

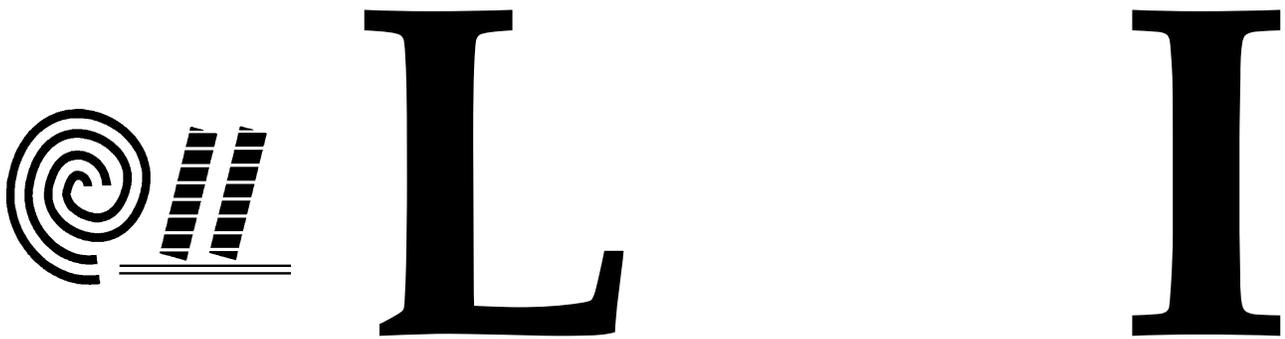
4 - H M E M B E R M A N U A L

L I N E

EXPRESSIVE ARTS

Written by Mary Jane Engh based on an earlier publication by the Agricultural Extension Service, University of Tennessee, with additional contributions by the Louisiana Cooperative Extension Service.

Design and drawings by Clint Keller.



This manual may be used as a resource for the Expressive Arts projects. It can help you:

...think of new ways to do things,

...understand basic art principles,

...understand cultural values,

...develop a career in arts and crafts,

...develop a lifetime hobby,

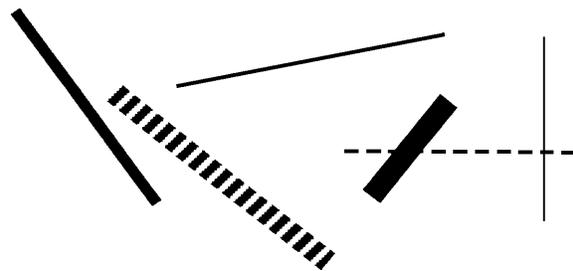
...enjoy beauty in your surroundings,

...develop your own ideas without the help of anyone else, and

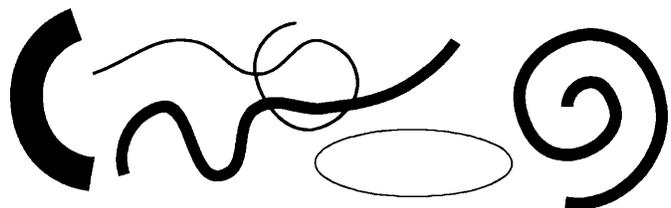
...recognize quality in arts and crafts.

Lines are all around us. The edge of any object is a line; so is the outline of any shape. When you see hills, mountains, or buildings against the sky, you are looking at the skyline. Other lines are “inside” lines, such as the veins of a leaf or the lines on the palm of your hand.

Lines can be straight—thick or thin, long or short, standing straight up, lying down or leaning.

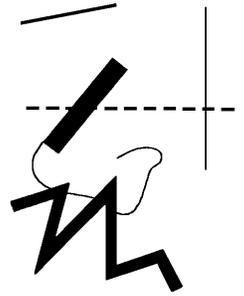


Lines can also curve in many different ways. Any piece of a circle is a curve called an arc. An S is really two curves put together. A spiral is a curve that almost makes a circle, but keeps getting farther and farther from the center. Lines can curve up or down, left or right, or any way in between.

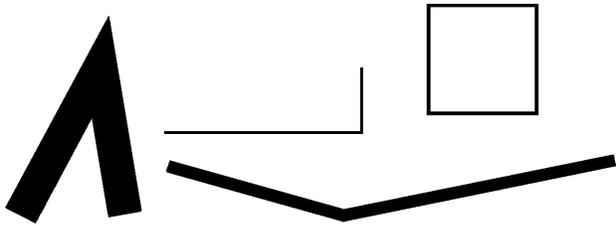


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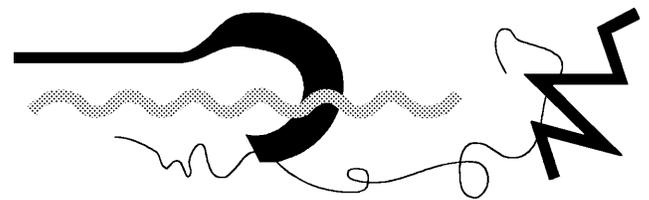
Lines can make angles. An angle is two straight lines joined together at a corner. Angles can be wide and open, or narrow and tight. A right angle is like the corner of a square.



How many angles can you see from where you're sitting or standing at this moment? Wherever straight lines meet, there are angles. Do you see wide ones?... narrow ones? Do you see any right angles?

Straight, curved, and angled lines can be put together in many ways. When you draw a line, you might start it out thin and straight, then make the last part of it heavy and curved. Regular, repeated curves can make a wavy line. Irregular curves can make a wobbly one. Short straight lines combined at sharp angles make a jagged or zigzag line.

Parallel lines are the same distance apart everywhere—like railroad tracks. They never cross, no matter how long you make them.



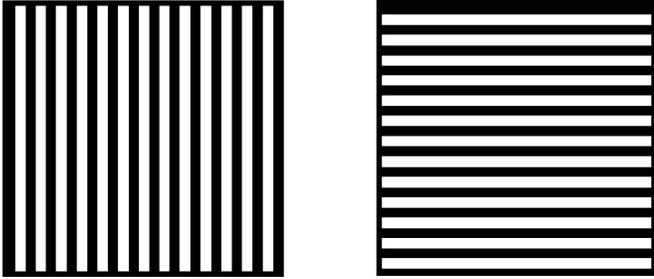
Look around you. How many straight lines do you see? Indoors there are usually lots of straight lines—the edges of windows and walls and floors, the edges of cabinets and doors and shelves and window blinds. What about outside? Do you see straight lines there.

When you look at a line, your eyes tend to move along it. This makes lines useful elements to give rhythm and emphasis to a design. You can draw a picture using nothing but lines. Outlines can show two-dimensional shapes and indicate three-dimensional forms. Shorter lines can indicate texture and shadows.

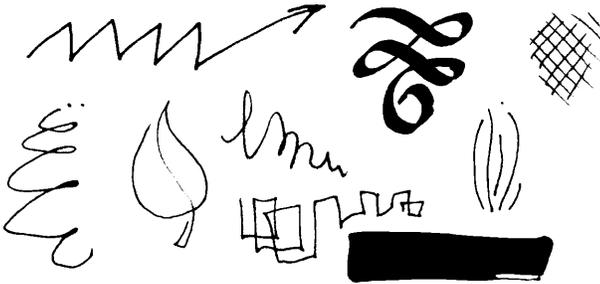
Look for curved lines. Can you draw a face, using nothing but curved lines? What else do you think you could draw with curved lines?

Horizontal (side to side) lines can make a shape look wider. Vertical (up and down) lines can make a shape look taller and narrower. This is

why wearing clothes with vertical lines can help you look taller or slenderer, and clothes with broad horizontal lines can help you look sturdier.



Different sorts of lines can help give people different moods or feelings. Look at these lines. Which line would you call the most active?... the quietest?... the strongest? Do any of the lines look soft?... hard?... angry?... silly? How else could you describe these lines?



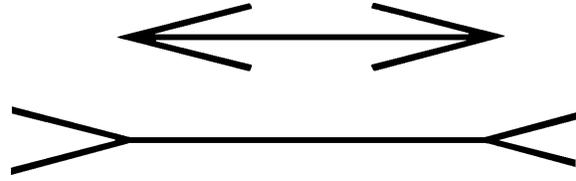
You can make an optical illusion with lines. Using a ruler, draw two straight lines exactly the same length. Measure them carefully to make sure they are the same. Then draw two short lines slanting inward to each end of the first line, like this:



At each end of the other line, draw two short lines like an arrow pointing outward:



Now look at the lines together.



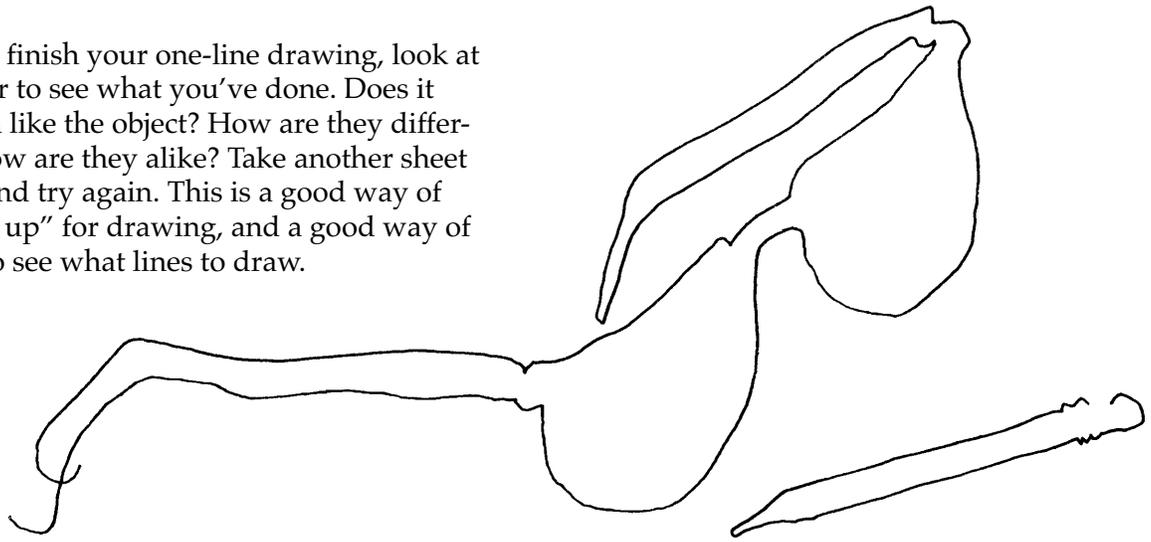
Do they still look the same length? Show them to somebody else and ask, “Which line do you think is longer?” Most people will think the second line is longer than the first one. Illusions like this can make certain parts of a design look larger or smaller.

