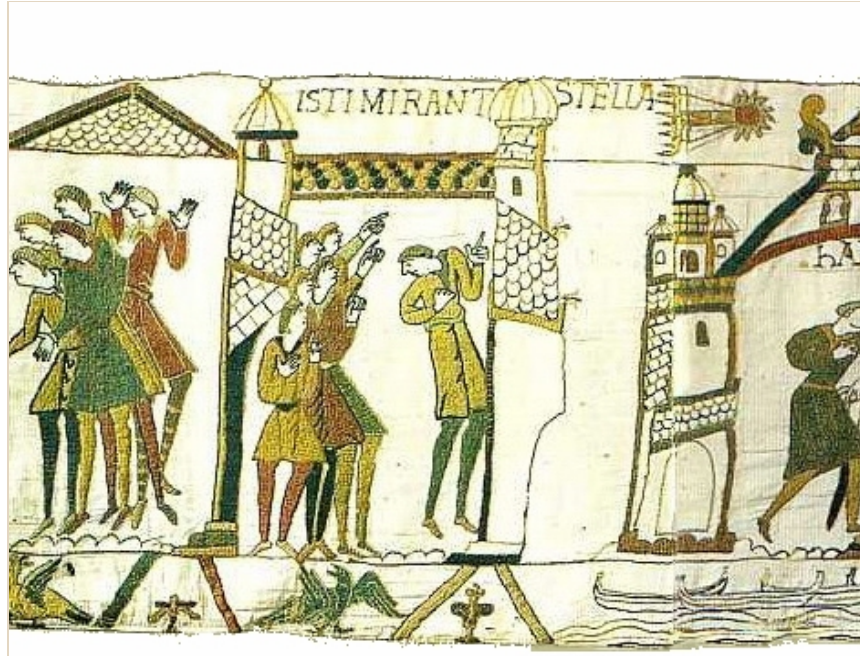
Those needleworkers drew the outlines of ships, horses and people with a stitch we still use today: the **stem stitch**. Each stitch overlaps the one before, so the line looks like a twisted rope. It is perfect for stems, letters and outlines.

Three more stitches will give you a whole box of “pencils.” The **chain stitch** is a row of little loops, each one holding the next, like a chain. The **satin stitch** lays stitches close side by

side to fill in a shape, smooth and shiny like satin. The **French knot** is a tiny bump, just right for eyes, flower centers or dots.

An embroiderer works slowly and carefully. The cloth sits tight in a **hoop**, and the needle goes up and down, up and down. Every stitch is small, but together they make a picture that can last for hundreds of years.

PICTURE STUDY



*The Bayeux Tapestry: Halley's Comet scene, Unknown needleworkers, probably in England, 1070s · Wool embroidery on linen · Bayeux Museum, Normandy, France
Wikimedia Commons · Public domain*

In 1066 a bright comet crossed the sky over England. The needleworkers stitched it into the story, with a row of men pointing up at it. The Latin words above them say, “These men wonder at the star.” The comet we now call Halley’s Comet still comes back about every 76 years.

Look closely

- Find the comet. How did the stitchers show its tail?
- Find the men pointing. What are their faces and hands saying?
- Find the letters stitched across the top. What are they for?

Talk about it

1. Which lines look like stem stitch to you?
2. Why might people tell a story with a needle instead of a pen?

Safety first. Embroidery needles are sharp. Count needles out and count them back in, keep them in a pincushion or needle book, and never hold one in your mouth. Use child’s

scissors to cut thread.

HANDS-ON: MY FOUR-STITCH SAMPLER CARD

Practice the four stitches in rows on one piece of cloth. A grown-up can show each stitch first.

You will need

- A 6-inch embroidery hoop
- A 9-inch square of plain cotton or muslin
- Embroidery floss in three or four colors
- An embroidery needle with a large eye
- A pencil or washable marker, child's scissors, a pincushion

Steps

1. Put the cloth in the hoop and tighten it until it is smooth like a drum. Draw two straight lines, a small heart and four dots.
2. Thread the needle with an arm's length of floss and knot the end.
3. Stem stitch on line 1: come up at the start, go down a little ahead, then come up halfway back, just beside the last stitch. Repeat.
4. Chain stitch on line 2: come up, go back down in the same hole, and leave a loop. Come up inside the loop a little ahead and pull gently. Repeat to make a chain.
5. Satin stitch in the heart: make straight stitches side by side from edge to edge until the heart is filled.
6. French knots on the dots: come up, wrap the thread twice around the needle, and go down right next to where you came up, holding the thread snug as you pull through.

Check your work

- My cloth stayed tight in the hoop.
- I made a line of stem stitch and a line of chain stitch.
- I filled a shape with satin stitch and made at least one French knot.

FIELD NOTEBOOK

1. **Stitch Book page 5: Four stitches.** Draw each stitch the way it looks: a rope (stem), a chain, a smooth filled shape (satin) and a dot (French knot). Label them.
2. Draw a comet the way the Bayeux stitchers did.

Did you know? The Bayeux Tapestry is only about 20 inches tall but about 230 feet long. It shows more than 600 people, about 200 horses, and ships, castles and a feast. Most of it was stitched with just two kinds of stitches: an outline stitch and a filling stitch now called "Bayeux stitch."

Goes deeper in. History, “The Norman Conquest,” and Art, “Line” (coming soon).

For families. Sources: Bayeux Museum; Britannica. The tapestry is about 68–70 m long and 50 cm high. Most historians think it was made in England, perhaps at Canterbury, for Bishop Odo, William’s half-brother, but this is not certain. A loan of the tapestry to the British Museum in London was announced for 2026–2027, so check where it is on display before planning a visit. The battle scenes show fighting but no gore; this stop uses the comet scene.

PRACTICE

1. **EASY** Which stitch makes a tiny bump like a bead?
2. **MEDIUM** Which stitch would you use to fill in a heart shape?
3. **MEDIUM** Why is the Bayeux Tapestry really embroidery?

Make it a game · Stitch Charades. One player acts out a stitch with the whole body: a twisting rope walk for stem stitch, linked arms for chain stitch, smooth side-by-side steps for satin stitch, or curling into a ball for a French knot. The others guess the stitch.

Scripture. “Them hath he filled with wisdom of heart, to work all manner of work, of the engraver, and of the cunning workman, and of the embroiderer, in blue, and in purple, in scarlet, and in fine linen, and of the weaver, even of them that do any work, and of those that devise cunning work.” (Exodus 35:35, KJV)

When Israel built the tabernacle, God gave skill to the embroiderers who stitched in blue, purple and scarlet. The Bible counts careful needlework as a gift from God.

Practice: answers

1. The French knot.
2. Satin stitch.
3. Its pictures are stitched on top of linen cloth with wool, not woven into the cloth.

2.6 A SAMPLER, AS CHILDREN STITCHED FOR CENTURIES

OBJECTIVES

- Tell what a sampler is and why children made them.
- Tell about Loara Standish and her sampler from Plymouth Colony.
- Plan a small sampler and begin stitching it.

Warm-up. Write your name and today’s date in your neatest letters. Long ago, many children wrote their names like this, but with a needle and thread.

Video slot. Video coming. Historic American samplers: how and why children stitched alphabets, verses and names. Search approved channels (Smithsonian, Colonial Williamsburg, Pilgrim Hall Museum, Old Sturbridge Village); preview first.

KEY TERMS

sampler

A piece of cloth stitched with letters, numbers, pictures and often a verse, to practice and show needlework.

alphabet

All the letters, A to Z, in order.

border

A stitched edge that goes all the way around a sampler like a frame.

motif

A small picture used again and again, like a tree, a bird, a heart or a star (say “mo-TEEF”).

CORE IDEAS

Long ago, there were no store-bought pattern books in most homes. So a girl stitched a **sampler**: a “sample” of every stitch and letter she knew. It was her practice piece and her pattern book at the same time. Many children began their first sampler at six, seven or eight years old.

Why stitch letters? Families marked their sheets, towels and shirts with initials so they would not be lost in the wash. A child who could stitch the **alphabet** and numbers could mark the family’s linens. Stitching letters also helped children learn to read and spell.

One of the oldest samplers made in America was stitched in Plymouth Colony about 375 years ago by Loara Standish, the daughter of Captain Myles Standish, who sailed on the *Mayflower*. Her sampler has rows of patterns and a verse that begins, “Lorde guide my hart that I may doe thy will.” She asked God to guide her heart and give her hands good skill.

As the years passed, samplers grew fancier, with houses, trees, flowers, birds and a **border** all around. But almost every one still had the same things: the alphabet, the child's name, her age or the year, and often a verse from the Bible or a prayer. A sampler said, "I learned this, and I did it carefully."

PICTURE STUDY

Sampler by Lydia Dickman, Lydia Dickman, Boston, Massachusetts, 1735 · Needlework on linen · Smithsonian National Museum of American History, Washington, D.C.

Lydia Dickman lived in Boston almost 300 years ago, when Massachusetts was still a colony of Great Britain. Her sampler is the oldest dated sampler in the Smithsonian's collection of American samplers. Look at it the way a teacher long ago would have, checking each row.

Look closely

- Find a row of letters. Can you read any of them?
- Find a row of patterns. Is the same shape repeated?
- Look for numbers. Can you find the year 1735?

Talk about it

1. How old do you think Lydia was when she made it?
2. Which row do you think was hardest to stitch? Why?

Safety first. Count needles out and back in, and keep them in a pincushion. Never hold a needle in your mouth. Use child's scissors to cut thread.

HANDS-ON: PLAN AND BEGIN MY SAMPLER

Plan a small sampler of your own on paper, then stitch your initials and a border. You will finish it bit by bit.

You will need

- Graph paper and a pencil
- An 8-inch square of gingham (checked cloth) or Aida cloth
- A 6-inch embroidery hoop
- Embroidery floss in two or three colors
- An embroidery needle with a large eye, child's scissors, a pincushion

Steps

1. On graph paper, draw your plan: a border all around, your initials in the middle, the year underneath and one small motif, like a heart or a tree.
2. Put the cloth in the hoop. Use the checks of the gingham (or the holes of the Aida) as your guide, like the squares on your plan.

3. Stitch the border with a running stitch: up through the cloth, down a square ahead, up a square ahead, and so on all the way around.
4. Stitch your initials. Make each line of each letter with small, straight stitches along the checks.
5. Stitch the year and your motif another day. When it is all done, sign your plan with your full name.

Check your work

- My plan has a border, my initials, the year and a motif.
- I followed the squares on the cloth.
- I stitched at least my border or my initials today.

FIELD NOTEBOOK

1. **Stitch Book page 6: My sampler plan.** Glue in your graph-paper plan, or draw it again here.
2. Copy Loara Standish's first line: "Lorde guide my hart that I may doe thy will." Then write it in today's spelling.

Did you know? The oldest sampler with a date stitched on it that we know of from England was made by Jane Bostocke in 1598. It is in the Victoria and Albert Museum in London. Samplers were often spelled oddly, because spelling was not yet fixed and children were still learning.

Goes deeper in. History, "Plymouth Colony," and Literature, "Early American Reading" (coming soon).

For families. Sources: Pilgrim Hall Museum, Plymouth (Loara Standish sampler, usually dated c. 1640s-1653; she was born after 1627 and died before 1655); Smithsonian "American Samplers" spotlight (Lydia Dickman, 1735, the earliest dated sampler in the collection); Victoria and Albert Museum (Jane Bostocke, 1598). The Dickman sampler's exact rows and materials were not checked line by line, so the look questions are general; any sampler from the Smithsonian page may be used instead. Most sampler makers were girls, and the stop says so, but any child may stitch one.

PRACTICE

1. **EASY** What is a sampler?
2. **MEDIUM** Why did families need children who could stitch letters?
3. **MEDIUM** Whose daughter was Loara Standish?

Make it a game • Sampler Spy. A grown-up shows a picture of an old sampler from the Smithsonian website. Players take turns saying "I spy a..." (a letter, a bird, a number, a tree, a border). The first to point to it takes the next turn.

Scripture. “Train up a child in the way he should go: and when he is old, he will not depart from it.” (Proverbs 22:6, KJV)

Samplers were part of how parents trained their children: in letters, in careful work, and in God’s Word. What you learn well as a child stays with you all your life.

Practice: answers

1. A piece of cloth stitched with letters, numbers, pictures and often a verse, to practice and show needlework.
2. To mark sheets, towels and clothes with initials so they would not be lost.
3. Captain Myles Standish of Plymouth Colony, who came on the Mayflower.

2.7 CROSS-STITCH A VERSE

OBJECTIVES

- Read a cross-stitch chart: one square on the chart is one X on the cloth.
- Make cross-stitches that all cross the same way.
- Begin stitching a short Bible verse.

Warm-up. On a piece of graph paper, color in squares to make the letter X, then the letter O. You just drew with squares, the same way cross-stitch is planned.

Video slot. Video coming. Beginner counted cross-stitch on Aida cloth: reading a chart and making Xs that all cross the same way. Search approved channels (a museum textile channel such as the V&A, a 4-H or library crafts channel, DMC beginner tutorials); preview first.

KEY TERMS

cross-stitch

A stitch shaped like a little X, made over one square of cloth.

Aida cloth

Stiff cloth woven in tiny squares with a hole at each corner, made for cross-stitch (say “eye-EE-duh”).

chart

A picture on graph paper that shows where each X goes. One square on the chart is one X.

count

How many squares fit in one inch of Aida cloth. Bigger squares, like 11-count, are easier for beginners.

CORE IDEAS

Cross-stitch is one of the oldest and simplest kinds of embroidery. Every stitch is the same: a little X. Make one slanted stitch, then cross it with another slanted stitch the other way. Put many Xs side by side, and you can make letters, flowers, birds and whole pictures.

Cross-stitch is called “counted” work, because you count squares as you go. You follow a **chart**, a drawing on graph paper. One colored square on the chart means one X on the cloth. If the chart shows three red squares in a row, you stitch three red Xs in a row.

Many old samplers used cross-stitch for their letters and verses. In the 1800s, printers in the city of Berlin, Germany, sold hand-painted charts on graph paper, and families all over Europe and America stitched the pictures in bright wool. Some of the favorite things to stitch were short Bible verses to hang on the wall at home.

The secret of neat cross-stitch is this: every top stitch must slant the same way. If all your Xs cross alike, your letters look smooth and even. Today you will begin stitching three short words from the Bible: **GOD IS LOVE** (1 John 4:8).

PICTURE STUDY



Strawberry Thief, William Morris, 1883 · Block-printed cotton (indigo discharge) · Victoria and Albert Museum, London (and other museums)
Wikimedia Commons · Public domain

William Morris was an English designer who made patterns for cloth and wallpaper. In his garden at Kelmscott Manor, he watched thrushes stealing his strawberries, and he turned them into this design. It is printed, not stitched, but like a cross-stitch chart, it was carefully planned so the same pictures repeat in rows.

Look closely

- Find a bird with a strawberry in its beak.
- Find the same bird again somewhere else. How many times does it repeat?
- Count the colors you can see.

Talk about it

1. How is a repeating pattern like a cross-stitch chart?
2. If you made a pattern of your garden, what would you put in it?

Safety first. Count needles out and back in, keep them in a pincushion, and never hold one in your mouth. Use child's scissors to cut floss.

HANDS-ON: GOD IS LOVE IN CROSS-STITCH

Chart and stitch a short verse. You may finish it over several days.

You will need

- A 7-by-10-inch piece of 11-count Aida cloth
- A 6-inch embroidery hoop
- Embroidery floss in one or two colors (use 3 of the 6 strands)
- A blunt cross-stitch (tapestry) needle
- Graph paper, a pencil, child's scissors

Steps

1. On graph paper, chart the words GOD IS LOVE. Make each letter 5 squares tall and 3 or 4 squares wide, with one empty square between letters and two between words.
2. Fold the Aida in half both ways to find the middle. Put it in the hoop. Count up from the middle to choose where your first letter starts.
3. Bring the needle up at the bottom-left corner of a square and go down at the top-right corner. That is the first half of your X: /
4. Come up at the bottom-right corner and go down at the top-left corner to finish the X.
5. Follow your chart square by square. Check often: do all your top stitches slant the same way?
6. To end a thread, slide the needle under a few stitches on the back and snip. No knots needed.

Check your work

- I charted my verse on graph paper.
- Each square on the chart became one X on the cloth.
- All my top stitches slant the same way.

FIELD NOTEBOOK

1. **Stitch Book page 7: My chart.** Glue in your GOD IS LOVE chart.
2. Chart the first letter of your own name in squares, five squares tall.

Did you know? “14-count” Aida has 14 squares in every inch. A picture 70 squares wide on 14-count cloth is 5 inches wide. On 11-count cloth, the same chart comes out bigger, about 6½ inches. Same chart, different size!

Goes deeper in. Arithmetic, “Counting and Grids,” and Art, “Pattern and Repetition” (coming soon).

For families. Sources: Victoria and Albert Museum (William Morris, *Strawberry Thief*, 1883, and Berlin woolwork, popular from about the 1830s to the 1870s). The verse is the

last three words of 1 John 4:8: “He that loveth not knoweth not God; for God is love.” The Morris design is a printed textile, chosen to show planned, repeating pattern; it is not cross-stitch. Some children may prefer to stitch their initials first and the verse later.

PRACTICE

1. **EASY** What shape is a cross-stitch?
2. **MEDIUM** A chart shows four blue squares in a row. What do you stitch?
3. **MEDIUM** What is the secret of neat cross-stitch?

Make it a game • Human Chart. Tape a grid of squares on the floor with masking tape, five across and five down. A grown-up calls out squares, like “row 1, square 3.” Players stand in them to “stitch” a letter. Can you make an L, a T and an X?

Scripture. “Thy word have I hid in mine heart, that I might not sin against thee.” (Psalm 119:11, KJV)

Stitching a verse takes many slow stitches, and you think about the words the whole time. That is one good way to hide God’s Word in your heart.

Practice: answers

1. An X.
2. Four blue Xs in a row.
3. Every top stitch slants the same way.

2.8 QUILTS AND THE QUILTING BEE

OBJECTIVES

- Name the three layers of a quilt: top, batting and backing.
- Tell what a quilting bee was and why neighbors held them.
- Make a nine-patch block and join it to a family “quilt.”

Warm-up. Find a quilt or a thick blanket in your home. Feel it. Is it one layer or more? Look for little stitches going all the way through.

Video slot. Video coming. How a quilt is made: piecing a nine-patch block, the three layers, and hand quilting on a frame. Search approved channels (Smithsonian, International Quilt Museum, a living-history farm such as Old Sturbridge Village, a 4-H crafts channel); preview first.

KEY TERMS

quilt

A warm blanket of three layers stitched together all over.

patchwork

Small pieces of cloth sewn together to make a bigger piece with a pattern.

batting

The soft, fluffy middle layer of a quilt that makes it warm.

quilting bee

A gathering of friends and neighbors who sit around a quilt frame and stitch a quilt together.

CORE IDEAS

A **quilt** is like a sandwich. On top is a colorful layer. In the middle is a soft, fluffy layer called **batting**, which keeps you warm. On the bottom is the backing. Rows and rows of small stitches go through all three layers to hold them together. Those stitches are called quilting.

In the early days of America, cloth was costly, so nothing was wasted. When a shirt or dress wore out, the good parts were cut into squares and triangles and sewn into **patchwork**. One quilt might hold scraps of Grandfather’s shirt, a sister’s old dress and the baby’s first gown, all in one pattern.

Piecing a quilt top could take many months, but quilting the layers together was a job for many hands. So neighbors held a **quilting bee**. They set the quilt on a big wooden frame, sat all around it, and stitched while they talked, sang and shared news. In one day, a crowd of friends could finish what would take one person weeks. There was often a supper afterward for the whole family.

Quilts could tell stories, too. Harriet Powers was born into slavery in Georgia in 1837. After she was freed, she farmed with her family and made quilts. Her Bible Quilt tells Bible stories in eleven squares, from Adam and Eve in the garden to the birth of Jesus. People still come to see it at the Smithsonian today.

PICTURE STUDY

Bible Quilt, Harriet Powers, 1885–1886 · Cotton, pieced and appliquéd, hand- and machine-stitched · Smithsonian National Museum of American History, Washington, D.C.

Harriet Powers knew her Bible stories well. She cut shapes from cloth and stitched them onto squares, a way of sewing called appliquéd. She showed this quilt at a cotton fair in Athens, Georgia, in 1886, where a local art teacher saw it and later bought it. Each square is one story.

Look closely

- Count the squares. How many stories are there?
- Find animals in one of the squares. Which Bible story might that be?
- Find a ladder. It shows Jacob’s dream of angels going up and down to heaven.

Talk about it

1. Which Bible story would you put on a quilt square?
2. Why might someone tell Bible stories with cloth instead of words?

Safety first. Use child’s scissors, and cut away from your fingers. If you sew with cloth instead of paper, count needles out and back in and keep them in a pincushion.

HANDS-ON: A FAMILY NINE-PATCH “QUILT”

Make a nine-patch block from paper, then hold a little quilting bee: everyone makes a block, and you join them into one family quilt poster.

You will need

- Scraps of patterned paper, old cards, gift wrap or fabric scraps
- A 6-inch square of plain paper for each person
- A ruler, a pencil, child’s scissors and a glue stick
- A large sheet of poster board

Steps

1. Draw lines to divide your 6-inch square into nine 2-inch squares, three across and three down.
2. Cut nine 2-inch squares: five of one color or pattern and four of another.
3. Glue them on like a checkerboard: dark in the four corners and the middle, light in the other four.

4. Invite your family to make blocks too. Sit around the table and talk while you work, like a real quilting bee.
5. Glue all the blocks side by side on the poster board. Draw little “stitches” around each block with a marker.
6. Write the date and everyone’s names along the bottom, as quilters often did.

Check your work

- My block has nine squares in a checkerboard pattern.
- Our family worked together on one quilt.
- I can name the three layers of a real quilt.

FIELD NOTEBOOK

1. **Stitch Book page 8: My quilt square.** Draw a quilt square that tells one Bible story, the way Harriet Powers did.
2. Draw the quilt “sandwich” and label top, batting and backing.

Did you know? Quilt patterns have wonderful names: Log Cabin, Bear’s Paw, Flying Geese, Ohio Star and Jacob’s Ladder. Some quilts were “signature quilts,” with friends’ names stitched or inked on each block, made as a gift for a family moving away.

Goes deeper in. History, “Pioneer and Farm Life,” and Art, “Folk Art” (coming soon).

For families. Sources: Smithsonian National Museum of American History (Harriet Powers’s Bible Quilt, 1885–1886); a second Powers quilt, the Pictorial Quilt (1898), is at the Museum of Fine Arts, Boston. Powers sold the Bible Quilt to Jennie Smith, a local artist, several years after the 1886 fair. The squares named here (Adam and Eve, Jacob’s dream, the birth of Jesus) were not checked panel by panel against the museum record, so look at the Smithsonian photo first; one square shows Cain and Abel, which this stop does not point out. The quilting bee described is typical of 1800s rural America; customs varied by place.

PRACTICE

1. **EASY** Name the three layers of a quilt.
2. **MEDIUM** Why did neighbors hold quilting bees?
3. **MEDIUM** What did Harriet Powers tell on her Bible Quilt?

Make it a game • Patchwork Swap. Give each player nine paper squares in mixed colors. A grown-up calls out a pattern: “checkerboard,” “a stripe down the middle,” or “a frame around the edge.” Players trade squares with each other until everyone can lay out the pattern. The first to finish calls the next pattern.

Scripture. “Then Peter arose and went with them. When he was come, they brought him into the upper chamber: and all the widows stood by him weeping, and shewing the coats and garments which Dorcas made, while she was with them.” (Acts 9:39, KJV)

Dorcas used her needle to clothe poor widows, and they loved her for it. Quilters who make blankets for others follow her good example.

Practice: answers

1. The top, the batting and the backing.
2. Many hands could quilt the layers together in a day instead of weeks, and they enjoyed working and visiting together.
3. Stories from the Bible, one in each of eleven squares.

TRAIL 2 BADGE QUIZ

The badge quiz is optional. Read each question aloud; the child may answer by talking, pointing, drawing or showing a stitch. Four right out of five earns the first badge; four right out of five earns the second. Badges and the certificate are earned by doing the stops, not by scores.

Badge quiz 1 (Stops 1–5)

1. What is it called when the farmer cuts the wool off a sheep?
2. In finger knitting, which loop do you lift over the other?
3. Say the knit stitch rhyme.
4. What do you do at the end of a scarf so it will not unravel?
5. Which embroidery stitch makes a tiny bump like a bead?

Badge quiz 2 (Stops 6–8)

6. What is a sampler?
7. Who made one of the oldest samplers in America?
8. What shape is a cross-stitch, and what is the secret of making it neat?
9. Name the three layers of a quilt.
10. What was a quilting bee?

TRAIL CERTIFICATE: MY STITCH BOOK AND TRAIL B CERTIFICATE

Gather your eight Stitch Book pages into a folder or tie them with your finger-knit cord: “My Stitch Book,” with your name and dates.

Show one finished piece: your scarf, your four-stitch card, or your cross-stitched verse. Tell how you made it.

When the book is done, a parent signs the Trail B certificate.

- **Pages:** A page for each stop, with a labeled drawing and a sample of yarn or stitching where possible.
- **Skills:** The child can show finger knitting, the knit stitch and at least three embroidery stitches.
- **Telling:** The child can tell how wool becomes yarn and what samplers and quilting bees were.
- **Care:** Work is patient and tidy, and needles and scissors are used and put away safely.

Answer key

1. Shearing.
2. The bottom loop goes over the top loop.
3. “In through the front door, once around the back, out through the window, and off jumps Jack.”
4. Bind off.

5. The French knot.
6. A piece of cloth stitched with letters, numbers, pictures and often a verse, to practice and show needlework.
7. Loara Standish of Plymouth Colony, the daughter of Myles Standish.
8. An X; every top stitch slants the same way.
9. The top, the batting and the backing.
10. A gathering of friends and neighbors who sat around a quilt frame and stitched a quilt together.

CRAFTS AND MAKING ≈ TRAIL C: PAPER AND HAND CRAFTS

The third trail of the Crafts track works with paper and small hand crafts: how paper came from Egyptian papyrus and Chinese papermakers to the paper mill, the Japanese art of origami, hand-lettering like the old scribes, cards and stationery, paper quilling, pressed-flower bookmarks, simple bookbinding, and beading and simple jewelry.

This is the ● **Scout** level, for ages 7 to 9. A parent reads the story aloud, or a strong reader reads it alone. Every stop stands by itself and ends with something made by hand. Each stop adds a page to a **paper-crafts sample book** in the Field Notebook, and Stop C7 shows how to sew a notebook to hold it.

Five stops earn the **Paper Crafts Scout badge, part 1**; eight stops earn part 2 and the **Trail C certificate**.

BEFORE YOU BEGIN

- Listen to a story of about five minutes and tell it back.
- Cut along a line with scissors and fold paper in half neatly (a grown-up may help).

MASTERY CHECKLIST

- ☐ I can tell how paper came from papyrus and from China to the paper mill.
- ☐ I can fold an origami cup with sharp creases.
- ☐ I can hand-letter a verse with thick downstrokes and thin upstrokes.
- ☐ I can make a card, quill a flower, press flowers and sew a small notebook.
- ☐ I have made eight pages for my paper-crafts sample book.

OPTIONAL BOOKS AND RESOURCES

- **Robert C. Williams Museum of Papermaking (Georgia Tech)**
(<https://paper.gatech.edu>): History of paper and papermaking, with pictures of moulds and mills; good for Stop C1.
- **OrigamiUSA** (<https://origamiusa.org>): Free diagrams for simple models; good for Stop C2.
- **British Library: St Cuthbert Gospel and other digitised manuscripts**
(<https://www.bl.uk>): Turn the pages of old handwritten books; good for Stops C3 and C7.
- **Aliki, *How a Book Is Made* (1986)** (<https://www.worldcat.org>): A picture book that follows a book from writer to printer to binder. Look for it at the library.

3.1 PAPER: FROM PAPYRUS TO THE PAPER MILL

OBJECTIVES

- Tell how papyrus was made from a river reed in Egypt.
- Tell that true paper was first made in China, from plant fibers soaked to a mush.
- Make a sheet of recycled paper with a grown-up.

Warm-up. Tear a piece of paper towel or notebook paper slowly and look closely at the torn edge. Do you see tiny hairs sticking out? Those are fibers, and every sheet of paper is made of them.

Video slot. Video coming. How paper is made by hand: papyrus, Chinese papermaking, a mould and deckle, a paper mill. Search approved channels (Homeschool Pop, SciShow Kids, Smithsonian, Robert C. Williams Museum of Papermaking); preview first.

KEY TERMS

papyrus

A tall reed that grows along the Nile River, and the writing sheets the Egyptians made from it (say “puh-PIE-rus”).

fiber

A tiny thread from a plant or cloth. Paper is a mat of fibers pressed together.

mould

A wooden frame with a screen, dipped into a tub of wet pulp to lift out one sheet of paper.

paper mill

A workshop or factory where paper is made, often using a water wheel for power.

CORE IDEAS

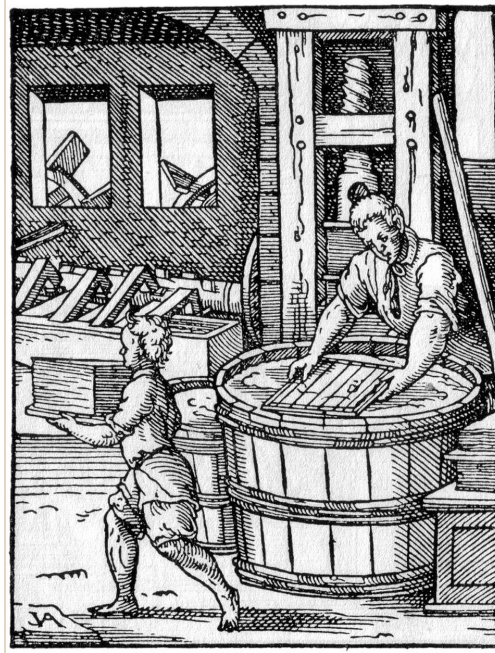
Long ago in Egypt, people cut the tall **papyrus** reeds that grew along the Nile. They sliced the stems into thin strips, laid one row across another, and pressed and dried them into a smooth sheet. Our word “paper” comes from “papyrus.”