Artists and handcrafters use line in many ways—not just in drawings or sketches. They may carve lines on wood, stone, clay, or other media. Handcrafters often work with materials that are linear (like a line)—for example, yarn, wire, thread, cord, or reeds.

Paul Klee, a famous Swiss painter, defined a line as “a dot taking a walk.” A dot all alone doesn’t move or point anywhere. But if you have lots of dots, one after another, you have a dotted line. Take a pencil and a piece of paper and make a “dot outline” of your hand. How does it compare with a regular outline?

Tricks of the Trade... You may want to try a trick that artists sometimes use: drawing a whole picture with one line. Pick an object you want to draw and sit down in front of it with a pencil and paper. Start drawing near the center of your sheet of paper. Don’t look at your drawing—keep your eyes on the object—and don’t lift your pencil off the paper. Don’t worry about how your picture looks; just let your hand move as your eye tells it to move. Look at the edges of your object. Every edge is a line. When you see a long straight line in your object, make a long straight line with your pencil. When you see a short curve, make a short curve. When you see an angle, make an angle, and so on.

When you finish your one-line drawing, look at your paper to see what you've done. Does it look much like the object? How are they different and how are they alike? Take another sheet of paper and try again. This is a good way of "warming up" for drawing, and a good way of learning to see what lines to draw.



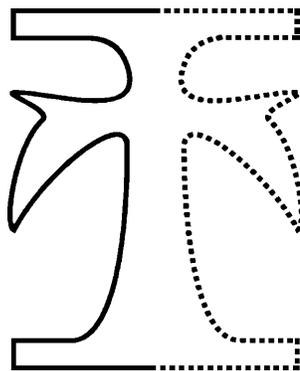
MIRROR IMAGES

What you need:

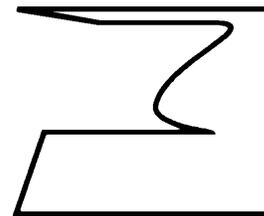
- paper
- ballpoint or felt-tip pen or narrow marker
- ruler

What you do:

1. Use the ruler to make two parallel horizontal lines. Your lines should be the same length and a few inches apart. Then connect the left ends with a freehand line that includes curves, angles, and straight sections. If you want to, you can make your line look like the edge or profile of something.
2. Now connect the other ends of your parallel lines with a "mirror image" of your first freehand line. "Mirror image" means that the two lines are alike, except that every time one line turns left, the other line turns right. When you're finished, you have a symmetrical design—that is, each side exactly balances the other side.



Try doing mirror images of different kinds of lines. Think of your two lines going in (toward the center) at the same time and out (away from the center) at the same time. For example, make a mirror image of this line:



You can start at the top and make a straight line slanting in, then an angle and a straight horizontal line running in, then a line curving out and back in, then a straight horizontal line running out, and finally a straight slanting line.

Practicing mirror images is a good way to learn drawing skills that will help you with almost all arts and crafts. Save the mirror image designs that you like. You may want to use them later for stitchery, leatherwork, carving, woodburning, weaving, stenciling, or other crafts—or they may give you ideas for pictures or sculpture.

LINE COLLAGE

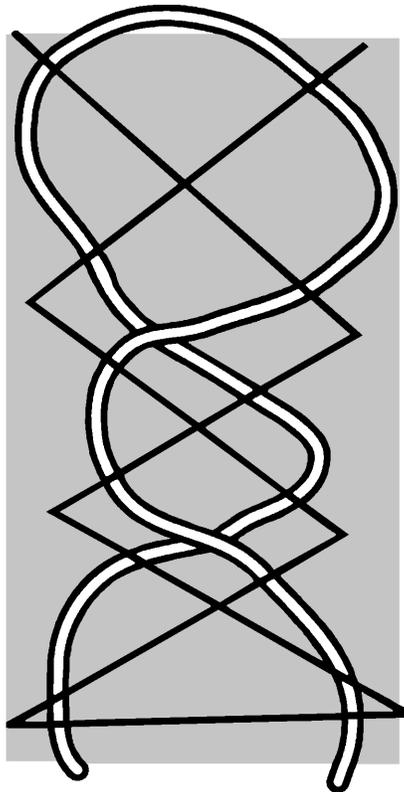
Collage, or gluing, is one way of making designs out of scraps and small pieces of material. Why not make a collage out of pieces of string?... or scraps of yarn that aren't long enough to knit anything with?

What you need:

- a piece of board (cardboard, plywood, fiberboard, etc.)
- string, yarn, or other linear materials
- white glue
- scissors

What you do:

1. Find or cut a board the size and shape you want.
2. Decide what kind of design to make on it with lines. Do you want to have a center of interest? If you do, how can you use lines to guide people's eyes to it? Or, would you rather make a regular pattern by repeating the same motif over and over? Maybe you want to make several small designs. If so, how will you arrange them on the space of your board? Or, you may want one big design—or one small design with lots of negative space around it. If you're keeping a Design Idea Book, you may have some good ideas ready to use. You might want to sketch the main lines of your design on the board with a pencil.
3. Glue long and short pieces of yarn, string, or cord onto the board to make your design.



Spread glue on one small area at a time so it won't dry out while you press the string into place. You may want to use only one kind of linear material—or many different kinds. Use your imagination and whatever you can find: old shoelaces, fishing line or leaders, rubber bands, thread—anything that can be cut into flexible lengths of line.

4. Let the glue dry completely. Run your hand across your collage and notice the texture. If you like your design, you may want to paint it with shellac or clear varnish to make it more permanent.

You can use string collage to decorate notebooks and book covers, lampshades, wastebaskets, picture frames, and many other things. Experiment with different materials and different kinds of design. Do you like to use more straight lines, more curves, or more angles—or do you like to mix them all?



BRAIDED BELT

Braiding is a way of intertwining lines. It makes a strap or band with a regular pattern. You can make a handsome braided belt out of cord.

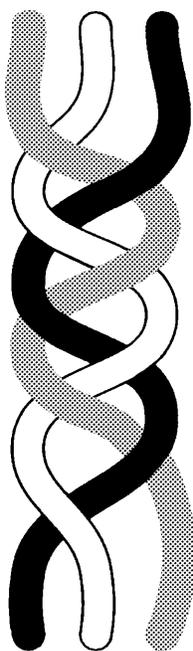
What you need:

- cord for braiding
- scissors

What you do:

1. Measure the length of one cord equal to your waist plus 24 inches. (The extra is for tying the belt.)
2. Cut three cords this long. For example, if your waist measures 16 inches, you will need three cords each 40 inches long.
3. Hold all three cords together. Measure 12 inches from one end, and tie all three cords together at that point with an overhand knot.

4. Hang the knot over a peg or nail. Cross left cord over center cord. (The cord that started out on the left is now the new center cord.) Cross right cord over the new center cord; then left over center, right over center, and so on. Keep each turn even. For example, you could have a red cord, a white cord, and a blue cord, with the white one in the middle. Cross blue over white, red over blue, white over red, blue over white, and so on.



5. Keep on braiding until the braid is long enough to go around your waist. Then tie the three cords at the end of the braid in a single knot like the one you tied in step 3. Your belt is now ready to wear.

Experiment! Instead of cord, try braiding leather thongs... or ribbons... or heavy yarn... or plastic strips. Instead of tying a knot at each end, use a smaller cord to wrap the ends of the braid. You can tie one end of the smaller cord to one of your belt cords (make sure you cover the knot with a coil or two of cord), wrap, then tuck the other end of the small cord into the braid and fasten it with a stitch of thread. Or, put a buckle at one end of your belt. Try making other things out of braids—bag handles, headbands, dog leashes, bracelets.

SEED STRINGS

You can string seeds as if they were beads, and use these seed strings to make jewelry, key chains, and all sorts of linear designs.

What you need:

- seeds (like dried corn; grain; sunflower, pumpkin, melon, or fruit seeds)
- dye (if you want color)
- enameled bucket or pan for dyeing
- wooden stick or spoon for stirring dye
- dental floss, nylon thread, or heavy-duty thread
- scissors
- sharp needle

What you do:

1. Wash your seeds. If you plan to string corn, be sure to remove any red skin near the top of the grains.
- 2A. If you want to dye your seeds, prepare the dye. Follow the instructions on the package. Wet your seeds in cold water before you add them to your dye mixture. Most seeds will take about 10–15 minutes to dye, but corn may take 20–30 minutes. Remove seeds from dye mixture, then rinse in cold water until water is almost colorless.
- 2B. If you want to use seeds in their natural colors, soak them in warm water. Soak corn for two hours, and other seeds for 30 minutes.