True paper was first made in China. About the year 105, a court official named Cai Lun (say “tsai loon”) told the emperor of a way to make it from tree bark, hemp, old rags and worn-out fishing nets. The workers beat these into a wet mush of tiny **fibers**, scooped it up on a screen, and let it dry into a thin, strong sheet.

For hundreds of years the Chinese kept the secret. Slowly it traveled west along the trade roads, to Baghdad and then to Spain and Italy. In Europe, papermakers built a **paper mill** beside a river, where a water wheel pounded old linen rags into pulp. A worker dipped a **mould** into the tub, lifted out one sheet, and did it again, thousands of times a day.

In 1690 William Rittenhouse built the first paper mill in the American colonies, near Philadelphia. Paper was made from rags until the 1800s, when people learned to make it from wood. Today most paper comes from trees, and much of it can be soaked and made into paper again.

PICTURE STUDY



The Papermaker (Der Papyrer), from the *Book of Trades*, Jost Amman, 1568 · Woodcut · From the *Ständebuch* (Book of Trades), Frankfurt; copies in many libraries and museums
Wikimedia Commons · Public domain

Jost Amman was a Swiss-born artist who worked in Germany. He carved more than one hundred little pictures of workers for a book of trades, and the poet Hans Sachs wrote a short rhyme for each one. This picture shows how paper was made by hand in a mill more than 450 years ago.

Look closely

- Find the frame (the mould) in the papermaker's hands. What is he lifting it out of?
- Find the big wooden press. What do you think it squeezes out of the paper?
- Look for a stack of sheets. How many do you think he made in a day?

Talk about it

1. Why would a paper mill be built beside a river?
2. What things in your house are made of paper?

Safety first. A grown-up runs the blender, and the blender stays unplugged while hands are near the blade.

HANDS-ON: MAKE A SHEET OF RECYCLED PAPER

Turn scraps of old paper back into new paper, the way a papermaker does.

You will need

- Scrap paper with little or no ink (plain paper, paper towel or egg-carton bits), torn into small pieces
- Warm water and a blender (a grown-up runs it)
- A wide tub or baking pan
- A piece of window screen stapled to an old picture frame, or a splatter screen
- Old towels or felt, and a sponge

Steps

1. Soak a big handful of torn scraps in warm water for 30 minutes.
2. A grown-up blends the scraps with plenty of water until it looks like thin oatmeal. This is pulp.
3. Pour the pulp into the tub and add more water. Stir it with your hand.
4. Slide the screen under the water, hold it flat, and lift it straight up. Let the water drip out.
5. Flip the wet sheet onto a towel, press it with the sponge, and gently lift the screen away. Let your paper dry for a day or two.

Check your work

- I made pulp from old paper (with a grown-up at the blender).
- I lifted a sheet with my screen like a papermaker.
- My sheet dried into paper I can write on.

FIELD NOTEBOOK

1. **Sample book page 1: Paper.** Glue a small piece of your handmade paper on the page. Beside it write: "Papyrus came from Egypt. Paper came from China."
2. Draw a papyrus reed or a water wheel at a paper mill.

Did you know? Wasps were making paper long before people! A paper wasp chews bits of wood into pulp and builds its nest from it. About 300 years ago, a French scientist named René de Réaumur watched wasps and wrote that people might make paper from wood too. Today they do.

Goes deeper in. History, "Ancient Egypt" and "Ancient China," and Life Science, "Plants" (coming soon).

For families. Sources: Britannica, "Paper"; Robert C. Williams Museum of Papermaking (Georgia Tech). Cai Lun's report to the emperor in 105 is the traditional date;

archaeologists have found older Chinese paper, so he is best called the man who improved and made papermaking known. Papermaking reached Baghdad by the late 700s and Spain and Italy by the 1100s–1200s. Rittenhouse Mill (1690) stood on a creek near Germantown, Pennsylvania. Réaumur’s remark about wasps dates to 1719. The Amman woodcut appears in many reprints of the 1568 *Ständebuch*; we did not fix a single Commons file, so search by title.

PRACTICE

1. **EASY** What reed did the Egyptians use to make writing sheets?
2. **EASY** In what country was true paper first made?
3. **MEDIUM** Why did old paper mills stand beside rivers?

Make it a game • Papermaker Relay. Line up in teams. Each child in turn acts out one step: cut the reeds (or tear the rags), pound the pulp, dip the mould, press the sheet, hang it to dry. The next child must do the next step without being told. The team that goes from reed to dry sheet with no steps missed wins.

Scripture. “Having many things to write unto you, I would not write with paper and ink: but I trust to come unto you, and speak face to face, that our joy may be full.” (2 John 1:12, KJV)

The apostle John wrote letters on paper made of papyrus. Paper is a good gift for sending words far away, but John knew that being together face to face is better still.

Practice: answers

1. Papyrus, from along the Nile River.
2. China.
3. The river turned a water wheel that pounded rags into pulp, and the mill needed lots of water.

3.2 ORIGAMI

OBJECTIVES

- Tell what the word origami means and where it comes from.
- Make a mountain fold and a valley fold.
- Fold a paper cup from one square, with no glue and no cutting.

Warm-up. Take a square of paper and fold it in half to make a triangle. Now open it. The crease you made is a map line: the paper will remember it. How many different creases can you make on one square?

Video slot. Video coming. Easy origami for children: a paper cup, a crane, mountain and valley folds. Search approved channels (OrigamiUSA, Homeschool Pop, Smithsonian); preview first.

KEY TERMS

origami

The Japanese art of folding paper into shapes (say “or-ih-GAH-mee”). Ori means fold; kami means paper.

crease

A sharp line made by folding paper and pressing it flat.

valley fold

A fold that makes a dip, like a valley, when you look at it.

mountain fold

A fold that makes a peak, like a mountain, when you look at it.

CORE IDEAS

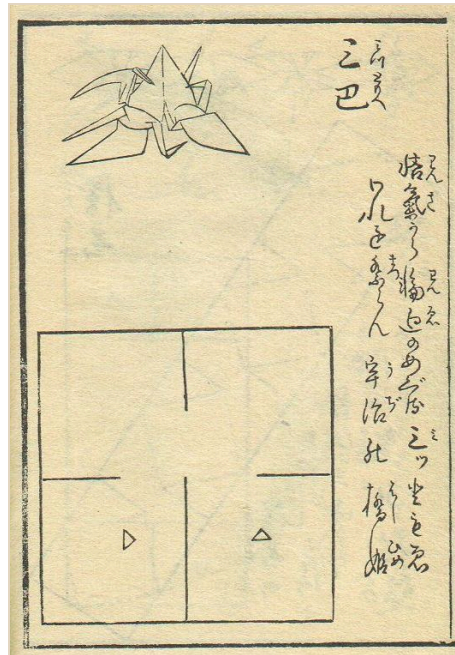
Paper came to Japan from China and Korea about 1,400 years ago. At first it was costly, and folded paper was used for special things, such as wrapping gifts in a neat, folded way.

Over time, Japanese families began folding paper for fun. They folded birds, frogs, boxes and boats. The art came to be called **origami**. The best-loved shape is the crane, a tall bird that stands for long life and good wishes in Japan.

In 1797 a book called *The Secret of Folding a Thousand Cranes* was printed in Kyoto. It is the oldest known book of paper-folding steps. It showed how to fold many cranes joined together at the wingtips from one sheet.

Every origami model is built from just two kinds of folds. A **valley fold** bends the paper toward you, making a dip. A **mountain fold** bends it away, making a peak. Fold carefully, and press every **crease** sharp with your fingernail. Neat creases make a neat model.

PICTURE STUDY



Pages from The Secret of Folding a Thousand Cranes (Hiden Senbazuru Orikata), Akisato Ritō (writer), with folds devised by the priest Rokoan, 1797 · Woodblock-printed book · Copies in several libraries, including the National Diet Library, Tokyo
Wikimedia Commons · Public domain

This little book was printed in Japan more than 200 years ago. A Buddhist priest named Rokoan worked out the folds, and the writer Akisato Ritō made them into a book. Each picture shows a set of cranes folded from one sheet of paper, with small cuts so the birds stay joined.

Look closely

- Find two cranes that are joined together. Where do they touch?
- Count the cranes on one page.
- Find the Japanese writing. Which way do you think it is read?

Talk about it

1. How would you fold two cranes from one sheet without tearing them apart?
2. Why do you think the book called it a “secret”?

HANDS-ON: FOLD A PAPER CUP

Fold a cup that can really hold a few sips of water, for a little while. No glue, no tape, no scissors.

You will need

- A square of paper, about 6 or 8 inches on each side (cut a notebook page square if you need to)
- A flat table
- A cup of water to test it

Steps

1. Fold the square in half, corner to corner, to make a triangle. Turn it so the long fold is at the bottom.
2. Fold the right corner over to touch the middle of the left edge. Crease it sharp.
3. Fold the left corner over to touch the right edge. Crease it.
4. At the top there are two flaps. Fold the front flap down over the front. Turn the cup over and fold the other flap down the back.
5. Gently squeeze the sides to open the cup. Pour in a little water and take a sip!

Check your work

- I made a valley fold and pressed my creases sharp.
- My cup opens and stands up.
- My cup held water, at least for a few seconds.

FIELD NOTEBOOK

1. **Sample book page 2: Origami.** Fold a second cup or a simple shape from small paper, flatten it, and glue it on the page. Label one valley fold and one mountain fold.
2. Draw a crane and write: “Ori = fold. Kami = paper.”

Did you know? A Japanese paper folder named Akira Yoshizawa invented thousands of new models in the 1900s. He also helped create the dotted and dashed lines used in origami diagrams around the world, so that a child in any country can follow the same steps without knowing Japanese.

Goes deeper in. Arithmetic, “Shapes and Halves,” and Geography, “Japan” (coming soon).

For families. Sources: OrigamiUSA; Britannica, “Origami.” The Japanese chronicle *Nihon Shoki* says papermaking was brought from Korea about 610; the story rounds this to “about 1,400 years ago.” *Hiden Senbazuru Orikata* (1797) is generally called the oldest known book of folding instructions; the folds are credited to the priest Rokōan (Gidō) of Kuwana. Paper folding also grew up separately in Europe, and Friedrich Fröbel used it in his kindergartens in the 1800s. The thousand-crane custom is mentioned only as a good wish.

PRACTICE

1. **EASY** What does the word origami mean?

2. **EASY** What is the best-loved origami shape in Japan?
3. **MEDIUM** What is the difference between a valley fold and a mountain fold?

Make it a game · Mountains and Valleys. A grown-up calls out “Mountain!” or “Valley!” For a mountain, children stand tall with hands together over their heads in a peak. For a valley, they crouch low with arms in a V. The caller speeds up. Anyone who makes the wrong shape becomes the next caller.

Scripture. “For we are his workmanship, created in Christ Jesus unto good works, which God hath before ordained that we should walk in them.” (Ephesians 2:10, KJV)

A plain square becomes a cup or a crane because someone folds it with a plan. We are God’s workmanship: He made us with a plan, and He has good works ready for us to do.

Practice: answers

1. Folding paper (ori = fold, kami = paper).
2. The crane.
3. A valley fold bends toward you and makes a dip; a mountain fold bends away and makes a peak.

3.3 HAND-LETTERING AND CALLIGRAPHY

OBJECTIVES

- Tell what a scribe did and what a quill pen is.
- Know the calligrapher's rule: thick lines going down, thin lines going up.
- Hand-letter a short Bible verse with thick and thin strokes.

Warm-up. Write your name in your best handwriting. Now write it again, very slowly, as if it were going into a book for a king. What did you do differently the second time?

Video slot. Video coming. Medieval scribes and quill pens; the Book of Kells; faux calligraphy for kids. Search approved channels (Trinity College Dublin, British Library, The Getty, Homeschool Pop); preview first.

KEY TERMS

calligraphy

Beautiful handwriting, made with care (say “kuh-LIG-ruh-fee”). The word is Greek for “beautiful writing.”

scribe

A person whose work is writing out books and letters by hand.

quill

A pen made from a large bird feather, often a goose feather, with the tip cut to a point.

illuminated

Decorated with bright colors and gold, as in old handwritten books.

CORE IDEAS

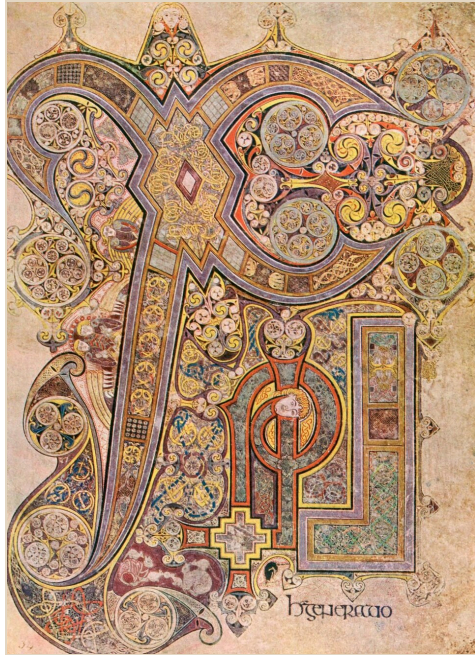
Before printing presses, every book was written by hand. In monasteries, monks worked as **scribes** in a quiet writing room. They copied the Bible and other books letter by letter, sometimes for months on one book.

A scribe wrote with a **quill**, a goose feather with its tip cut into a flat, slanted point. He dipped it in ink made from things like oak galls or soot. Because the tip was flat, the pen made thick lines going down and thin lines going up. That is the secret of **calligraphy**.

The most special books were **illuminated**, painted with bright colors and sometimes real gold so the page seemed to shine. The first letter of a chapter might be as big as your hand, filled with curling knots, animals and angels.

You can letter beautifully with a plain pencil or marker. Write a word in neat letters. Then go back and thicken every line that you wrote going **down**. Leave the lines that go up thin. Suddenly your plain writing looks like calligraphy!

PICTURE STUDY



The Chi Rho page, Book of Kells (folio 34r), Unknown monks, probably of the monastery of Iona, About 800 · Ink and colors on vellum (calfskin) · Trinity College Library, Dublin, Ireland · Wikimedia Commons · Public domain

The Book of Kells is a copy of the four Gospels, made by monks in Ireland or Scotland about 1,200 years ago. On this page, the giant letters are the first two Greek letters of the word “Christ”: Chi, which looks like an X, and Rho, which looks like a P. They begin the story of Jesus’ birth in Matthew’s Gospel.

Look closely

- Find the giant X. Then find the P shape tucked beside it.
- Find a tiny angel. Then hunt for cats and mice near the bottom of the page.
- Find a place where lines twist into knots. Can you follow one line with your finger?

Talk about it

1. Why do you think the monks made the name of Christ the biggest and brightest thing on the page?
2. How long do you think this page took to make?

HANDS-ON: HAND-LETTER A VERSE

Letter a short verse with thick and thin strokes and decorate the first letter like a scribe.

You will need

- A sheet of plain white paper or cardstock
- A pencil with an eraser and a ruler

- A black fine-tip marker, plus colored pencils or markers
- A short verse, such as “The LORD is my shepherd” (Psalm 23:1)

Steps

1. With the ruler, lightly draw three straight pencil lines to write on.
2. Write the verse in pencil in neat, roomy letters. Make the first letter extra large.
3. Trace over the letters with the marker.
4. Go back and draw a second line beside every downstroke, then color between the two lines to make it thick. Leave upstrokes thin.
5. Fill the big first letter with a pattern, a vine or a small animal. Erase the pencil lines when the ink is dry.

Check your work

- My downstrokes are thick and my upstrokes are thin.
- My first letter is large and decorated.
- I wrote the verse carefully, with no words missing.

FIELD NOTEBOOK

1. **Sample book page 3: Lettering.** Write the alphabet from A to M in your thick-and-thin letters. Finish N to Z another day.
2. Draw a quill pen and write: “Thick going down, thin going up.”

Did you know? The small letters you write every day, like a, b and c, grew out of a clear, round handwriting used in the days of the emperor Charlemagne, about 1,200 years ago. And the word “pen” comes from the Latin word for feather, *penna*, because the first pens were quills.

Goes deeper in. Art, “Line,” and History, “Monks and the Middle Ages” (coming soon).

For families. Sources: Trinity College Dublin, Book of Kells; Britannica, “Calligraphy” and “Carolingian minuscule.” The Book of Kells is usually dated about 800 and was probably begun at Iona and finished at Kells; scholars still debate where each part was made. The Chi Rho page (folio 34r) begins Matthew 1:18; its small cats, mice, angels and an otter with a fish are well known. Medieval scribes included lay professionals and nuns as well as monks. The thick-and-thin trick here is often called “faux calligraphy.”

PRACTICE

1. **EASY** What does calligraphy mean?
2. **EASY** What did a scribe use for a pen?
3. **MEDIUM** In calligraphy, which lines are thick, and which are thin?

Make it a game · Scribe's Silence. Monks in the writing room worked quietly. Everyone sits with paper and pencil. A grown-up holds up a card with one letter. Each "scribe" copies it as beautifully as they can, without a word. After five letters, everyone shows their best one, and the group says one thing they like about each.

Scripture. "And the LORD answered me, and said, Write the vision, and make it plain upon tables, that he may run that readeth it." (Habakkuk 2:2, KJV)

God told the prophet Habakkuk to write His message clearly, so that anyone could read it. Good lettering is beautiful, but first of all it should be plain and easy to read.

Practice: answers

1. Beautiful writing.
2. A quill, made from a goose feather.
3. Lines going down are thick; lines going up are thin.

3.4 CARDS AND STATIONERY

OBJECTIVES

- Tell what stationery is and spell it with an e.
- Tell how the penny post and the first Christmas card began in England.
- Make a thank-you card and fold an envelope for it.

Warm-up. Think of a time someone sent you a card or a letter. How did it feel to open it? Who could you send a card to this week?

Video slot. Video coming. How to fold an envelope from paper; history of the postage stamp and the first Christmas card. Search approved channels (Smithsonian National Postal Museum, British Library, Homeschool Pop); preview first.

KEY TERMS

stationery

Writing paper, cards and envelopes. Remember: stationery with an *e* is for *envelopes*.

envelope

A folded paper cover that holds a letter or card.

postage stamp

A small paid label stuck on a letter to show the cost of mailing has been paid.

greeting card

A folded card with a picture and a short message, sent for a birthday, a holiday or to say thank you.

CORE IDEAS

Long ago, sending a letter cost a lot, and the person who *received* it often had to pay. In England in 1840, a new plan began: the sender paid just one penny and stuck a **postage stamp** on the letter. The first stamp was black, with a picture of young Queen Victoria. It was called the Penny Black.

Now families could send letters often. In 1843 a busy man named Henry Cole had too many Christmas letters to write. He asked an artist friend, John Callcott Horsley, to draw a picture with the words “A Merry Christmas and a Happy New Year to You.” They printed about a thousand copies. It was the first Christmas card sold in shops.

Paper for writing letters is called **stationery**. Long ago, booksellers and paper sellers had a fixed stall, or “station,” near a school or church, so they were called stationers. Today stationery means writing paper, cards and **envelopes**.

A homemade card can say more than a bought one. A plain fold, a small drawing and a few careful words, such as “Thank you for the books. I love reading them!”, show that you took time to think of someone.

PICTURE STUDY



The Letter, Mary Cassatt, 1890-1891 · Color drypoint and aquatint (a kind of print) · Copies in several museums, including the Metropolitan Museum of Art, New York, and the National Gallery of Art, Washington
Wikimedia Commons · CC0

Mary Cassatt was an American artist who lived and worked in Paris. After seeing a show of Japanese prints, she made a set of ten color prints of everyday moments at home. In this one, a woman is closing a letter she has just written.

Look closely

- Find the envelope. What is the woman doing to close it?
- Find two different patterns: one on her dress and one on the wall.
- Find the writing desk. What else might be inside it?

Talk about it

1. Who do you think she wrote to? What might the letter say?
2. Why do you think the artist chose such an ordinary moment to make a picture of?

HANDS-ON: A THANK-YOU CARD AND A FOLDED ENVELOPE

Make a card to thank someone, and fold an envelope to carry it. If you ever want to sell cards you make, see Trail D, and do it only with a parent’s sign-off.

You will need

- A sheet of cardstock or heavy paper
- A square of plain paper about 2 inches wider than your folded card (for the envelope)
- Colored pencils or markers, a glue stick or tape
- Scissors

Steps

1. Fold the cardstock in half. Draw a small picture on the front.
2. Inside, write “Dear __,” then one or two sentences that name what you are thankful for, and sign your name.
3. For the envelope, lay the paper square like a diamond. Set the card in the middle.
4. Fold the left and right corners in over the card, then the bottom corner up. Glue the edges where they overlap.
5. Fold the top corner down to close it. Write the person’s name on the front and deliver or mail it.

Check your work

- My card says who it is for, what I am thankful for, and who it is from.
- My envelope holds the card without slipping out.
- I delivered or mailed my card.

FIELD NOTEBOOK

1. **Sample book page 4: Stationery.** Design a small sheet of your own letter paper: draw a border, and put your initials or a small picture at the top.
2. Write the spelling tip: “Stationery with an e is for envelopes.”

Did you know? The first Christmas card showed a family enjoying a Christmas meal in the middle. On each side was a small picture of kindness: feeding the hungry and giving clothes to the poor. Henry Cole later helped found a great museum in London, now called the Victoria and Albert Museum.

Goes deeper in. Literature, “Writing Letters,” and Small Business & Economics, “Making Things to Share and Sell” (coming soon).

For families. Sources: The Postal Museum (UK); Victoria and Albert Museum, “The first Christmas card”; Britannica. The Penny Black went on sale on 1 May 1840 and was valid from 6 May 1840, as part of Rowland Hill’s postal reform. Horsley’s 1843 card for Henry Cole was printed in about 1,000 copies and hand-colored. The origin of “stationer” is from medieval Latin *stationarius*, a seller with a fixed stall. Cassatt’s print is one of her set of ten color prints of 1890–1891; museum impressions vary in color.

PRACTICE

1. **EASY** What is stationery?

2. **MEDIUM** What was the Penny Black?
3. **MEDIUM** Name three things a good thank-you card says.

Make it a game • Post Office. One child is the mail carrier with a bag. Everyone else writes a short note to someone in the room, folds it, and writes the name on the outside. The mail carrier collects the notes and delivers each one to the right person as fast as possible. Then a new carrier takes a turn.

Scripture. “As cold waters to a thirsty soul, so is good news from a far country.”
(Proverbs 25:25, KJV)

A letter or card from someone far away is like a cold drink on a hot day. When you write to someone, you can bring them that same gladness.

Practice: answers

1. Writing paper, cards and envelopes.
2. The first postage stamp, used in England in 1840.
3. Who it is for, what you are thankful for, and who it is from.

3.5 PAPER QUILLING

OBJECTIVES

- Tell why quilling is named after a feather quill.
- Roll a tight coil and a loose coil, and pinch a teardrop.
- Make a quilled flower on a card.

Warm-up. Wrap a strip of paper around a pencil, hold it a moment, then let go. What shape is left? Now try it with a looser wrap. That curl is the start of quilling.

Video slot. Video coming. Paper quilling for beginners: tight coil, loose coil, teardrop, a simple quilled flower. Search approved channels (Victoria and Albert Museum, Smithsonian, a 4-H crafts channel); preview first.

KEY TERMS

quilling

The craft of rolling thin strips of paper into coils and shapes and gluing them into a design.

filigree

Fine, lacy work made of thin curling lines, first done with gold or silver wire (say “FIL-ih-gree”).

coil

A strip rolled up into a spiral, like a snail shell.

teardrop

A loose coil pinched at one side to make a point, like a drop of water.

CORE IDEAS

Jewelers long ago twisted fine gold and silver wire into lacy, curling patterns called **filigree**. Gold was costly, so people found a way to make something like it from paper.

They cut paper into very thin strips and rolled each strip around the shaft of a feather, called a quill. That is why the craft is called **quilling**. It is said that long ago, nuns and monks used strips trimmed from the gilded edges of old books to decorate holy pictures, so the paper shone like gold.

About 250 years ago in England, quilling became a favorite pastime at home and at school. Young people covered tea boxes, picture frames and little cabinets with hundreds of tiny paper rolls. Settlers carried the craft to the American colonies too.

Every quilled picture is built from a few simple shapes. Roll a strip tight and glue the end, and you have a tight **coil**. Let it loosen first, and it opens into a loose coil. Pinch one side, and it becomes a **teardrop**, perfect for a flower petal or a leaf.

PICTURE STUDY

Tea caddy decorated with paper filigree (quilling), Unknown English maker, About 1780–1800 · Wooden box covered with rolled and gilded paper strips · Examples in the Victoria and Albert Museum, London, the Metropolitan Museum of Art, New York, and other museums

Tea was costly in the 1700s, so families kept it in a locked box called a tea caddy. Some caddies were covered with quilling. Look closely: every bump and swirl is a little strip of paper, rolled by hand, set on its edge and glued in place.

Look closely

- Find a tight coil, round and solid like a button.
- Find a teardrop or a curling scroll.
- Look for a gold edge on the paper. Why would the maker want it to shine?

Talk about it

1. How many paper rolls do you think it took to cover the box?
2. What does it take to finish such a big job?

Safety first. Quilling tools and toothpicks are pointed: roll with the point away from your face, and keep tools out of reach of little brothers and sisters.

HANDS-ON: A QUILLED FLOWER CARD

Roll paper petals and leaves and glue them onto a card to make a flower.

You will need

- Paper strips about 1/8 inch (3 mm) wide and 6 to 11 inches long (cut from colored paper, or buy a quilling pack)
- A slotted quilling tool, or a round toothpick
- White school glue in a small dish, and a toothpick for dabbing
- A folded card from cardstock

Steps

1. Make the center: roll a yellow strip tightly around the tool, slide it off, and glue the end down. That is a tight coil.
2. Make five petals: roll a strip, slide it off, and let it relax into a loose coil. Glue the end, then pinch one side to make a teardrop.
3. Make two green teardrops for leaves.
4. Draw a thin stem on the card. Dab glue on the bottom edge of each piece and set the petals in a circle around the center.
5. Add the leaves on the stem. Let it dry flat for an hour.

Check your work

- I made a tight coil, loose coils and teardrops.
- My pieces stand on their edges, glued neatly.
- My flower has a center, petals and leaves.

FIELD NOTEBOOK

1. **Sample book page 5: Quilling.** Glue one tight coil, one loose coil and one teardrop on the page, and label each.
2. Draw a design you would like to quill next: a sun, a snail or your first initial.

Did you know? Quilling uses very little: a few paper strips, a little glue and a lot of patience. A small quilled flower may take ten strips, but a big quilled box from long ago could take thousands. Quillers today still use the same basic shapes those old craftsmen used.

Goes deeper in. Art, “Line and Pattern,” and History, “Colonial America” (coming soon).

For families. Sources: Victoria and Albert Museum, collection notes on paper filigree; Britannica, “Quillwork” and “Filigree.” In the 1700s the craft was called “paper filigree” or “mosaic work”; the name “quilling” came later. The story of monks and nuns using gilded paper from book edges is widely repeated but hard to document, so the stop says “it is said.” The picture study describes a typical late-1700s English quilled tea caddy rather than one fixed object; choose any museum photo of one. Do not confuse with Native American porcupine-quillwork, a different craft.

PRACTICE

1. **EASY** Why is quilling called quilling?
2. **EASY** What costly craft was quilling made to look like?
3. **MEDIUM** How do you turn a loose coil into a teardrop?

Make it a game • Roll Up, Roll Out. Children lie down at one end of a rug or grassy space. When a grown-up calls “Tight coil!”, they curl up into a small ball. “Loose coil!”: they spread out round and wide. “Teardrop!”: they curl round but point their toes. Change the calls faster and faster.

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

Quilling takes patience, one little roll at a time. Even small, slow work can be done heartily, as a gift to the Lord.

Practice: answers

1. The paper strips were rolled around a feather quill.

2. Gold or silver filigree.
3. Pinch one side of it to make a point.

3.6 PRESSED-FLOWER BOOKMARKS

OBJECTIVES

- Choose flowers and leaves that press well.
- Press flowers flat and dry in a heavy book.
- Make a bookmark with pressed flowers.

Warm-up. Go outside or look in a garden. Find one flower that is flat and thin, and one that is fat and round. Which one do you think would fit best between the pages of a book?

Video slot. Video coming. How to press flowers in a book; making a pressed-flower bookmark; herbarium specimens. Search approved channels (Smithsonian, Royal Botanic Gardens Kew, SciShow Kids, a 4-H channel); preview first.

KEY TERMS

press

To squeeze something flat under a heavy weight and let it dry.

botanist

A scientist who studies plants (say “BOT-uh-nist”).

herbarium

A collection of pressed, dried plants kept on labeled sheets (say “her-BAIR-ee-um”).

petal

One of the colored, leaf-like parts of a flower.

CORE IDEAS

A flower in a vase lasts only a few days. But long ago, people found a way to keep flowers for years: they **pressed** them. They laid a flower between sheets of paper inside a heavy book and waited. The weight pressed it flat, and the paper soaked up its water until it was dry.

Botanists pressed plants to study them. The Swedish botanist Carl Linnaeus, who lived almost 300 years ago, pressed thousands of plants and gave many of them the names scientists still use. A collection of pressed plants on labeled sheets is called an **herbarium**. Some herbarium plants are hundreds of years old and still show their shape.

In the 1800s, pressing flowers became a favorite family hobby. Children pressed violets and ferns into their Bibles and storybooks, and some pages still hold those flowers today.

Flat, thin flowers press best: pansies, violets, daisies, clover, small ferns and single **petals**. Pick them on a dry day, after the morning dew is gone. Always ask before picking, and never take flowers from someone else’s garden or a park without permission.