3. String your seeds while they're wet. Use a strong, sharp needle threaded with nylon thread, dental floss, or heavy-duty sewing thread. You can use a double strand of thread for extra strength.
4. When your string is as long as you want it, tie a knot at each end or tie the ends together. One seed string by itself can be a design, if you use different sizes, colors, or shapes of seeds. For example, you can make a motif of a few seeds and repeat it again and again in your seed string to make a pattern. How could you design your string to have a single center of interest? How can you balance your design? Are all the parts in proportion?



Depending on the sizes and shapes of your seeds, you can use seed strings in many of the other activities in this project: string art, line collage, weaving, braiding a belt. Or, use seed strings to decorate vases or flowerpots. You could wind a string around and around to cover a whole pot... or glue the string on in an interesting design. Try coiling a seed string in a tight spiral and gluing it to a cardboard or wooden backing to make a trivet or hotpad.

WEAVING ACTIVITIES

People first learned how to weave thousands of years ago. They probably used grass, pine needles, willow twigs, hair, leather strips, and all kinds of plant and animal fibers. They wove baskets, sacks, blankets, clothes, and sometimes even houses. Today, weaving is so important in our everyday life that we don't even think about

it—like the air we breathe, it's always there. If all the woven things in the world suddenly disappeared, what would we lose? Most of our clothes, sheets, towels, carpets, curtains, baskets, window screens, wire fences, upholstery, wicker furniture, woven chair seats....

Weaving is a line activity. It means interlacing threads (or any kind of linear material) that run in two different directions. One set of lines, called the warp, are usually held by a frame, or loom. The weaver weaves the other lines, called the weft or woof, in and out through the warp lines.

Flat weaving

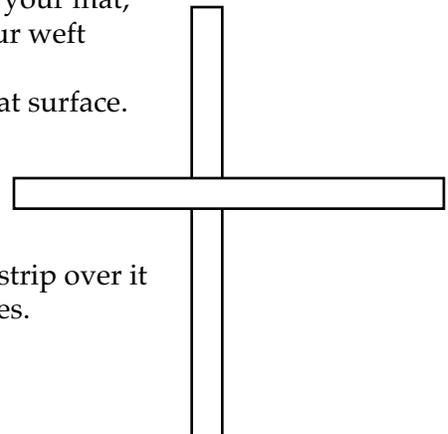
You can make nice-looking place mats, coasters, and other flat mats without a loom.

What you need:

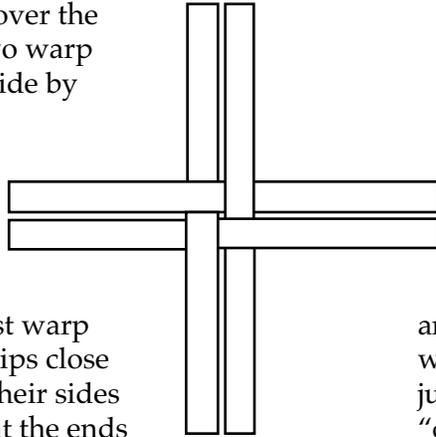
- flat strips, all the same width (e.g., plastic, leather, upholstery material, ribbons, binding, paper, reeds)
- scissors

What you do:

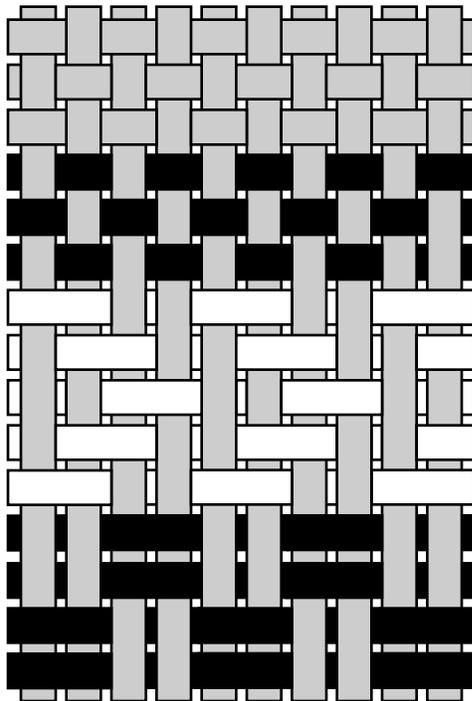
1. Decide what size mat you want to make. Cut one set of strips to the length you want for your mat; these are your warp strips. Cut another set of strips to the width of your mat; these are your weft strips.
2. Work on a flat surface. Lay your first warp strip down and cross a weft strip over it at right angles.



3. Lay a warp strip over the weft strip. The two warp strips should be side by side. Now take another weft strip and weave it in, over the second warp strip and under the first warp strip. Push the strips close together, so that their sides touch. Be sure that the ends of the warp strips are even, as well as the ends of the weft strips. If a strip sticks out too far, it's hard to get it back into place later.



4. This is the center of your mat. Add another warp strip, going under the second weft strip and over the first; then weave in another weft strip. Work outward, adding a warp and then a weft, one after another. Weave each new strip alternately over and under. Keep weaving until your mat is the size and shape you want.



5. You can leave a fringe of loose strip ends on each side of the mat. Or, you may prefer to finish the edges with a binding, either

stitched on or glued on. Or, you can bend the loose ends under and tuck them into the weaving on the underside. If you leave a fringe, you may want to stitch or glue the outside warp and weft strips together at each corner of your mat to keep them from coming unwoven.

Experiment! If your warp strips are one color and your weft strips are a different color, you will have a checked pattern. Or, you could use just a few different-colored strips to make "dotted lines" across your mat. What happens if your warps are alternately brown and green and your wefts are alternately yellow and green? Try experimenting with patterns of color.

Even if all your strips are the same color, your mat will have a textured pattern. You can change the pattern by changing the way you weave the strips. Try weaving over and under two strips at a time, instead of one... or over two, under one, and so on.

Use this picture to give you ideas for making patterns of your own. Do you think you could weave a picture?

Your flat weaving doesn't have to produce something flat. Try wrapping a woven mat around a cylindrical container (such as an oatmeal box, a coffee can, or a large juice can) to make an attractive kitchen canister... or a vase for dried, silk, or paper flowers... or a small wastebasket. Cover a glass jar to make a vase that can hold water. Use different sizes of containers to make sets of canisters or desk sets (holders for pens and pencils, markers and crayons, paperclips, etc.) You can glue the mat to the container, or just glue or stitch the ends of the mat together. If you use glue, put rubber bands around the mat to hold it in place until the glue sets.

Weaving on Cardboard

One of the simplest looms is a piece of cardboard. This little loom is good for weaving items like potholders or small bags. You can weave several pieces and then stitch them together to make larger items like rugs. Looms made of cardboard should be strong enough to keep from bending when they are strung with warp threads.

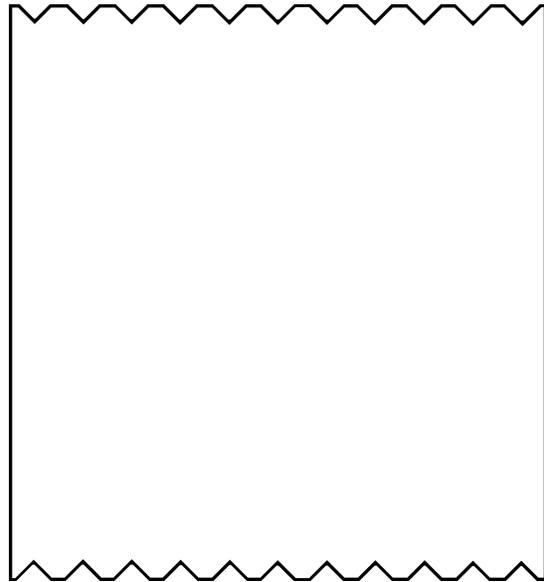
What you need:

- stiff cardboard
- scissors or sharp knife
- yarn for weaving (weft)
- string, carpet warp, or yarn (for warp)
- masking tape
- large blunt needle, coffee stirrer, or ice cream stick
- ruler
- pencil

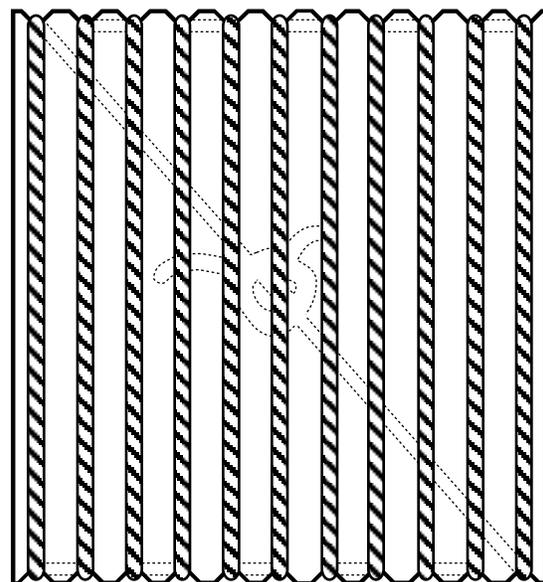
What you do:

1. Cut a piece of cardboard slightly larger than you want your finished weaving to be. Using your ruler and pencil, draw a line across the top of your cardboard, about $\frac{1}{4}$ inch from the edge. Draw a parallel line $\frac{1}{4}$ inch from the bottom edge. Now, starting about $\frac{1}{8}$ inch from one corner, mark off equal distances along your top line. The best distance to leave between marks depends on what kind of yarn you plan to weave with. Usually, $\frac{1}{4}$ inch is about right. If your yarn is very thick, make the marks farther apart. Try to make the last mark very close to the corner.
2. Mark the bottom line the same way. Line your marks up as exactly as possible with the marks on the top line.
3. With scissors or a sharp knife, cut a slit or notch everywhere you made a mark. The top and bottom lines are to show you how far to cut; don't cut past the line. If your yarn is thick, you may need to cut V-shaped notches; otherwise, one "bite" of

the scissors or knife is enough. You may want to strengthen your notched edge by folding a strip of masking tape over it and cutting the notches through the tape. Your piece of cardboard is now a loom.