PICTURE STUDY



The Large Piece of Turf, Albrecht Dürer, 1503 · Watercolor and gouache on paper · Albertina Museum, Vienna, Austria
Wikimedia Commons · Public domain

Albrecht Dürer was a German artist who loved to look closely at God's creation. He painted this clump of ordinary weeds and grasses more than 500 years ago, as if he had lain down in a meadow with his nose in the grass. Every leaf is painted with care.

Look closely

- Find a dandelion. Is it a flower, a bud or a puffball?
- Find the tallest stem of grass.
- Find a broad, flat leaf. Would it press well in a book?

Talk about it

1. Why would a great artist paint plain weeds instead of fancy roses?
2. Which plant in the picture would you most like to press?

Safety first. Pick only plants a grown-up says are safe; some, like poison ivy, can hurt your skin. Wash your hands after picking.

HANDS-ON: PRESSED-FLOWER BOOKMARK

Press flowers, then seal them onto a bookmark to keep in your Bible or a favorite book.

You will need

- Small, flat flowers and leaves

- Paper towels or plain paper, and a big heavy book (or a stack of books)
- A strip of cardstock about 2 by 7 inches
- Clear contact paper or packing tape (or a grown-up with a laminator), a hole punch and a ribbon

Steps

1. Lay the flowers face down on a paper towel with space between them. Cover with a second paper towel.
2. Slide the paper towels into the middle of the heavy book, close it, and stack more books on top.
3. Wait 1 to 2 weeks without peeking too much. The flowers are ready when they feel dry and papery.
4. Arrange the pressed flowers on the cardstock strip. Add a tiny dot of glue to hold each one.
5. Cover both sides with clear contact paper and trim the edges. Punch a hole at the top and tie on a ribbon.

Check your work

- I pressed my flowers until they were dry and flat.
- My flowers are sealed so they will not crumble.
- My bookmark is ready to mark a page.

FIELD NOTEBOOK

1. **Sample book page 6: Pressed flowers.** Tape one pressed flower or leaf on the page. Under it write its name, where you found it and the date, like a botanist.
2. Draw the flower as it looked before you pressed it.

Did you know? In England in the 1840s, a botanist named Anna Atkins laid pressed seaweeds on special paper that turned blue in sunlight. Where the plants lay, the paper stayed white. She made a whole book of these blue pictures, and it is one of the first books ever made with pictures by photography.

Goes deeper in. Life Science, “Plants and Flowers,” and Gardening & Animals, “Wildflowers” (coming soon).

For families. Sources: Albertina Museum, Vienna; Linnean Society of London (Linnaeus’s herbarium); Natural History Museum, London. Linnaeus (1707–1778) set up the two-part naming system for plants. Anna Atkins’s *Photographs of British Algae: Cyanotype Impressions* was issued from 1843. Dürer’s watercolor is fragile and is rarely on display; Commons and the Albertina website have good images. Check local rules before picking wildflowers on public land; some species are protected.

PRACTICE

1. **EASY** What does a heavy book do to a flower when you press it?
2. **EASY** Name two flowers that press well.
3. **MEDIUM** What is an herbarium?

Make it a game • Flower Hunt. A grown-up calls out a clue: “Something yellow,” “Something with five petals,” “A leaf bigger than your hand,” “Something flat enough to press.” Children hunt in the yard and point (no picking without asking) to a plant that fits. The first to find a match gives the next clue.

Scripture. “The grass withereth, the flower fadeth: but the word of our God shall stand for ever.” (Isaiah 40:8, KJV)

Even a pressed flower fades at last, but God’s Word never does. Your bookmark can remind you of that each time you open your Bible.

Practice: answers

1. It squeezes it flat, and the paper soaks up its water so it dries.
2. Any two flat, thin flowers: pansies, violets, daisies, clover, small ferns.
3. A collection of pressed, dried plants on labeled sheets, kept by botanists.

3.7 SIMPLE BOOKBINDING

OBJECTIVES

- Tell the difference between a scroll and a book with pages (a codex).
- Name the parts of a book: pages, spine and cover.
- Sew a small notebook with a three-hole stitch.

Warm-up. Pick up any book and look at its spine, the edge you see on a shelf. Open it to the middle. Can you see any thread or glue holding the pages together?

Video slot. Video coming. Simple pamphlet stitch bookbinding for kids; scrolls and the codex; the St Cuthbert Gospel. Search approved channels (British Library, The Getty, Smithsonian Libraries, Homeschool Pop); preview first.

KEY TERMS

scroll

A long strip of writing material rolled up on itself or around a rod.

codex

A book made of folded pages joined at one edge, like the books we read today (say “KOH-dex”).

spine

The back edge of a book, where the pages are joined.

bookbinder

A craftsman who sews or glues pages together and puts a cover on them.

CORE IDEAS

Long ago, most books were **scrolls**. To find a verse near the end, a reader had to unroll the whole thing! Then people began folding sheets in half, stacking them, and sewing them together at the fold. This kind of book is called a **codex**. You could open it to any page in a moment.

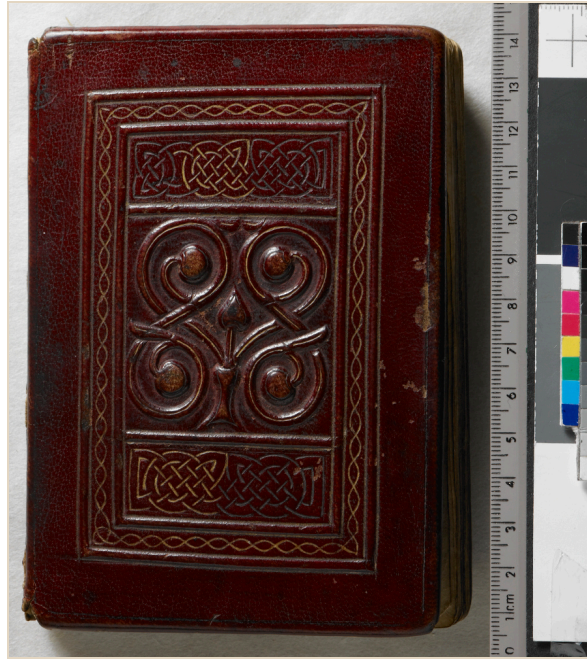
The early Christians loved the codex. It could hold all four Gospels in one book that was easy to carry and easy to search. Before long, the codex took the place of the scroll almost everywhere.

A **bookbinder** folded the pages into small bundles and sewed each bundle through its fold. Then he sewed the bundles together, made a strong **spine**, and fastened on covers of wood wrapped in leather. A well-made book could last a thousand years.

You can bind a book with just paper, a needle and thread. Fold a few sheets in half, poke three holes along the fold, and sew in and out. This is called a pamphlet stitch, and

bookbinders still use it today.

PICTURE STUDY



The St Cuthbert Gospel (front cover), Unknown monks of Monkwearmouth-Jarrow, in northern England, About 700–730 · Red leather over wooden boards, with a raised design · The British Library, London
Wikimedia Commons · CC0

This little book is a copy of the Gospel of John in Latin. It is the oldest European book that still has its first binding, more than 1,300 years old. It was placed in the coffin of Cuthbert, a beloved bishop of Lindisfarne, and was found when his coffin was opened at Durham in 1104. It is small enough to fit in your hand.

Look closely

- Find the curling plant design in the middle of the cover. Is it flat or raised?
- Find the lines and panels around the edge.
- Look at the color. What animal do you think the leather came from?

Talk about it

1. Why do you think this book has lasted so long?
2. Why was a small Gospel a good book for a traveling bishop?

Safety first. A grown-up pokes the holes with a pushpin or awl. Use a large blunt needle, and keep needles and pins in a pincushion when you are not sewing.

HANDS-ON: SEW A PAMPHLET-STITCH NOTEBOOK

Bind your own little notebook. It can hold your notes and drawings for the rest of this trail.

You will need

- 4 or 5 sheets of plain paper and 1 sheet of colored cardstock for the cover
- A large blunt needle (a tapestry or yarn needle)
- Strong thread, embroidery floss or thin yarn, about 3 times as long as the fold
- A pushpin or awl (for a grown-up), a ruler and a pencil

Steps

1. Fold each sheet in half. Tuck them inside each other, with the folded cover on the outside.
2. Open the book to the middle. Mark three dots along the fold: one in the center, and one an inch from each end. A grown-up pokes a hole at each dot.
3. From inside, push the needle out through the middle hole. Leave a tail of thread inside.
4. Go back in through the top hole. Then skip the middle and come out through the bottom hole.
5. Go back in through the middle hole. Tie the two thread ends in a double knot around the long stitch, and trim them.

Check your work

- My pages are folded and nested inside the cover.
- My stitches are snug, and the pages do not slide out.
- My knot is tied inside the book.

FIELD NOTEBOOK

1. **Sample book page 7: Bookbinding.** Draw your notebook open, and label the pages, the spine, the cover and the stitches.
2. Draw a scroll next to a codex. Under each, write one good thing about it.

Did you know? The St Cuthbert Gospel is only about 5½ inches tall. In 2012 the British Library raised the money to buy it so that everyone could see it. You can turn every one of its pages online on the British Library website.

Goes deeper in. History, “Monks and Monasteries,” and Literature, “How Books Are Made” (coming soon).

For families. Sources: British Library, “St Cuthbert Gospel” (Add MS 89000); Britannica, “Codex” and “Bookbinding.” Cuthbert died in 687; the book was probably made at the twin monastery of Monkwearmouth-Jarrow in the early 700s and is about 13.8 × 9.2 cm. The monks of Lindisfarne carried his coffin away from Viking raids and settled at Durham, where it was opened in 1104. Scholars agree the early church strongly preferred the codex for Scripture. This stop builds the hand-bound notebook listed as a track project.

PRACTICE

1. **EASY** What is a codex?
2. **EASY** What is the spine of a book?
3. **MEDIUM** Why is a codex easier to use than a scroll?

Make it a game · Scroll or Codex?. Give one child a long strip of paper with a hidden word written near the far end, rolled up like a scroll. Give another child a small book with the same word on a marked page. On “Go!”, both must find the word. Who finds it first? Swap and try again.

Scripture. “And there are also many other things which Jesus did, the which, if they should be written every one, I suppose that even the world itself could not contain the books that should be written. Amen.” (John 21:25, KJV)

This is the last verse of the Gospel of John, the very Gospel bound in the St Cuthbert book. John wrote down what we need to know about Jesus, but Jesus did far more than any library could hold.

Practice: answers

1. A book of folded pages joined at one edge, like our books today.
2. The back edge where the pages are joined.
3. You can open it to any page at once instead of unrolling the whole thing.

3.8 BEADING AND SIMPLE JEWELRY

OBJECTIVES

- Tell three things beads have been made from.
- Make and repeat a pattern with beads.
- String a bracelet and tie it off securely.

Warm-up. Look around your house for anything with a hole through the middle: a button, a washer, a piece of pasta. Could you string it on a thread? People have strung things like these for thousands of years.

Video slot. Video coming. Beads through history: shell, stone and Venetian glass beads; making a simple pattern bracelet. Search approved channels (Smithsonian, Corning Museum of Glass, Homeschool Pop); preview first.

KEY TERMS

bead

A small object with a hole through it, made to be strung on a thread or wire.

pattern

An order of colors or shapes that repeats, such as red, blue, red, blue.

clasp

A small fastener that hooks the two ends of a necklace or bracelet together.

jeweler

A craftsman who makes or mends jewelry.

CORE IDEAS

Beads are one of the oldest crafts in the world. People made them from shells, seeds, bone, stone, clay and gold. A bead can be as small as a grain of sand or as big as a walnut, as long as it has a hole to string it on.

In the Bible, God told Moses how to make a breastplate for the high priest. It held twelve precious stones set in gold, one for each of the twelve tribes of Israel. Skilled workers made it, along with fine gold chains.

Hundreds of years ago, glassmakers on Murano, an island near Venice in Italy, became famous for glass beads in every color. Traders carried those beads by ship to Africa and to the Americas, where people traded for them and sewed them into beautiful beadwork.

A good **jeweler** plans a design before stringing. The easiest plan is a **pattern**: two colors taking turns, or three colors in a row, again and again. Count carefully, tie strong knots, and your bracelet will hold together.

PICTURE STUDY



Woman with a Pearl Necklace, Johannes Vermeer, About 1662–1665 · Oil on canvas · Gemäldegalerie (Picture Gallery), Berlin, Germany
Wikimedia Commons · Public domain

Johannes Vermeer was a Dutch painter from the town of Delft. He painted quiet rooms full of soft daylight. Here a woman stands by a window, tying the ribbons of her pearl necklace and checking it in a little mirror.

Look closely

- Find the pearls. How does the necklace fasten: with a clasp or with ribbons?
- Find the small mirror on the wall.
- Where is the light coming from? What does it shine on?

Talk about it

1. How did Vermeer make the pearls look shiny?
2. Why do you think the wall behind her is left so plain?

Safety first. Small beads can cause choking: keep them in a tray, away from babies and toddlers, and pick up every one when you finish.

HANDS-ON: A PATTERN BRACELET

Plan a pattern and string a stretchy bracelet to wear or to give away. Making beadwork to sell is for Trail D, and only with a parent's sign-off.

You will need

- Pony beads or other large beads in two or three colors
- Stretchy bead cord or elastic thread
- Scissors and a piece of tape
- A tray or plate to keep beads from rolling away

Steps

1. Measure cord around your wrist and add 4 inches. Cut it.
2. Wrap a piece of tape around one end so beads cannot slide off.
3. Plan your pattern on the tray first: for example, red, red, white, red, red, white.
4. String the beads in your pattern until the bracelet fits around your wrist.
5. Take off the tape. Tie the two ends with a square knot (right over left, then left over right), pull it tight, and trim the ends.

Check your work

- My pattern repeats all the way around.
- My knot is tight, and the bracelet stretches over my hand.
- I picked up every loose bead.

FIELD NOTEBOOK

1. **Sample book page 8: Beading.** Draw your bracelet pattern with colored circles, and write the pattern in words, like “red, red, white.”
2. Design a second pattern with three colors that you would like to make next.

Did you know? Long ago in Venice, glassmakers were moved out to the island of Murano, partly so their hot furnaces would not set the crowded city on fire. Murano glassmakers still work there today. Some old glass beads were so valuable that they were used like money in trade.

Goes deeper in. Arithmetic, “Patterns,” and Art, “Color” (coming soon).

For families. Sources: Exodus 28:15–21 (the breastplate) and Exodus 39; Corning Museum of Glass; Britannica, “Bead” and “Murano.” Venice ordered glass furnaces moved to Murano in 1291. Glass trade beads were part of trade with Africa and North America from the 1500s onward; some of that trade was tied to the Atlantic slave trade, which older children may study in History. Vermeer’s painting is dated about 1662–1665 by the Berlin museum; we did not fix an exact Commons file name, so search by title.

PRACTICE

1. **EASY** Name three things beads have been made from.
2. **MEDIUM** What comes next? red, blue, red, blue, red, ____
3. **MEDIUM** How many stones were in the high priest’s breastplate, and why?

Make it a game • Human Bead String. Give each child a red or blue paper square. A grown-up calls a pattern, like “red, blue, blue.” The children line up in that pattern, holding hands like beads on a string. Add a new color or a harder pattern each round. The “string” must check itself and fix any bead in the wrong place.

Scripture. “And they shall be mine, saith the LORD of hosts, in that day when I make up my jewels; and I will spare them, as a man spareth his own son that serveth him.”
(Malachi 3:17, KJV)

We string beads and treasure our jewels. But God calls His own people His jewels. To Him, His children are more precious than pearls or gold.

Practice: answers

1. Any three: shells, seeds, bone, stone, clay, glass, gold, pearls.
2. Blue.
3. Twelve, one for each of the twelve tribes of Israel.

TRAIL 3 BADGE QUIZ

The badge quiz is optional. Read each question aloud; the child may answer by talking, pointing or drawing. Four right out of five earns the first badge; four right out of five earns the second. Badges and the certificate are earned by doing the stops, not by scores.

Badge quiz 1 (Stops 1–5)

1. In what country was true paper first made?
2. What does the word origami mean?
3. What did a scribe write with?
4. What was the Penny Black?
5. Why is quilling called quilling?

Badge quiz 2 (Stops 6–8)

6. How do you press a flower?
7. What do we call a scientist who studies plants?
8. What is the difference between a scroll and a codex?
9. What is the spine of a book?
10. What comes next? red, red, white, red, red, ____

TRAIL CERTIFICATE: MY PAPER-CRAFTS SAMPLE BOOK AND TRAIL C CERTIFICATE

Gather your eight sample pages into the notebook you sewed in Stop C7, or into a folder: “My Paper Crafts,” with your name and dates.

Choose the craft you liked best and make one more piece to give to someone, with a hand-lettered card.

When the book is done, a parent signs the Trail C certificate.

- **Pages:** A page for each stop, with a sample or drawing and a label.
- **Skill:** Folds are sharp, coils are even, stitches are snug and knots hold.
- **Telling:** The child can tell one true story or fact from each craft’s history.
- **Care:** Work is neat, glued flat and finished with patience.

Answer key

1. China.
2. Folding paper.
3. A quill pen made from a goose feather.
4. The first postage stamp, from England in 1840.
5. The paper strips were rolled around a feather quill.
6. Lay it between papers in a heavy book and wait until it is flat and dry.
7. A botanist.
8. A scroll is rolled up; a codex has folded pages joined at one edge, like our books.
9. The back edge where the pages are joined.

10. White.

CRAFTS AND MAKING ≈ TRAIL D: MAKE IT, PRICE IT, SELL IT

The last trail of the Crafts and Making track turns a young maker into a small shopkeeper: Bezalel and Aholiab, the craftsmen God filled with wisdom to build the tabernacle; choosing a product; counting the cost of materials and time; setting a fair price; checking quality; labels, packaging and a simple logo; running a craft-fair table or a family shop; and keeping the books to find the profit.

This is the ● **Scout** level, for ages 7 to 9. A parent reads the story aloud, or a strong reader reads it alone. Every stop stands by itself, but together they build a **Shop Notebook** in the Field Notebook: a promise card, a product, a cost card, a price tag, a quality checklist, a logo and label, a shop plan and a profit sheet. A parent signs off before anything is really sold.

Five stops earn the **Young Maker badge, part 1**; eight stops earn part 2 and the **Trail D certificate**.

BEFORE YOU BEGIN

- Listen to a story of about five minutes and tell it back.
- Count coins and add and subtract small money amounts (a grown-up may help).

MASTERY CHECKLIST

- ☐ I can tell who Bezalel and Aholiab were and what they made.
- ☐ I can find what one item costs me to make.
- ☐ I can set a fair price that is more than my cost.
- ☐ I can check my work for quality and make a label with my logo.
- ☐ I can keep a ledger and find my profit: sales minus costs.

OPTIONAL BOOKS AND RESOURCES

- **Biz Kid\$ (public television series)** (<https://bizkids.com>): Free episodes and activities on money and small business for children; preview episodes before watching.
- **The Metropolitan Museum of Art: A Goldsmith in His Shop** (<https://www.metmuseum.org>): Search the collection for Petrus Christus to see the painting for Stop D4 up close.
- **Daryl Bernstein, *Better Than a Lemonade Stand! Small Business Ideas for Kids* (1992)** (<https://www.worldcat.org>): A book of simple business ideas written by a teenager. Look for it at the library; a grown-up can choose the ideas that fit.

4.1 BEZALEL AND AHOIAB, THE FIRST NAMED CRAFTSMEN

OBJECTIVES

- Tell who Bezalel and Aholiab were and what God called them to make.
- Name three kinds of work they did: gold and metal, carving, and weaving or embroidery.
- Say that skill with our hands is a gift from God.

Warm-up. Look around your home for something made by hand: a quilt, a chair, a bowl, a card. Who made it? Did they have to learn how? Today we meet two craftsmen God chose by name.

Video slot. Video coming. Bezalel and Aholiab build the tabernacle (Exodus 31 and 35–36), told for children. Search approved channels (Saddleback Kids, Crossroads Kids' Club, a Bible-story channel your church uses); preview first.

KEY TERMS

craftsman

A person who makes things skillfully with the hands.

tabernacle

The tent where Israel worshiped God in the wilderness, made from God's own pattern.

engraver

A worker who cuts letters or pictures into metal or stone.

wise hearted

The Bible's words for people with skill and good sense in their work.

CORE IDEAS

After God brought Israel out of Egypt, He told Moses to build a **tabernacle**, a holy tent where the people would worship Him. God gave the pattern for everything: the golden lampstand, the table, the ark, and curtains of blue, purple and scarlet. Who could make such beautiful things in the middle of a desert?

God said to Moses, "See, I have called by name Bezaleel." Bezalel was from the tribe of Judah. God filled him with His Spirit, with wisdom and understanding, to work in gold, silver and brass, to cut stones and to carve wood. God gave him a helper too: Aholiab, from the tribe of Dan, who was an **engraver**, a designer and an embroiderer.

God also put it in their hearts to *teach*. Bezalel and Aholiab did not work alone. They led many other **wise hearted** men and women, who spun goats' hair and wove fine linen. A good **craftsman** shares what he knows.

The people brought gold, jewels, wool and wood as gifts, and they gave so much that Moses had to tell them to stop! Then the craftsmen made everything just as God had shown. Their story tells us that making things well is real work for God.

PICTURE STUDY



Bezaleel and Aholiab Working on the Tabernacle, After a design by Hans Sebald Beham, 1520s · Woodcut · Rijksmuseum, Amsterdam (another print is in the Fitzwilliam Museum, Cambridge)
Wikimedia Commons · CC0

Hans Sebald Beham was a German artist who made tiny, detailed pictures for printed Bibles. This woodcut was carved into a block of wood, inked and pressed onto paper, so the picture itself was made by a craftsman.

Look closely

- Find someone working with a tool. What is he making?
- Find something that might be gold or metal.
- How many workers can you count?

Talk about it

1. Why do you think so many people were needed to build the tabernacle?
2. How is carving a woodcut like the carving Bezalel did?

HANDS-ON: MY MAKER'S PROMISE CARD

Begin your shop notebook with a card that tells what you hope to make and whom you will make it for.

You will need

- An index card or a piece of cardstock
- Colored pencils or markers
- A gold or yellow pencil or crayon

Steps

1. At the top, write: "I can make things well, as to the Lord."
2. Draw one thing Bezalel or Aholiab made: the golden lampstand, the ark, or a curtain of blue, purple and scarlet.
3. On the back, list three things you already know how to make with your hands.
4. Add one skill you would like someone to teach you, like Bezalel taught others.
5. Sign your name like a craftsman.

Check your work

- My card has a drawing from the tabernacle.
- I listed three things I can make.
- I wrote one skill I want to learn.

FIELD NOTEBOOK

1. **Shop notebook, page 1: The first craftsmen.** Tape in your promise card. Write: "Bezalel of Judah and Aholiab of Dan. God filled them with wisdom to make the tabernacle."
2. Draw the tools a craftsman might need: a hammer, a chisel, a needle and a loom.

Did you know? The King James Bible spells the names *Bezaleel* and *Aholiab*; many newer books say *Bezalel* and *Oholiab*. In Exodus 36:5-7 the people brought more than enough gifts, so Moses sent word through the camp to stop giving.

Goes deeper in. History, "Moses and the Exodus," and Art, "Art in Worship" (coming soon).

For families. Sources: Exodus 31:1-11; 35:30-35; 36:1-7 (KJV). "First named craftsmen" follows the trail outline; Genesis 4:22 names Tubal-cain earlier as "an instructor of every artificer in brass and iron," so the story calls Bezalel and Aholiab the first craftsmen God filled with His Spirit for their work. Picture: Rijksmuseum lists the woodcut as anonymous, after a design by Hans Sebald Beham; the exact year is given there as 1522 and is left as "1520s" here.

PRACTICE

1. **EASY** What did God call Bezalel and Aholiab to make?
2. **EASY** Name one kind of work Bezalel or Aholiab could do.
3. **MEDIUM** Why did the people have to stop bringing gifts?

Make it a game · Tabernacle Workshop. A grown-up is “Moses” and calls out a job: “Carve the wood!” “Beat the gold!” “Weave the curtain!” “Engrave the stone!” Children act it out with their hands. When Moses calls “Enough!” everyone freezes. Anyone who moves becomes the next Moses.

Scripture. “Them hath he filled with wisdom of heart, to work all manner of work, of the engraver, and of the cunning workman, and of the embroiderer, in blue, and in purple, in scarlet, and in fine linen, and of the weaver, even of them that do any work, and of those that devise cunning work.” (Exodus 35:35, KJV)

“Cunning” here means skillful. God gave Bezalel and Aholiab their skill, and He is glad when we use our hands well too.

Practice: answers

1. The tabernacle and everything in it.
2. Any one: work in gold, silver or brass; cut stones; carve wood; engrave; design; embroider; weave.
3. They gave more than enough for the work.

4.2 CHOOSE A PRODUCT

OBJECTIVES

- Say what a product is.
- Use four questions to choose a good product to make.
- Make one sample to test the idea.

Warm-up. Think of three things you have made that someone else liked: a card, a bookmark, a drawing, a cookie. Which one did people ask for again?

Video slot. Video coming. How kids choose a product to make and sell; simple craft business ideas for children. Search approved channels (Biz Kid\$, Junior Achievement, Homeschool Pop (Alternate)); preview first.

KEY TERMS

product

A thing someone makes to sell or give.

customer

A person who buys what you make.

sample

The first one you make, to test your idea before making many.

trade

A kind of work a person learns well, like shoemaking or weaving.

CORE IDEAS

Long ago, most things were made by hand. A shoemaker made shoes, a potter made pots, and a weaver made cloth. Each one had a **trade**. People knew just where to go when they needed a new bowl or a pair of shoes.

A young maker today has to choose too. What will you make? A **product** can be bookmarks, cards, beaded bracelets, pot holders or a little bag. You do not need to make everything. A good maker picks one or two things and makes them well.

Ask four questions. **Can I make it well? Do people want it? Can I get the materials? Can I make it in an afternoon?** If the answer to all four is yes, you may have found your product. Think about your **customer** too. Would Grandma like it? Would a neighbor?

Before you make twenty, make one. This first one is your **sample**. Show it to your family. Is it strong? Is it pretty? Did it take too long? A sample helps you fix problems before they cost you a whole pile of materials.

PICTURE STUDY



The Shoemaker, from The Book of Trades, Jost Amman, 1568 · Woodcut, in a printed book · Many libraries and museums hold copies of the book, including the Metropolitan Museum of Art, New York
Wikimedia Commons · CC BY 4.0

Jost Amman made more than one hundred little pictures of people at work for a German book called *The Book of Trades*. Each picture shows one maker: the baker, the printer, the potter, the shoemaker. A short poem by Hans Sachs tells what each one makes.

Look closely

- Find the finished shoes. Where are they kept?
- Find a tool in the shoemaker's hands.
- Is the shoemaker making one kind of thing or many kinds?

Talk about it

1. Why do you think the shoemaker made only shoes and not pots and bread too?
2. If your trade had a picture in the book, what would it show?

Safety first. Use scissors with care and cut away from your fingers. Ask a grown-up before using a craft knife, a hot glue gun or an iron.

HANDS-ON: THE PRODUCT TEST

Choose your product with four questions, then make one sample.

You will need

- Paper and a pencil

- Materials for one sample of your product (for example cardstock and ribbon for a bookmark)
- Three stickers or colored dots

Steps

1. Write three product ideas across the top of a page.
2. Under each one, write the four questions: Can I make it well? Do people want it? Can I get the materials? Can I make it in an afternoon?
3. Put a check by each “yes.” The idea with the most checks wins.
4. Make one sample of the winner.
5. Show your sample to three people. Ask each one, “Would you like this?” Give it a dot for every “yes.”

Check your work

- I asked the four questions about three ideas.
- I made one sample.
- I asked three people what they thought.

FIELD NOTEBOOK

1. **Shop notebook, page 2: My product.** Draw your sample. Write its name and the four “yes” answers under it.
2. Write one thing you would change before making more.

Did you know? In Jost Amman’s day, a boy who wanted to learn a trade became an *apprentice*. He lived with a master craftsman for several years and learned by watching and doing. Many trade names became family names: Smith, Baker, Weaver, Potter and Taylor.

Goes deeper in. Small Business & Economics, “Goods and Services,” and History, “Life in the Middle Ages” (coming soon).

For families. Sources: Jost Amman and Hans Sachs, *Eygentliche Beschreibung aller Stände auf Erden* (Frankfurt, 1568), often called the *Ständebuch* or *Book of Trades*; a Dover reprint is widely available. The commons_file is left blank; search Wikimedia Commons for “Ständebuch” to find the shoemaker page. Good first products for this age: bookmarks, greeting cards, beaded bracelets, pot holders, or a drawstring bag from Trail A.

PRACTICE

1. **EASY** What is a product?
2. **MEDIUM** Name two of the four questions for choosing a product.
3. **MEDIUM** Why make a sample before making twenty?

Make it a game · Who Makes It? A grown-up names a thing: “shoes,” “bread,” “a pot,” “cloth,” “a horseshoe.” The children call out the maker: “Shoemaker!” “Baker!” “Potter!” “Weaver!” “Blacksmith!” Then switch: the children name a thing and the grown-up guesses.

Scripture. “She maketh fine linen, and selleth it; and delivereth girdles unto the merchant.” (Proverbs 31:24, KJV)

The wise woman of Proverbs 31 chose good products, fine linen and girdles (belts), and made them well enough to sell. Choosing what to make is part of good work.

Practice: answers

1. A thing someone makes to sell or give.
2. Any two: Can I make it well? Do people want it? Can I get the materials? Can I make it in an afternoon?
3. To find and fix problems before using up lots of materials.

4.3 COSTING MATERIALS AND TIME

OBJECTIVES

- List the materials a product uses and what they cost.
- Find the cost of one item by sharing the cost of a batch.
- Time how long one item takes to make.