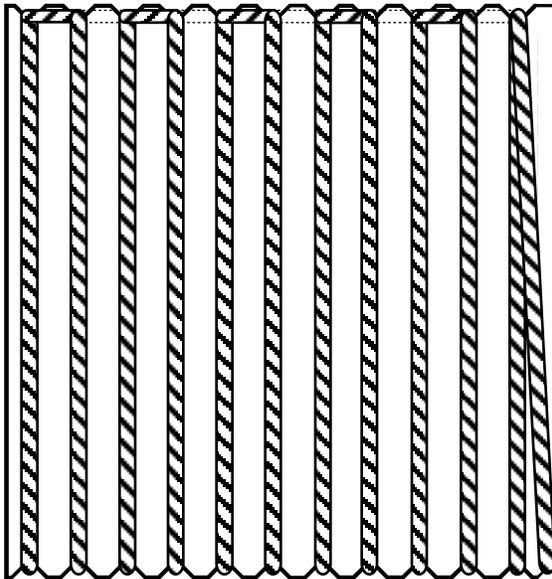


- 4A. Warping (Stringing) One Side. For a single flat piece, you only need warp threads on one side of your loom. Take a long piece of string or yarn; this will be your warp.



Fasten one end to the back of the loom with tape. Bring your warp through the first notch at the top of the loom, and down the front side of the loom to the first notch at the bottom. Wedge your warp firmly into the notches and pull it tight. Then bring it through the second notch at the top; then through the third notch at the top and down again. Keep on like this, bringing your warp up and down across the front of the loom so that it makes straight, parallel lines. Keep it tight. When you've gone through all the notches, pull your warp thread to the back of the loom and tie it to the end that you taped there. Cut off any excess.

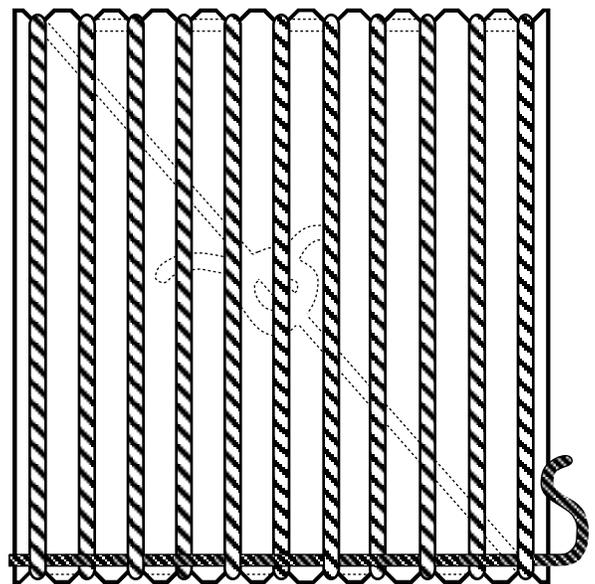
- 4B. **Warping Both Sides.** To weave a bag, use both sides of your loom. Fasten one end of your warp to the first notch at the top. (You can tie it to the corner of the cardboard, or tie a knot that won't go through the notch.) Bring your warp down the front of the loom and through the first notch at the



bottom. Now bring your warp up the back of the loom and into the first notch at the top again—the same notch where you started. Then take the warp sideways to the second notch at the top, through the notch

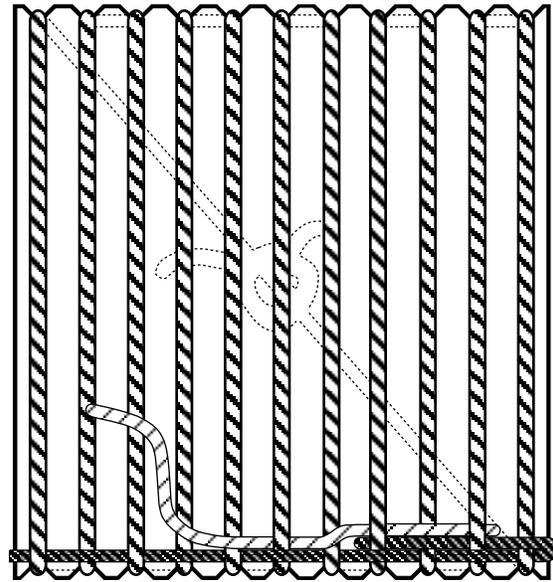
and down the back of the loom to the second notch at the bottom, and up the front to the second notch at the top again. Then go through the third notch at the top, and so on. Each time you get to the top, go from one notch to the one beside it, and down the other side of the loom. Both sides of your loom will have parallel lines of warp running straight up and down. You will need an even number of warps on one side of the loom and an odd number on the other side; so when you get to the last notch at the top, cut an extra notch at the bottom corner. Bring your warp down to this last bottom notch and fasten it there.

5. You can use a large blunt yarn needle or baling needle to weave with. Or, make a weaving needle out of a coffee stirrer or ice cream stick. Sharpen one end to make a point, smooth it with sandpaper, and whittle or drill a small hole in the other end. Or instead of a hole, you can tape or glue the end of your yarn to your stick. Use a piece of yarn about as long as your arm. This is your weft yarn.
6. Start to weave near the bottom of your loom. Run your needle under one warp, over the next one, and so on. Keep on like



this, under and over, under and over, all the way across the front of the loom. Then pull your weft yarn through until the far end doesn't hang out anymore.

7. Push the weft yarn down carefully with a fork or your fingers. Pack it as close as you can to the bottom of the loom. This is called "beating" the weft.
- 8A. If you warped only one side, weave your weft yarn back across the front of the loom in the opposite direction. This time, run your needle under every warp you went over before, and over the ones you went under. Pull your weft through and beat it down. If you pull the weft too tight, it will bend the warp threads and your weaving won't have straight sides. Keep weaving back and forth like this.
- 8B. If you warped both sides, turn the loom over and weave across the back. Make sure you continue the under and over pattern; if you went under the last warp on the front, go over the first warp on the back, and vice versa. Pull the weft through and beat it down. Keep weaving around the loom, both front and back. Every time you get to the double warp, be sure to go under the yarn you went over the time before, and over the one you went under.
9. Keep on weaving and beating. If you get to the end of your weft yarn, or want to change to a different color or texture, you can start a new piece. (When you're almost at the end of a piece of yarn, turn your needle backwards and weave it through the warps "headfirst" to get the last bit of yarn woven in.) You don't need to tie the new yarn to the old piece. Just overlap the ends as you weave.



10. When you get to the top of the loom, weave the end of the weft back into the already woven part. Then slip the warp off the notches and remove your weaving from the loom. (You may have to cut or bend the cardboard to get the warp off.)

Experiment! You can make patterns by skipping some of the warp threads, or by cutting some of the notches closer together or farther apart. How can you make stripes? What happens when you pull the weft tighter?... or leave it looser? Try using different kinds of yarn or cord and differently shaped looms. Try weaving a seed string into your piece. If you've woven a bag, you may want to line it, or add a braided handle, a zipper, or a drawstring.

Seatweaving

You can weave a new seat for an old chair or stool, or transform a wooden box into a new seat. All it takes are some strips of strong cloth and the weaving techniques you've already learned.

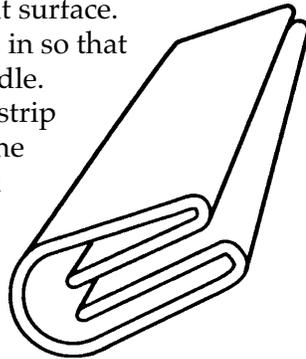
What you need:

- strong fabric such as old blue jeans or heavy cotton
- scissors
- large sharp needle
- heavy-duty thread
- chair or stool with rails for woven seat

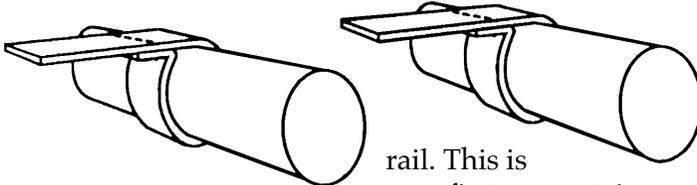
What you do:

1. Cut your fabric into strips about 3–4 inches wide. Make them as long as you can.

2. Lay one strip on a flat surface. Fold both long edges in so that they meet in the middle. Then fold the whole strip in the middle, with the edges inside. Fold all your strips this way. It's a good idea to iron the folds in place.



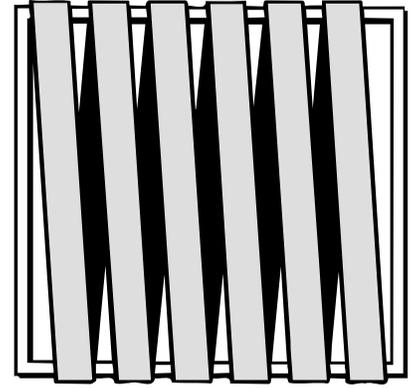
3. Fasten the end of a strip firmly to one of the side rails of your chair seat frame. You can nail or tack the strip to the underside of the rail or wrap it around the rail and sew it in place. Either way, your strip should come up around the outside of the



rail. This is your first warp strip.

4. Wrap the seat frame like a loom. Wrap the warp around and around in a spiral, leaving a little space between turns. You will have two layers of warp (like warping a card-

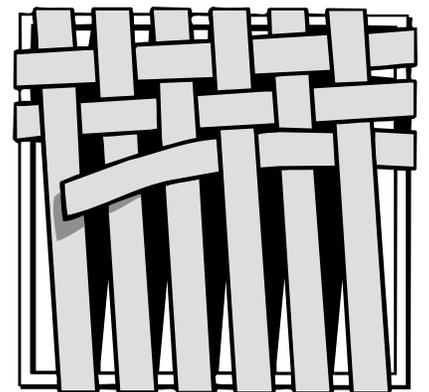
board loom on two sides), which will give you a strong double-woven seat. When you come to the end of your first strip, sew or tie the next strip to it on the underneath side of the seat. (You may have to cut off part of the old strip



to make it come out on the bottom.) When you have as many warp strips as your seat frame will hold, sew or nail the end of the last strip in place.

5. Fasten another strip to the back rail, as close as possible to the left or right side. This is your weft. Weave it through the warps, under and over, under and over. Or, you may want to try a different pattern. For example, you might weave under and over two or three warp strips each time, instead of one. If you do this each time around, but make each turn one strip "out of step" with the last one, you can make a diagonal (slanting) pattern. When you come to the front rail, bring your weft strip over it and continue weaving on the underneath side.
6. Keep on weaving around and around, top and bottom. When you get to the end of a strip, sew it

to the next one, but be sure to make it come out on the underneath side. When there's no more room to weave,



fasten the end of your last weft strip to one of the rails. If the front rail is longer than the back, you may need to weave in one or two shorter pieces on each side, from the front partway toward the back, to fill in the space.

Instead of fabric, you can use seagrass, baling twine, strips cut from an inner tube, or anything strong enough to sit on. If you have a sturdy wooden box, you can weave a seat in the open end. Nail your warp strips to the box at each end.

STRING ART WITH NAILS

A straight line is the shortest distance between two points—like a string stretched between two nails. Do you think you can make an interesting design—or a picture of something—with nothing but straight lines? Try it and see! Instead of string, you may want to use yarn, thread, seed strings, or wire.

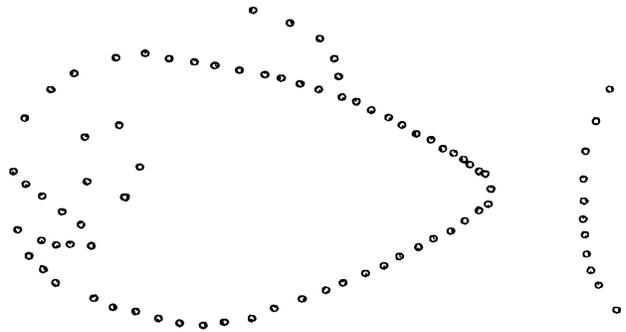
What you need:

- string, yarn, gift-wrapping cord, thread, thin wire, or other linear material
- hammer
- nails or tacks, about 1 inch long
- wooden board, wallboard, or matboard, at least $\frac{1}{2}$ inch thick
- sandpaper (optional)
- ruler (optional)
- compass for drawing (optional)

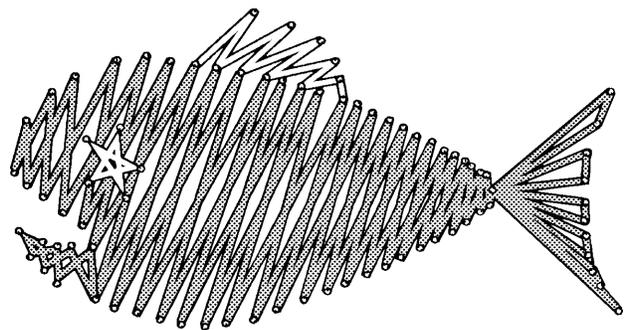
What you do:

1. If your wood is rough, smooth it with sandpaper before you begin. You may also want to paint it, varnish it, or rub it with vegetable or mineral oil.
2. Hammer some nails or tacks about halfway into your board. Put them wherever you

choose. If you want them all the same distance apart, you can measure the distance with a ruler. Or, you might use a compass to make curved lines and then space your nails along the lines... or scatter the nails randomly... or arrange them to make the outline of a shape.



3. Choose a nail, then tie one end of your string or wire to it. Stretch your string to another nail, loop the string around it, and go on to another nail. Be sure to keep your string tight. Your design will begin to take shape as you go around more and more nails. If you don't like what you've done, take your string off and start over again.

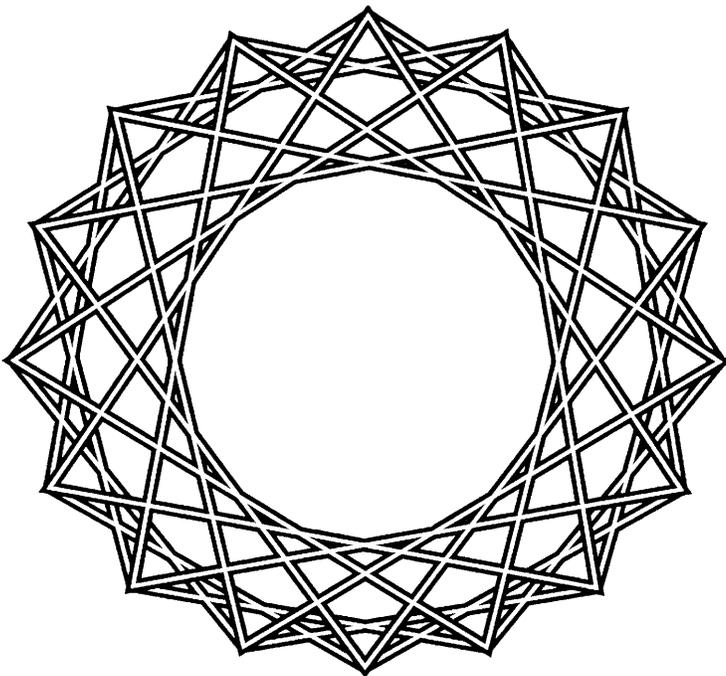


4. If you want to change to another string, tie your first string to a nail and cut off any extra with scissors. You may want to make your design with only one string or with

several, in the same color or different ones. To add a new string, tie an overhand knot and slip it over a nail. To make sure your knots won't slip, put a little glue on them.

Does this remind you of cat's cradle, Jacob's ladder, and other string games you can play on your fingers? Try making the same kind of patterns on nails and on your hands. A string stretched between two nails is always a straight line; how can you get curves into your design? How many angles do you see in your design? Is your design balanced? Does it have a center of interest? Does it have any mirror images in it?

Try soaking your string in a heavy starch solution before you put it on the nail. Make your design and let the string dry. Then carefully remove the starched string from the nails. (You may have to pull out some of the nails to get it off.) Now you have a "lacy" design to hang in a window, use as a Christmas tree ornament, glue to a notebook cover, or whatever else you want to do with it.



CRAYON SGRAFFITO

When a picture or design is scratched all the way through a top layer to show another surface underneath, this technique is called sgraffito. ("Sgraffito") is an Italian word that means "scratched.")

What you need:

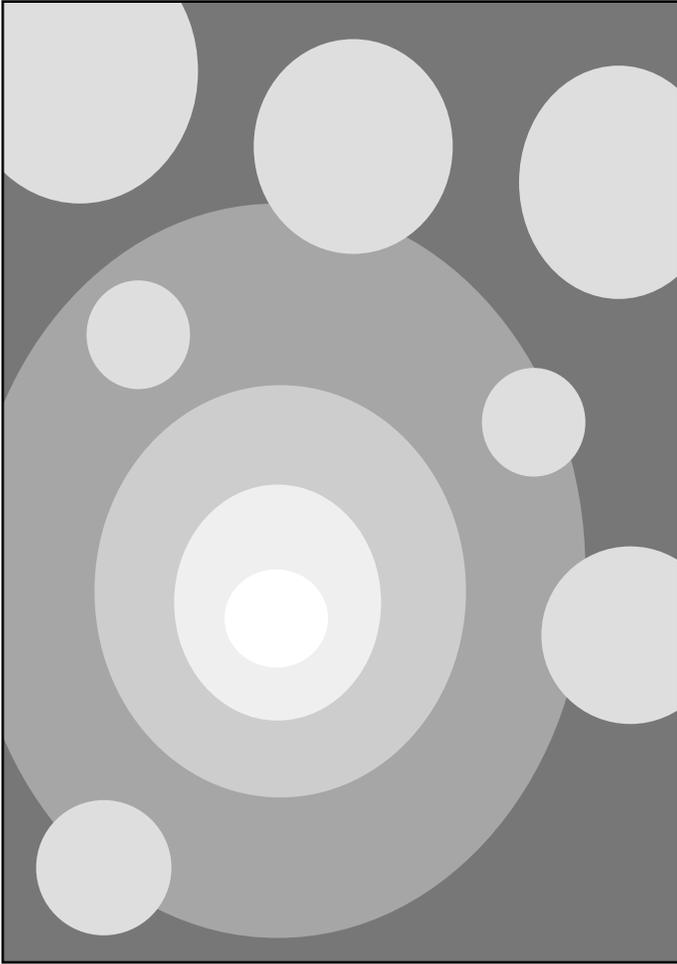
- wax crayons
- India ink (optional)
- polishing cloth or tissue
- heavy paper
- sharp point for scratching, such as a knife, nail, wire, or compass point

What you do:

1. Take a piece of heavy paper, the size and shape you want. Its color doesn't matter, because it will be completely covered.
2. Using bright or light-colored crayons, color over the whole surface of your paper. Put one color here and another color in another place, until you have completely covered the paper with bright colors.
3. Polish the colored paper with a cloth or tissue.
4. Over this crayon layer rub a black or dark-colored crayon until all of the bright colors are covered. Or you can cover the bright colors with India ink instead of dark crayon. If you use ink, let it dry before you go on.
5. Scratch a picture or design into this crayoned or inked surface. Use a sharp tool such as a compass point, knife, pen point, hair pin, stiff wire, large nail, stick, etc. As you scratch through the dark surface, the crayon colors below will show. (Try not to scratch so deep that you go all the way down to the paper.)