Warm-up. Pick up a pencil. Somebody paid for the wood, the lead, the paint and the eraser, and somebody spent time making it. What do you think it cost to make?

Video slot. Video coming. Cost of materials for kids: how much does it cost to make a product? Search approved channels (Biz Kid\$, Junior Achievement, Khan Academy Kids); preview first.

KEY TERMS

materials

The things you use up to make a product, like paper, yarn or beads.

cost

The money you must pay to make or get something.

batch

A group of the same things made at one time.

receipt

A paper from the store that shows what you bought and what you paid.

CORE IDEAS

Jesus once asked, “Which of you, intending to build a tower, sitteth not down first, and counteth the cost?” A wise builder adds up the cost before he starts. A wise maker does the same.

First, list your **materials**. To make bookmarks you might need cardstock, ribbon and stickers. Keep the **receipt** from the store so you know what each one cost. Things you already own, like scissors, are tools, not materials. You use them again and again.

Most materials come in packs, so it is easiest to make a **batch**. Say a pack of cardstock costs \$2 and a roll of ribbon costs \$1. That is \$3, and it is enough for 10 bookmarks. Share the \$3 among 10 bookmarks, and each one **costs** 30 cents to make.

Your time counts too. Use a clock or a timer to see how long one bookmark takes. If one takes 10 minutes, 10 bookmarks take 100 minutes, more than an hour and a half! Time is a gift from God, so a maker writes it down and uses it well.

PICTURE STUDY



The Tailor, Giovanni Battista Moroni, about 1565–1570 · Oil on canvas · The National Gallery, London
Wikimedia Commons · Public domain

Moroni was an Italian painter famous for true-to-life portraits. Most painters of his day painted kings and nobles, but here he painted a working craftsman at his table, just about to cut a costly piece of cloth.

Look closely

- Find the chalk lines on the cloth. Why would a tailor mark the cloth before he cuts?
- Find the shears. Are they a tool or a material?
- Look at the tailor's face. Is he hurrying or thinking?

Talk about it

1. Why must a tailor be careful not to waste cloth?
2. What would happen to his costs if he cut wrong?

HANDS-ON: MY COST CARD

Find out what one of your products really costs to make.

You will need

- Your sample from Stop D2, or any small craft
- The prices of your materials (store receipts, price tags or a grown-up's help)
- A timer or clock
- An index card and a pencil

Steps

1. Write “Cost Card” and the name of your product at the top.
2. List each material and what the whole pack costs.
3. Add the costs to get the batch cost.
4. Write how many items one batch makes. With a grown-up, share the batch cost to find the cost of one item.
5. Set a timer and make one item. Write the minutes on the card.

Check your work

- My card lists every material and its cost.
- I found the cost of one item.
- I timed how long one item takes.

FIELD NOTEBOOK

1. **Shop notebook, page 3: What it costs.** Tape in your cost card.
2. Draw a pile of your materials and label each one with its price.

Did you know? Tailors have an old saying: “Measure twice, cut once.” Cloth was so costly in Moroni’s day that a tailor laid out his pattern with great care to waste as little as he could. Leftover scraps were saved for patches and quilts.

Goes deeper in. Arithmetic, “Money and Making Change,” and Small Business & Economics, “Costs” (coming soon).

For families. Sources: Luke 14:28 (KJV); The National Gallery, London, on Moroni’s *The Tailor* (NG697). Sharing a batch cost is division; if your child has not met division yet, lay out coins or counters into equal piles. Keep numbers friendly (a \$3 batch for 10 items). Older children can put a value on their time; at this level it is enough to record the minutes.

PRACTICE

1. **EASY** Are scissors a material or a tool?
2. **MEDIUM** Materials for 10 cards cost \$5. What does one card cost?
3. **MEDIUM** One bracelet takes 5 minutes. How long do 6 bracelets take?

Make it a game • Tool or Material?. A grown-up holds up or names craft things: “yarn,” “needle,” “glue,” “ruler,” “beads,” “scissors,” “paper.” Children stand up tall for a tool (used again and again) and crouch down for a material (used up). Talk about any tricky ones, like a glue stick.

Scripture. “For which of you, intending to build a tower, sitteth not down first, and

counteth the cost, whether he have sufficient to finish it?" (Luke 14:28, KJV)

Jesus said a wise builder counts the cost before he starts. Counting the cost of our crafts is a small way to practice the same wisdom.

Practice: answers

1. A tool, because you use them again and again.
2. 50 cents.
3. 30 minutes.

4.4 SETTING A FAIR PRICE

OBJECTIVES

- Say what a price is and why it must be more than the cost.
- Compare prices in a store to set a fair price.
- Tell why honest weights and prices please God.

Warm-up. Look at a price tag in your kitchen or on a store flyer. What does it tell you? Who do you think chose that number?

Video slot. Video coming. How to set a price for kids: cost, profit and comparing prices. Search approved channels (Biz Kid\$, Junior Achievement, Homeschool Pop (Alternate)); preview first.

KEY TERMS

price

The money a customer pays for a product.

profit

The money left over after you pay your costs.

fair

Right and honest for both the buyer and the seller.

balance

A scale with two pans, used long ago to weigh gold, spices and coins.

CORE IDEAS

Long ago, a goldsmith or a spice seller weighed things on a **balance**. A cheating seller could use a false weight to give less than he promised. The Bible says, “A false balance is abomination to the LORD: but a just weight is his delight.” God cares about honest selling.

A **price** is what the customer pays. It must be more than your cost, or you will lose money. If a bookmark costs you 30 cents to make and you sell it for 30 cents, you have nothing left over for all your work. The money left over is called **profit**.

But a price must not be too high, either. Look at similar things in a store or a catalog. If store bookmarks cost \$2, would anyone pay \$5 for yours? A good price pays for your materials and your time, and it is a good deal for the buyer too. That is a **fair** price.

Suppose you choose \$1 for your bookmark. You pay back the 30 cents it cost, and 70 cents is your profit. Write your price clearly and charge every customer the same. An honest seller is trusted, and people come back.

PICTURE STUDY



A Goldsmith in His Shop, Petrus Christus, 1449 · Oil on oak panel · The Metropolitan Museum of Art, New York

Wikimedia Commons · CC0

Petrus Christus painted in Bruges, a busy trading city in what is now Belgium. A young couple has come to buy a ring, and the goldsmith is weighing it on a little balance so the price will be honest.

Look closely

- Find the balance in the goldsmith's hand.
- Find the coins and the jewels on the counter and shelves.
- Find the round mirror. What can you see in it?

Talk about it

1. Why does the goldsmith weigh the ring in front of his customers?
2. Would you trust this goldsmith? Why?

HANDS-ON: MY PRICE TAG

Set a fair price for your product and make a tag for it.

You will need

- Your cost card from Stop D3 (or the cost of one item)
- A store flyer, a catalog or a trip to a store with a grown-up
- Small tags or cardstock, a hole punch and string

Steps

1. Write the cost of one item.
2. Find two or three similar things in a store or catalog. Write their prices.
3. Choose a price that is more than your cost but fair next to the store prices.
4. Subtract: price – cost = profit for one item. A grown-up can help.
5. Make a tag with the product name and the price. Ask a parent to look over your price and sign: “Parent approved: _____.” Nothing is sold without this signature.

Check your work

- My price is more than my cost.
- I compared it with store prices.
- A parent signed my price tag.

FIELD NOTEBOOK

1. **Shop notebook, page 4: My fair price.** Write: Cost _____. Price _____. Profit _____. Tape in a copy of your tag.
2. Draw a balance with “honest” on one pan and “fair” on the other.

Did you know? Many people think the goldsmith in this painting is meant to be Saint Eligius (Eloi), an early Christian goldsmith in France who became the patron of goldsmiths. Goldsmiths’ guilds in the Middle Ages tested gold and silver to make sure buyers got what they paid for.

Goes deeper in. Small Business & Economics, “Prices,” and Arithmetic, “Adding and Subtracting Money” (coming soon).

For families. Sources: Proverbs 11:1 (KJV); The Metropolitan Museum of Art, Robert Lehman Collection, *A Goldsmith in His Shop* (1975.1.110). The Met notes the figure may represent Saint Eligius; the story leaves that to the aside. The parent sign-off on the price tag is required before any real sale. At this age, a simple rule of thumb (price about three times the material cost, then checked against store prices) works well.

PRACTICE

1. **EASY** What is profit?
2. **MEDIUM** A card costs 50 cents to make and sells for \$2. What is the profit?
3. **MEDIUM** Why should your price be more than your cost but not much higher than the store’s?

Make it a game • Too Low, Too High, Just Right. A grown-up says, “This bookmark cost 30 cents to make.” Then the grown-up calls out prices: “10 cents!” “\$1!” “\$20!”

Children crouch for too low (you lose money), stretch up high for too high (nobody will buy), and stand with arms out like a balance for just right.

Scripture. “A false balance is abomination to the LORD: but a just weight is his delight.” (Proverbs 11:1, KJV)

A balance is a scale. God hates cheating in buying and selling, and He delights in honest prices. A fair price honors Him and our neighbor.

Practice: answers

1. The money left over after you pay your costs.
2. \$1.50.
3. So you do not lose money, and so the price is still a fair deal for the buyer.

4.5 QUALITY CONTROL: WOULD YOU BUY IT?

OBJECTIVES

- Say what quality means.
- Check a product with a simple checklist.
- Decide what to do with an item that is not good enough.

Warm-up. Have you ever had a toy break the first day, or a shirt lose a button right away? How did you feel about the person who made it?

Video slot. Video coming. Quality control for kids: how factories and craftsmen check their work. Search approved channels (Biz Kid\$, Junior Achievement, How It's Made (Science Channel)); preview first.

KEY TERMS

quality

How well something is made.

inspect

To look at something closely to find any problems.

flaw

A mistake or weak spot in something you made.

guild

A group of craftsmen in the same trade who set rules for good work.

CORE IDEAS

Long ago in Amsterdam, cloth was big business. The cloth makers had a **guild**, and every year it chose a few men to **inspect** the cloth. They looked at samples of dyed cloth to make sure the color was even and the cloth was well made. Cloth that passed got a lead seal to show it was good.

That checking is called quality control. **Quality** means how well something is made. A product of good quality is strong, neat and does its job. A careful maker checks each thing before anyone buys it.

Here is the best test of all: **Would you buy it?** Hold your product and look closely. Are the edges straight? Is the glue dry and hidden? Are the stitches tight? Is it clean? Does it work? If you find a **flaw**, fix it if you can.

What if you cannot fix it? Do not hide the flaw from a buyer. Keep it, give it away as a family gift and tell them, or sell it honestly marked “second” for less. The Bible says, “Whatsoever ye do, do it heartily, as to the Lord.” We do our best work because God sees it.

PICTURE STUDY



The Sampling Officials of the Drapers' Guild (The Syndics), Rembrandt van Rijn, 1662 · Oil on canvas ·
Rijksmuseum, Amsterdam
Wikimedia Commons · Public domain

These men were the *staalmeesters*, the officials who checked the quality of dyed cloth for the drapers' guild of Amsterdam. Rembrandt painted them at their table, looking up as if you had just walked in with a question.

Look closely

- Count the men in hats. Who is not wearing a hat?
- Find the big book on the table. What might be written in it?
- Find the man who is half standing. What do you think he is about to do?

Talk about it

1. Would you like these men to check your work? Why or why not?
2. Why would a whole city care about good cloth?

HANDS-ON: THE QUALITY CHECKLIST

Make a checklist and inspect every item you make.

You will need

- Three or more of your products (or three samples of any craft)
- An index card and a pencil
- Small round stickers or a stamp (your “seal”)

Steps

1. Write “Quality Check” at the top of the card.
2. Write four checks: Strong? Neat? Clean? Works?
3. Inspect each item slowly, front and back. Tick each check it passes.
4. Give every item that passes all four your “seal” sticker.
5. Put items with a flaw in a “fix it” pile. Fix them, or mark them “second” or “gift.”

Check your work

- I made a checklist with four checks.
- I inspected every item front and back.
- I was honest about any flaws.

FIELD NOTEBOOK

1. **Shop notebook, page 5: My quality checklist.** Tape in your checklist card.
2. Draw your own quality seal: a circle with your initials or a small picture in it.

Did you know? The Dutch name for these officials, *staalmeesters*, means “sample masters.” Cloth that passed inspection got a lead seal pressed onto it. Archaeologists still dig up old cloth seals in Amsterdam and London today.

Goes deeper in. Art, “Rembrandt and the Dutch Masters,” and Small Business & Economics, “Quality and Trust” (coming soon).

For families. Sources: Colossians 3:23 (KJV); Rijksmuseum, *De Staalmeesters* (SK-C-6). The Rijksmuseum describes the sitters as the officials who judged the quality of dyed cloth samples for the drapers’ guild; the man without a hat is a servant. The story quotes part of the verse; the full verse is on the Scripture card. Words like “second” for a flawed item are a good chance to talk about honesty in selling.

PRACTICE

1. **EASY** What does quality mean?
2. **MEDIUM** Name two things to check before you sell a craft.
3. **MEDIUM** Your bookmark has a crooked edge you cannot fix. What can you do?

Make it a game • Inspector’s Eye. A grown-up lays out five similar things (five buttons, cards or blocks) with one small flaw hidden in one: a bent corner, a smudge, a missing bead. Children are the guild inspectors and must find the flaw. Take turns hiding a flaw for the others to find.

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

Paul wrote that we should work with all our heart, as if the Lord Himself were our customer. That is the best reason to check our work.

Practice: answers

1. How well something is made.
2. Any two: strong, neat, clean, works, straight edges, glue dry, stitches tight.
3. Keep it, give it as a gift and say so, or sell it marked “second” for less. Never hide the flaw.

4.6 LABELS, PACKAGING AND A SIMPLE LOGO

OBJECTIVES

- Tell what a good label says.
- Choose simple packaging that keeps a product safe and neat.
- Design a simple logo for your shop.

Warm-up. Find a box or jar in your kitchen. What words and pictures are on it? How can you tell which company made it without reading a single word?

Video slot. Video coming. How to design a simple logo and label for kids; packaging for handmade crafts. Search approved channels (Biz Kid\$, Art for Kids Hub, Junior Achievement); preview first.

KEY TERMS

label

A tag or sticker that tells what a product is, who made it and what it costs.

packaging

The bag, box or wrapping that keeps a product safe and neat.

logo

A simple picture or mark that stands for a maker or a shop.

seal

A stamp pressed into wax to show who sent a letter or package.

CORE IDEAS

Long ago, merchants could not print labels. Instead, they pressed a **seal** into hot wax on their letters and bundles. The seal showed a small picture or the merchant's initials. When a buyer saw the seal, he knew who had sent the goods and that nobody had opened them.

Today we use a **logo**. A logo is a simple mark that stands for you, like a needle and thread, a star, or your initials in a circle. Keep it simple, so it is easy to draw again and easy to remember. A good logo works in one color.

A **label** tells the buyer what they need to know. A good label has four things: the product name, your shop name or logo, the price, and how to care for it (like "Hand wash only" or "Keep dry").