6. If your design isn't exactly the way you want it, you can black out some of the lines with ink or a dark crayon and try again.

Experiment! Try using transparent India ink for a luminous look. Instead of heavy paper, try using wood, cardboard, canvas board, or craft foil. What happens if you use black and dark colors for your first layer of crayon, and cover it with a layer of white or light color?



The crayon layer...



...and the ink layer

DRAWING ACTIVITY

One of the most important parts of drawing is learning to see lines. You've already practiced some ways of seeing lines. Now put that into action with a real drawing—even if you think you can't draw!

What you need:

- drawing paper (any plain paper, white or colored)
- black crayon, felt-tip pen, or ballpoint pen

What you do:

1. Set an object like a bottle, box, eraser, picture frame, book, radio, roll of tape, apple, etc., on a table. Sit down and look at it carefully. Use an object with a fairly simple shape. What lines do you see?
2. Take a piece of paper and a pen, marker, or crayon (don't use pencil for this experiment) and try drawing your object. Don't worry about the object's "real" shape; what you're drawing are the lines you see from where you're sitting. Everyone else in the room will see the object a little differently—or a lot differently!
3. If you draw a line you don't like, just try again. Use as many pieces of paper as you want. Try to draw the lines that make the shape you see. Use straight lines, angles, and curves—whatever kind of line you see. Try drawing the outline first—the outside edge of what you see. Is that enough to make your drawing look like the object as you see it? If not, start adding some of the "inside" lines you see. Try making two or three (or more) outlines of your object and adding different inside lines to each one. Which inside lines seem to be the most important?
4. Make several drawings and compare them. How are they different? Which one do you like best? There is no "wrong" way to draw a picture, but some of your pictures will

please you more than others. See if you can figure out why you like certain ones better.

5. Try drawing the same object from a different position. Try a different object. Which one is easier to draw?

Study the way this illustrator used lines—heavy lines, thin lines, dotted and dashed lines—to draw a plant. Even shadows are made of lines.



Look around you now. What do you see that are mostly lines? Windows?... pine trees?... telephone poles and wires?... bookshelves and books?... coats hanging in a row?... tables and chairs? Try drawing a scene that is all lines. It can be exactly what you are looking at, or a scene from your imagination, or a scene copied from a picture, or a mixture of what you see and what you imagine. (Don't be afraid to copy a picture, whether it's your own or somebody else's. This isn't cheating. Most artists learn by copying pictures.) Use thick lines for the things nearest the front (the foreground), and thin lines for things farther away. Draw the things in front first.

Tricks of the Trade... Another trick some artists use as a "loosening up" exercise is to draw with their eyes shut. Decide what you want to draw—an object you see... an object you imagine... an abstract shape... or whatever you want. Get your pencil, pen, crayon, or marker ready on a sheet of paper, close your eyes, and draw what you're thinking of. Don't peek until you're finished. How does your drawing look? This is a way of teaching your hand and arm to work "on their own," without taking orders from your eyes all the time. Now try drawing the same thing with your eyes open. How do your two drawings compare?

HOW TO MAKE A DESIGN LARGER OR SMALLER

Artists and handcrafters often need to change the size of a design. They may enlarge it (make it bigger) or reduce it (make it smaller). In photography, a machine called an enlarger is used to change a picture's size. But, you can do the same thing without machinery, using a

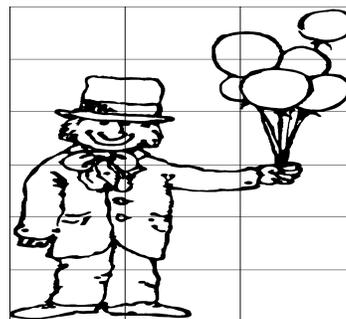
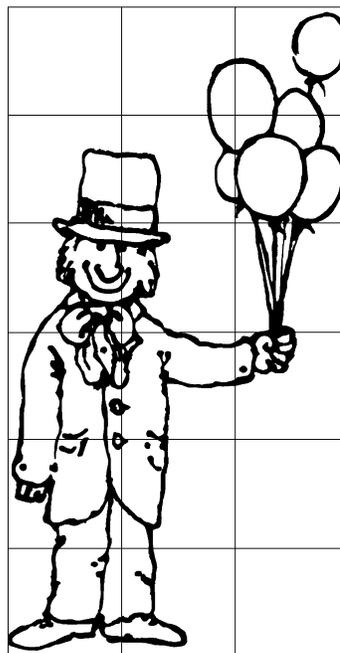
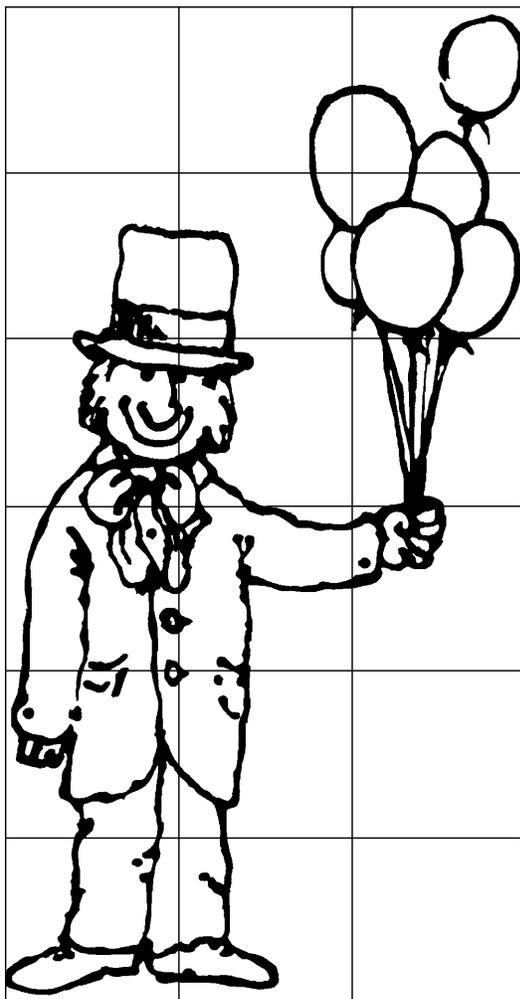
pattern of squares or rectangles called a grid. Artists have been using this idea since long before cameras were invented.

What you need:

- design or picture to be enlarged or reduced
- paper
- pencil or eraser
- ruler

What you do:

1. Use an ink drawing for the design you want to enlarge or reduce. You'll be making a grid of pencil marks over it.
2. Use the ruler and pencil to make a grid of straight lines over the design. First, draw the horizontal lines, all parallel and all the same distance apart. Then cross them with vertical lines, which should also be the same distance apart. This grid divides up your design into squares of the same size. Number each of your squares.
3. Now make the same number of squares on another sheet of paper, but make them a different size. If you want a larger design, make bigger squares. For a smaller design, make your squares smaller. Number them in the same order as your first grid.
4. Look at square 1 of your original design. Copy that part of the design (what appears in square 1) into square 1 of your new grid. Draw into each square exactly what you see in your corresponding original square—except that it's a different size.
5. When you have finished copying every part of your design, erase the grids. Or, trace your new design on a piece of tracing paper. You now have a scale drawing that is larger (scaled up) or smaller (scaled down) than your original design.



Experiment with other ways to use grids. What happens to your design if your two grids have different proportions? For example, you might cover your original design with a grid of squares and then copy it onto a grid of rectangles. How does the design change?

You can also use the grid technique to copy designs and pictures from books, magazines, etc. Make your first grid on tracing paper or tissue paper and fasten it over the picture, so you won't damage the book or magazine by drawing lines on it.

A grid can be useful for planning a picture or any kind of design. Make a grid on a blank

piece of paper. Space the lines farther apart than you did for your scale drawing; you don't need very many squares. Now make rough sketches of the different parts you want to put into your design. Do they balance in a way you like? If not, try arranging them in different ways. Are the parts in proportion, or are some of them too large or too small? Does the design have unity, or do some parts seem not to belong? Try rearranging the parts, adding or taking out lines, and changing sizes until you like what you see. Some artists and handcrafters always use planning sketches like this; others never do. It's up to you to decide whether you find them helpful.

LETTERING

You may think you learned all about making the letters of the alphabet in first and second grade. But, ask a sign painter, commercial artist, calligrapher, drafter, or other hand crafter or artist—they'll tell you that making letters for arts and crafts is something different!

What you need:

- writing board
- ruled notebook paper (several sheets)
- pencil
- felt-tip pen

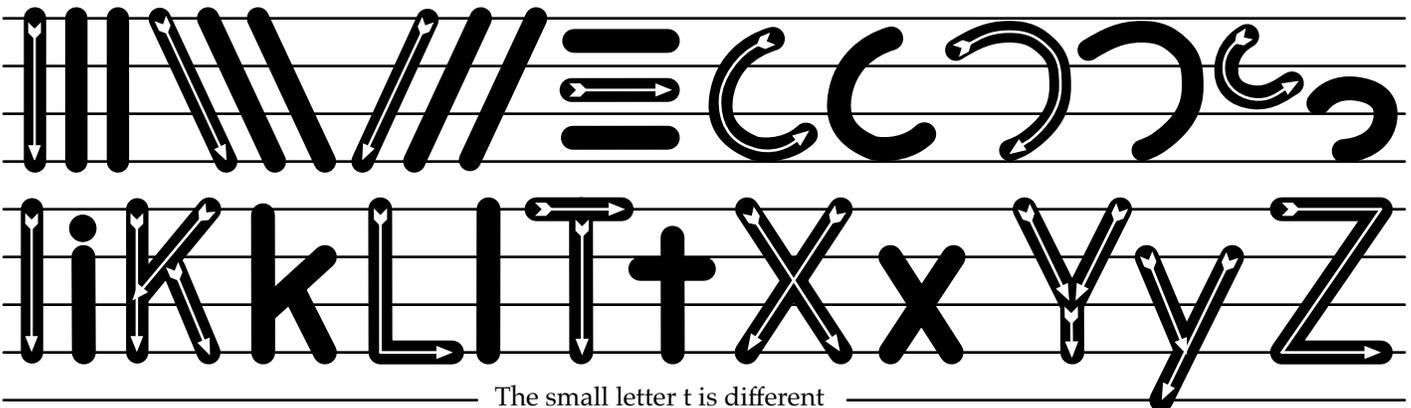
What you do:

1. Most people can do a better job of lettering on a slanting surface. A drawing board, clipboard, tablet with heavy cardboard back, a piece of wood, plywood, or wallboard, or even a large flat book will make a good writing board. Prop it up at an angle that is comfortable for you and put a sheet of ruled paper on it. You may want to pin or thumb-tack the paper to your board or hold it in place with a long rubber band.
2. Look at the letters on the next page. See how they fit into the guidelines; compare the height and width of the small (lower case)

and capital (upper case) letters. Notice that the basic height of the small letters is $\frac{2}{3}$ the height of the capital letters. This may be different from what you learned in school. A taller lower case letter makes the lettering easier to read—and reading is what lettering is for!

3. With your pencil, practice the basic strokes. Use the ruled lines of your paper for guidelines. The arrows show which way to move your pencil.
4. Copy the letter, numbers, and symbols in pencil. Follow the order shown here, because one letter form helps you make the next one. Leave a space between letters so they don't touch. But, don't try to leave exactly the same space between every two letters. Round letters should be close together. A round letter followed by a straight letter should have a little more space between them, and two straight letters should have even more.
5. Go over the pencil lines with a felt-tip pen. Follow the arrows. You will see that you always pull the pen, never push it.
6. Now try lettering a nametag... or a nameplate for your notebook, desk, or locker... or make labels for a bulletin board... or letter an announcement or an invitation.

These basic strokes make up all our letters, numbers, and symbols. Practice these strokes.

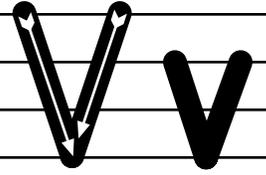


The small letter t is different in height from any other letter.

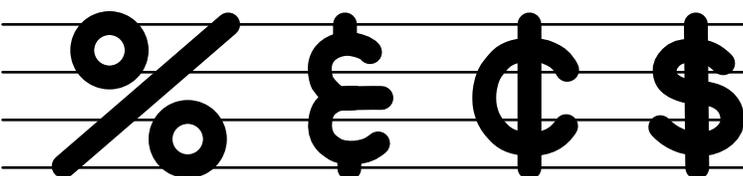
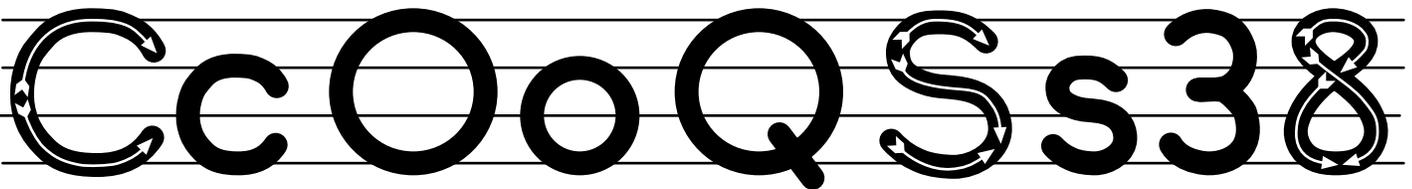
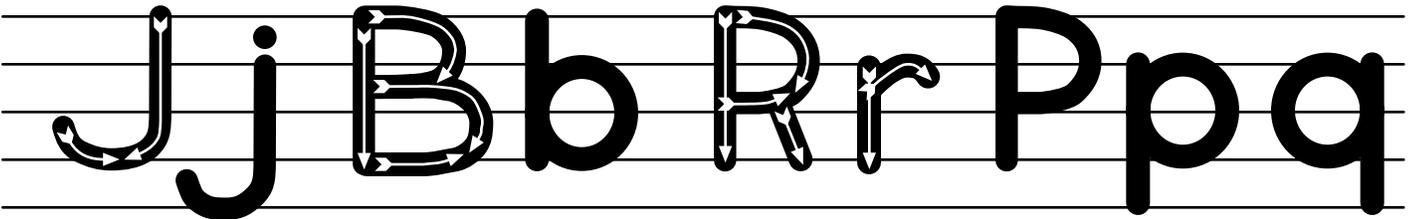
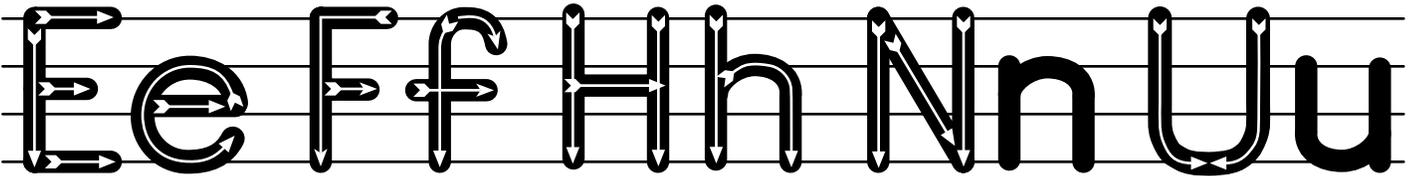
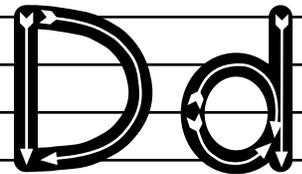
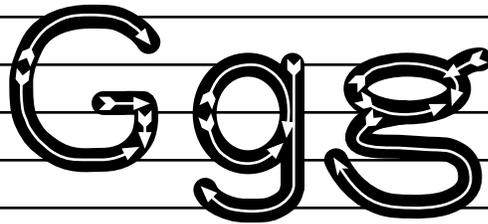
An M has straight sides.
The center point comes all
the way to the bottom line.



A W has slanted sides.
It is like two V's (VV).



There are two ways to
make an a and a g.



Space—and align—letters by eye rather than
by measurement. It's more important that
they look right than measure right.

Of course, letters aren't always made exactly the same way. There are many different styles of lettering. When you read anything—a book or a sign or a comic strip or a greeting card—notice the style of the letters. Are some styles easier to read?... better looking?... more noticeable?

You might collect examples of different lettering styles. Cut them out of “junk mail,” newspapers (unless they belong to a library) or other printed items that are going to be thrown away. If you find good examples in books, library materials, or other things you shouldn't cut up, you can trace the letters lightly on tracing paper or tissue paper with a soft pencil. Later, go over the lettering with ink.

Look at the commercial signs and billboards in your community. Are they ugly? Are they attractive? Are they easy to read? How do you think they could be changed to do their jobs better?... to look better?

Study the signage on public buildings such as schools, courthouse, etc. Do you think the signs are hard to read?... hard to see from the street? If you think there's a real problem, talk to your parents or write to your public officials about it.

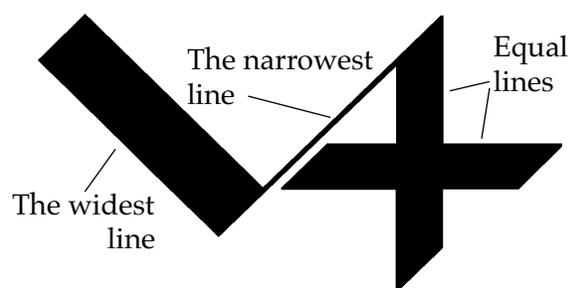
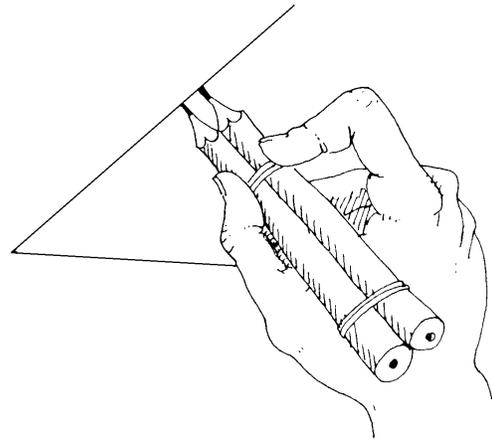
Calligraphy is the art of beautiful handwriting or lettering. For many lettering jobs, you may want to use a fancier, calligraphic alphabet. Look at the letters on the next pages. This style is called Chancery Italic. The letters are made with the same basic strokes that you've already learned. Notice that the lines are thicker in some places than in others. This happens naturally if you have a flat-edged pen or pencil are careful to hold it always at the same angle. Using these alphabets, you can make beautiful and elegant hand-lettered invitations, greeting cards, signs, and so on.