Packaging keeps your product clean and safe and makes it look like a gift. It can be very plain: a paper bag folded and closed with your sticker, a strip of paper around a stack of cards, or a little bag tied with string. The Bible says a good name is better than great riches. Your logo stands for your good name, so put it only on good work.

PICTURE STUDY



Portrait of the Merchant Georg Gisze, Hans Holbein the Younger, 1532 · Oil on oak panel · Gemäldegalerie, Berlin

Wikimedia Commons · Public domain

Georg Gisze was a merchant from the city of Danzig who worked in London at the Steelyard, the trading house of the German merchants. Holbein filled his office with the tools of his business: letters, seals, sealing tools and a small balance.

Look closely

- Find the letter in his hands. Can you see writing on it?
- Find something used to seal letters.
- Find the vase of flowers. Why might the painter put flowers in a merchant's office?

Talk about it

1. How would Gisze's customers know a letter or bundle really came from him?
2. Which of his tools is most like a label or logo today?

HANDS-ON: LOGO, LABEL AND PACKAGE

Design a logo, make labels and wrap one product as if a customer were taking it home.

You will need

- Scrap paper and a pencil for sketching
- Plain stickers, tags or cardstock
- Fine markers in one or two colors
- Paper bags, tissue paper, string or ribbon

Steps

1. Choose a shop name, such as “Lily’s Bookmarks” or “The Little Stitch Shop.”
2. Sketch three tiny logo ideas. Pick the simplest one that you can draw the same way every time.
3. Make a label with the product name, your logo, the price and one care note.
4. Wrap one product: fold it into a bag or tie it with string, and close it with your logo sticker.
5. Hold it at arm’s length. Can you read the label? Does it look like a gift?

Check your work

- My logo is simple and easy to draw again.
- My label has the name, logo, price and a care note.
- My package keeps the product clean and safe.

FIELD NOTEBOOK

1. **Shop notebook, page 6: My shop name and logo.** Draw your logo large in the middle of the page and your shop name under it.
2. Tape in one label as a sample.

Did you know? Long before logos, many craftsmen put a *maker’s mark* on their work. Silversmiths stamped their initials into spoons and cups, and stonemasons cut little signs into the stones they shaped. Some of those marks can still be seen on old churches today.

Goes deeper in. Art, “Design and Lettering,” and Small Business & Economics, “Marketing” (coming soon).

For families. Sources: Proverbs 22:1 (KJV); Staatliche Museen zu Berlin, Gemäldegalerie, Holbein’s portrait of Georg Gisze (1532). Gisze was a Hanseatic merchant from Danzig (now Gdańsk) at the London Steelyard. A care note matters for anything sewn or worn; if your child adds a “made by” line, use a first name or shop name only.

PRACTICE

1. **EASY** What is a logo?
2. **MEDIUM** Name the four things a good label tells.
3. **MEDIUM** Why should a logo be simple?

Make it a game • Logo Hunt. Gather five boxes, jars or cans from the kitchen. Cover the words with paper so only the logos or pictures show. Can the children guess what each one is? Then each child draws their own logo, and the others guess whose shop it belongs to.

Scripture. “A good name is rather to be chosen than great riches, and loving favour rather than silver and gold.” (Proverbs 22:1, KJV)

A shop’s name and logo are only worth as much as the maker’s honesty and care. Guard your good name by putting it on good work.

Practice: answers

1. A simple picture or mark that stands for a maker or a shop.
2. The product name, the shop name or logo, the price, and how to care for it.
3. So it is easy to draw again the same way and easy to remember.

4.7 A CRAFT-FAIR TABLE OR A FAMILY “SHOP”

OBJECTIVES

- Set up a neat, inviting display table.
- Greet a customer politely and make change with a grown-up’s help.
- Run a small shop at a fair or at home.

Warm-up. Think of a market, bake sale or fair you have visited. Which table did you want to visit first? Why did it catch your eye?

Video slot. Video coming. Setting up a craft fair table for kids; making change with coins and bills. Search approved channels (Biz Kid\$, Junior Achievement, Khan Academy Kids); preview first.

KEY TERMS

fair

A gathering where many sellers set up tables or stalls to sell their goods.

display

The way you set out your products so customers can see them.

cash box

A box that holds the money for making change.

change

The money you give back when a customer pays more than the price.

CORE IDEAS

For hundreds of years, makers have sold their goods at **fairs**. On a fair day, sellers came from miles around and set up stalls in a town square. There were cloth sellers, potters, toymakers, food sellers and musicians, and whole families came to look and buy.

A good table makes people want to stop. Cover it with a clean cloth. Put your tallest things at the back and small things at the front. Set out your **display** in neat rows or little groups. Make a clear sign with your shop name and logo, and put a price on everything.

Before the fair, get a **cash box** with some coins and small bills for making **change**. A grown-up keeps it and helps you count. If a bookmark is \$1 and a customer pays with \$5, you give back \$4. Count it out loud to be sure: “One, two, three, four.”

When a customer comes, smile, look at them and say, “Good morning! Would you like to see my bookmarks?” Say “thank you” whether they buy or not. If you cannot go to a fair, hold a family shop at home for grandparents, cousins or neighbors. A good seller is kind to everyone.

PICTURE STUDY



The Fair at Impruneta, Jacques Callot, 1620 · Etching · National Gallery of Art, Washington, and many other museums
Wikimedia Commons · CC0

Jacques Callot was a French artist who worked in Florence, Italy. Every October a great fair was held near the church at Impruneta, outside the city. Callot etched it with more than a thousand tiny people, each one doing something different.

Look closely

- Find a stall or table where something is being sold.
- Find an animal being bought, sold or led.
- Find the church. Why might a fair be held next to it?

Talk about it

1. If you had a table at this fair, where would you put it so people would see it?
2. What would you sell?

Safety first. A grown-up stays at the table the whole time and keeps the cash box. Never go off with a customer or give out your address. Wash hands if you are near food.

HANDS-ON: OPEN MY SHOP

Set up a real or pretend shop table and serve at least three customers.

You will need

- A small table and a clean cloth

- Your products with labels and price tags
- A sign with your shop name and logo
- A box with coins and bills for change (real or play money)
- A sales sheet and a pencil

Steps

1. Ask a parent to sign the plan before any real selling: "I approve this shop: where _____, when _____, signed _____." Some fairs and towns have rules for sellers; a grown-up checks them.
2. Cover the table. Put tall things at the back, small things in front, and the sign where everyone can see it.
3. Practice with a family member: greet, show, take the money, count back the change, and say thank you.
4. Open your shop for real or for family. Each time you sell, write a tick on your sales sheet next to the product.
5. At the end, tidy the table and count what is left.

Check your work

- A parent signed my shop plan.
- My table was neat, with a sign and prices.
- I greeted each customer and said thank you.
- I counted change out loud.

FIELD NOTEBOOK

1. **Shop notebook, page 7: My shop table.** Draw your table from the front. Label the sign, the cloth, the tall things and the small things.
2. Write the words you will use to greet a customer.

Did you know? Many fairs began as church festival days, when crowds gathered for a feast and sellers came to meet them. The famous fair at Impruneta was held around Saint Luke's Day in October. Some English and European towns have held a fair on the same days for hundreds of years.

Goes deeper in. Small Business & Economics, "Markets and Selling," and Arithmetic, "Making Change" (coming soon).

For families. Sources: Proverbs 31:31 (KJV); National Gallery of Art, Washington, Callot's *The Fair at Impruneta* (1620). Before any real sale, check local rules: some towns, markets and church fairs ask sellers to register or have a table fee. A family shop with play money is a full completion of this stop. Counting change "up" from the price (the old shopkeeper's way) is easier for young children than subtracting.

PRACTICE

1. **EASY** Where should tall things go on a shop table?
2. **MEDIUM** A card costs \$2. The customer pays \$5. How much change do you give?
3. **EASY** What do you say to a customer who looks but does not buy?

Make it a game • Shopkeeper. Set up a pretend shop with a few toys, each with a price tag in whole dollars. One child is the shopkeeper; the others are customers with play money. Each customer buys one thing and pays with a bigger bill. The shopkeeper must greet, count back the change out loud and say thank you. Then swap.

Scripture. “Give her of the fruit of her hands; and let her own works praise her in the gates.” (Proverbs 31:31, KJV)

The city gate was where people met to trade and talk. The good work of a faithful maker was seen and praised there. Let your work speak well of you at your table.

Practice: answers

1. At the back.
2. \$3.
3. Thank you (for stopping by).

4.8 KEEP THE BOOKS: SALES, COSTS AND PROFIT

OBJECTIVES

- Write sales and costs in a simple ledger.
- Find profit: sales minus costs.
- Make a plan to give, save and spend.

Warm-up. Put a handful of coins on the table. Can you count them? Now, how could you remember tomorrow how many there were and where they came from?

Video slot. Video coming. Keeping a simple ledger for kids: money in, money out, profit; give, save, spend. Search approved channels (Biz Kid\$, Junior Achievement, Homeschool Pop (Alternate)); preview first.

KEY TERMS

ledger

A book where you write down money coming in and money going out.

sales

All the money customers paid you.

costs

All the money you spent to make your products.

profit

Sales minus costs: the money left over.

CORE IDEAS

Long ago, merchants kept careful books called **ledgers**. They wrote every coin that came in and every coin that went out. Keeping the books helped them know if their work was really earning money. The Bible says, “Be thou diligent to know the state of thy flocks.” A good worker knows how things stand.

Your ledger can be one page with two sides. On the left, write **money in**: your **sales**. On the right, write **money out**: your **costs**, like cardstock, ribbon and stickers. Write each one the day it happens, so you do not forget.

Then do the most important sum: sales minus costs equals **profit**. Say you sold 8 bookmarks at \$1 each. That is \$8 in sales. Your materials cost \$3. Then $\$8 - \$3 = \$5$. Your profit is \$5! If costs are bigger than sales, that is a loss, and the ledger shows you what to change next time.

What will you do with your profit? Many Christian families use three jars: **give**, **save** and **spend**. Giving a tenth to God’s work first is an old practice called a tithe. From \$5, a tithe is

50 cents. Then save some for new materials, and enjoy the rest with thanks to God.

PICTURE STUDY



The Moneylender and His Wife, Quentin Matsys, 1514 · Oil on panel · The Louvre, Paris
Wikimedia Commons · Public domain

Quentin Matsys painted in Antwerp, a rich trading city in what is now Belgium. A moneylender carefully weighs his coins while his wife looks up from her prayer book. Many people think the painter wanted us to ask which matters more: the coins or the book.

Look closely

- Find the balance. What is being weighed?
- Find the open book. Is it a ledger or a prayer book? How can you tell?
- Find the little round mirror on the table. What do you see in it?

Talk about it

1. Is the wife looking at her book or at the money? Why might that matter?
2. How can we keep good books and still keep God first?

HANDS-ON: MY PROFIT SHEET

Keep the books for your shop and find your profit.

You will need

- A sheet of paper and a ruler
- Your sales sheet from Stop D7 (or a pretend list of sales)
- Your cost card from Stop D3 (or your receipts)

- Three jars or envelopes labeled Give, Save and Spend

Steps

1. Draw a line down the middle of the page. Write “Money In” on the left and “Money Out” on the right.
2. Under Money In, write each sale. Under Money Out, write each cost.
3. Add each side. Write the totals at the bottom.
4. Subtract: Money In – Money Out = Profit. A grown-up can check the sum.
5. If the money is real and a parent agrees (“Parent checked: _____”), share the profit into the Give, Save and Spend jars.

Check your work

- My ledger has a Money In side and a Money Out side.
- I added both sides and found my profit.
- I made a plan to give, save and spend.

FIELD NOTEBOOK

1. **Shop notebook, page 8: My profit sheet.** Tape in your ledger page. Circle your profit.
2. Draw your three jars and write how much went into each.

Did you know? Merchants in Italy were keeping books with two sides, one for money in and one for money out, by the 1300s. In 1494 a friar and teacher named Luca Pacioli wrote down the method in a printed math book, and it spread all over Europe. Businesses still use it today.

Goes deeper in. Small Business & Economics, “Keeping Records,” and Arithmetic, “Adding and Subtracting Money” (coming soon).

For families. Sources: Proverbs 27:23 (KJV); Musée du Louvre, Matsys, *Le Prêteur et sa femme* (1514). The painting is often read as a gentle warning about money and devotion, but the painter left no note, so the stop asks rather than tells. The give-save-spend split is a family choice; the tithe is presented as a Christian practice (see Genesis 14:20; Malachi 3:10), not as a requirement for finishing the stop. Pacioli’s *Summa* (1494) was the first printed description of double-entry bookkeeping.

PRACTICE

1. **EASY** What is a ledger?
2. **MEDIUM** Sales were \$10 and costs were \$4. What is the profit?
3. **MEDIUM** Your profit is \$10. How much is a tithe (one tenth)?

Make it a game · In or Out?. A grown-up reads money events: “Grandma bought a card!” “We bought ribbon!” “A neighbor bought two bookmarks!” “We bought glue!” Children step to the left for Money In and to the right for Money Out. Keep a running tally on a whiteboard and find the profit at the end.

Scripture. “Be thou diligent to know the state of thy flocks, and look well to thy herds.” (Proverbs 27:23, KJV)

A shepherd counts his sheep so he knows how they are doing. Keeping the books is the same wise care for the work God has given us.

Practice: answers

1. A book where you write down money coming in and money going out.
2. \$6.
3. \$1.

TRAIL 4 BADGE QUIZ

The badge quiz is optional. Read each question aloud; the child may answer by talking, pointing or drawing. Four right out of five earns the first badge; four right out of five earns the second. Badges and the certificate are earned by doing the stops, not by scores.

Badge quiz 1 (Stops 1–5)

1. Whom did God fill with wisdom to make the tabernacle?
2. Why make a sample before you make many?
3. Materials for 10 bookmarks cost \$3. What does one bookmark cost?
4. Why must a price be more than the cost?
5. What is the best quality test?

Badge quiz 2 (Stops 6–8)

6. What is a logo?
7. Name two things a good label tells.
8. A bookmark is \$1. The customer pays with \$5. How much change?
9. Sales were \$8 and costs were \$3. What is the profit?
10. What are the three jars for your profit?

TRAIL CERTIFICATE: MY SHOP NOTEBOOK AND TRAIL D CERTIFICATE

Gather your eight shop pages into one book: “My Shop,” with your shop name, logo, your name and dates.

Add one finished, labeled product (or a photo of it) and your price list.

Tell a grown-up the story of your shop: what you made, what it cost, what you sold, and what you did with the profit.

When the notebook is done, a parent signs the Trail D certificate.

- **Pages:** A page for each stop, with drawings and labels.
- **Numbers:** The cost card, price tag and profit sheet show correct sums (a grown-up may help).
- **Quality:** The product is neat, checked, labeled and honestly priced.
- **Telling:** The child can explain cost, price and profit in their own words.

Answer key

1. Bezalel (Bezaleel) and Aholiab.
2. To test the idea and fix problems first.
3. 30 cents.
4. Or you will lose money and have no profit.
5. Would I buy it?
6. A simple mark that stands for a maker or a shop.

7. Any two: product name, shop name or logo, price, care note.
8. \$4.
9. \$5.
10. Give, save and spend.