A good tool for practicing these calligraphic alphabets is a double pencil. Take two short, well-sharpened pencils. Whittle away the wood on one side of each pencil, almost down to the lead. Make the whittled side flat. Put the flat

sides of the pencils together and fasten them with tape. The two pencil points should be about $\frac{1}{8}$ inch apart. A felt-tip pen or narrow marker is also good for practicing calligraphy. A carpenter's pencil is good.

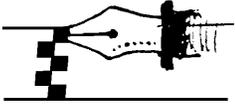
For finished work use a calligrapher's pen like the Speedball “C” series dip pens or the Osmiroid or Platignum fountain pens.

When you letter, hold your pen or double pencil so that the tip makes an angle of 45 degrees to the ruled lines on your paper. Don't change the angle as you make a letter.

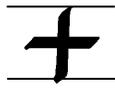


For lefthanded letterers only: If you are lefthanded, fasten your double pencil together with the right point sticking out a little farther than the left one. If you want to use a calligrapher's lettering pen, get a “left oblique” point.

Practice a lot. Natural ability isn't very important; the best calligraphers are those who practice the most. Calligraphy can be a lifetime study.



Guidelines for lower case letters should be spaced 5 times the width of the pen. Measure this way.



Check your pen angle by drawing a cross. If the angle is right the arms of the cross will all be the same thickness.



Wrong

This is the basic shape. Learn it and you will be well on your way.

o adgqbp

These are called *ascenders*.

jlhfk

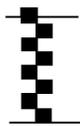
inumar

And these are *descenders*.

stvwxyz

oec

Guidelines for capital letters are spaced half again as far apart as lowercase letters: $7\frac{1}{2}$ pen widths. But, caps are shorter than the *ascenders* of lower case letters.

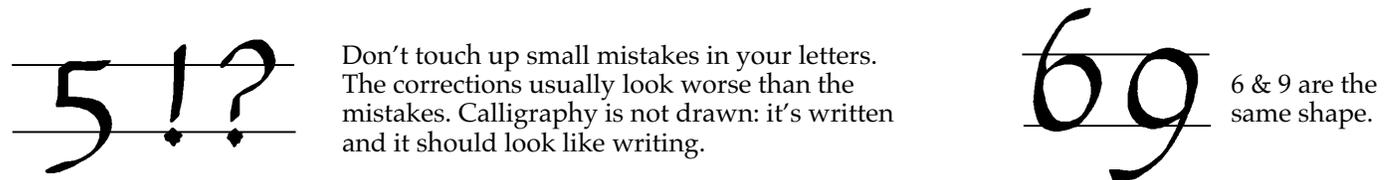
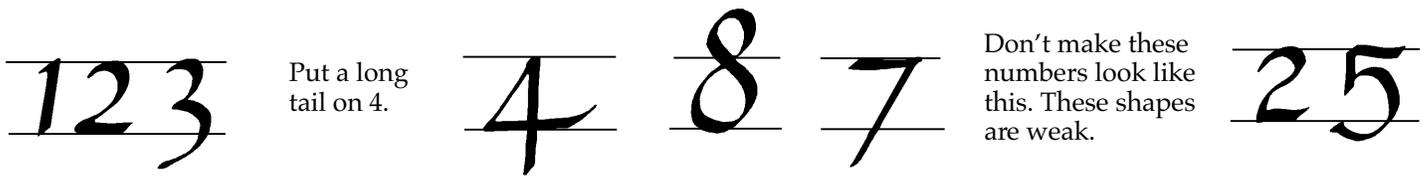


A B C D

E F G H I J K L M

N O P Q R S T U V

W X Y & Z



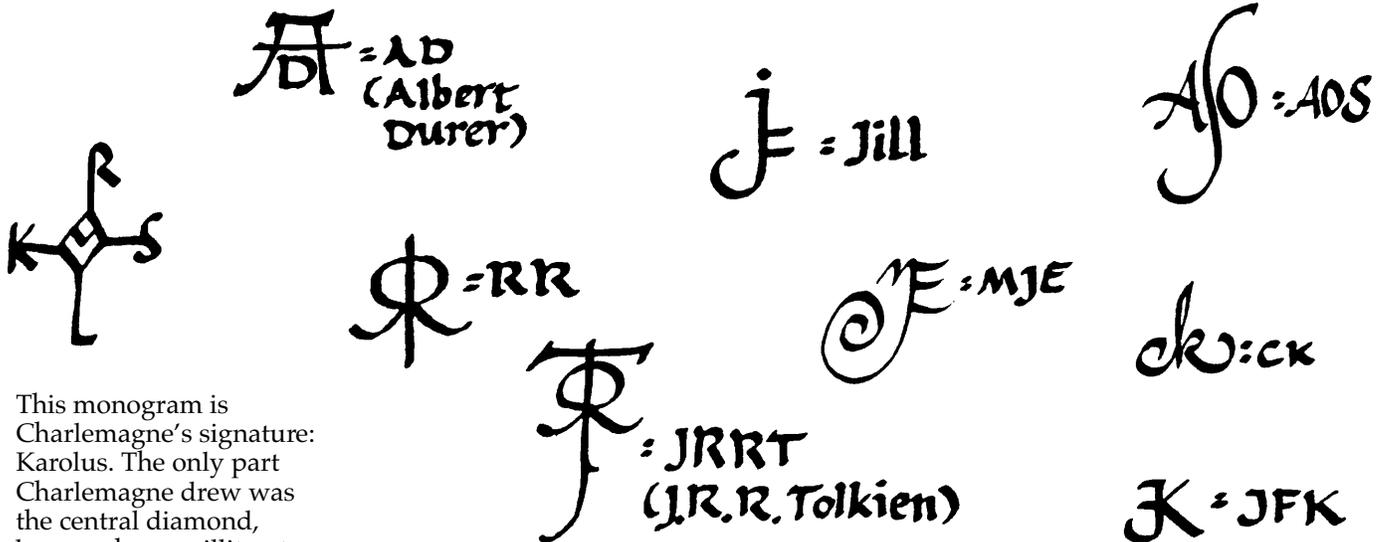
Monograms

A monogram is a design made of letters—usually the initials of someone's name. You can design a monogram for yourself or for someone else, and use it to personalize gifts or your own things. You might want to sign your art or craftworks with your monogram. The word "monogram" comes from the Greek words meaning "single writing." In a monogram, letters are joined together into a single design.

There are many ways to make a monogram. You can put the initial of the person's surname (last name) in the middle, with the first-name and

middle-name initials as smaller letters on its left and right. Or, you can keep the initials in their regular order.

Calligraphy techniques will help you make beautiful monograms. But, the letters in a monogram should be fused or closely tied together. You can use any style of lettering. In a good monogram, the letters are easy to read, but they also form an attractive design. Experiment with different sets of initials and different styles of lettering. What style you use will depend partly on how you want to use the monogram. Will it be stitchery?... leatherwork?... woodburning?... ink?... painting?



This monogram is Charlemagne's signature: Karolus. The only part Charlemagne drew was the central diamond, because he was illiterate. His scribe added the rest.

LINES FOR A LIVING... LINES FOR FUN

Signwriters, calligraphers, drafters, etchers, illustrators, and weavers are some of the people who create with lines. Ask a librarian how to find out about careers and hobbies in these fields. Your local library may have copies of magazines like *Calligraphy Review*, *Weavers*, or *Western Art Digest*. For more information, you may want to write to a specialized organization. Or, do an online computer search for information, using key words such as calligraphy, weaving, engraving, etc. Here are a few organizations to contact:

Handweavers Guild of America
120 Mountain Ave., B101
Bloomfield, CT 06002
<http://www.weavespindye.org>

Independent Signcrafters of America
11938 Harry Hines Blvd.
Dallas, TX 75234

National Association of Professional Engravers
21010 Center Ridge Rd.
Rocky River, OH 44116

Society for Calligraphy and Handwriting
Box 31963
Seattle, WA 98103

Society of Typographic Arts
233 E. Ontario, Suite 500
Chicago, IL 60611

IMPORTANT WORDS

Angle. The corner formed when two straight lines meet.

Calligraphy. The art of fine handwriting; beautiful or fancy lettering.

Collage. The technique of making designs or pictures by gluing or pasting things to a surface; a design made in this way.

Compass (in drawing). A V-shaped device for drawing circles and regular curves. One leg usually ends in a sharp point, and the other holds a pencil.

Diagonal. Slanting; cutting across a shape from one corner to another one.

Foreground. The part of a picture that seems closest to the viewer.

Grid. A pattern of horizontal and vertical lines forming squares or rectangles of the same size.

Horizontal. Level or flat; not going up or down; running from side to side.

India ink. A heavy black ink often used in lettering and drawing.

Lettering. The technique of writing or printing by hand.

Loom. A frame to hold the threads of weaving.

Lower case letters. Small letters (not capitals).

Monogram. A design made of a few letters put together, usually a person's initials.

Parallel lines. Lines that are the same distance apart along their whole length.

Right angle. The corner of a square; the angle formed by a horizontal and a vertical line; 90 degrees.

Scale drawing. A drawing in a larger or smaller size than the original.

Sgraffito. Scratching through a surface layer to show another layer underneath.

Upper case letters. Capital letters.

Vertical. Straight up and down.

Warp. The threads, cords, etc., through which weft threads are woven.

Weaving. The technique of interlacing threads, yarns, fibers, etc. Cloth is usually woven on a loom.

Weft. The threads, cords, etc., which are woven through the warp.

Woof. Another name for weft.



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