

## Weaving

### Materials:

Cardboard sheets no larger than 8"x10"  
Cotton Crocheting thread  
Yarn  
Ruler  
Pencil  
Crayons or non-smearing markers  
Scissors  
Wall paper scraps  
Poster board  
A finished example  
A half-way completed example  
A wide-weave piece of fabric, such as burlap  
Pictures of Looms or a table top loom  
Plastic embroidery needles (optional)

### Vocabulary:

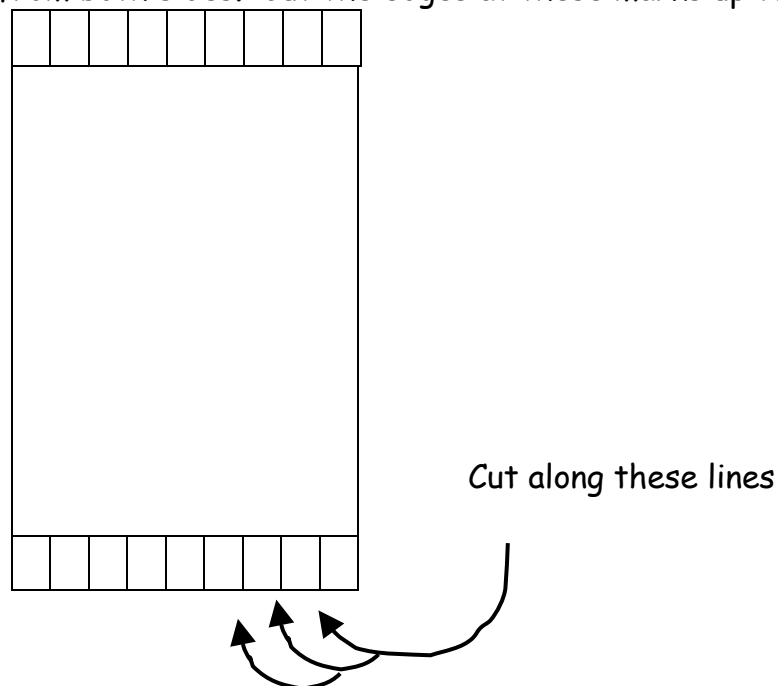
Loom	Bobbin
Warp - up and down threads	Shuttle
Weft - across threads	Shed
Yarn	Reed
Weave	Harness
"Dressing the loom"	

### Procedure:

#### Day 1

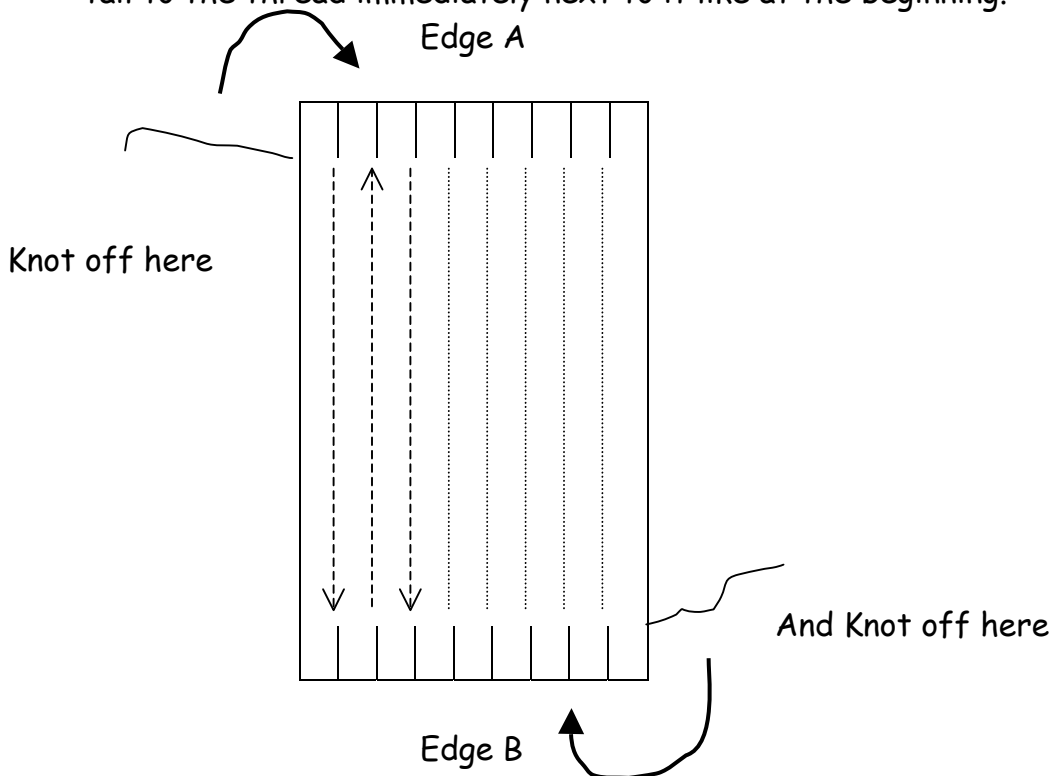
- Discuss with the class the history of clothing - which materials were used first to clothe man? Animal hides, followed by fur/wool felts, finally threads/yarns woven into fabric. Weaving dates back to before the Ancient Greeks, who created a myth about a weaver - Arachni.
- Have the students look at the material of their pants. Most students will have woven material for their pants/jeans. If they do not, have them look at the material of their neighbor's pants. Do they see the perpendicular lines of threads? Explain the basic concept of weaving - interlacing threads. Pass around an example of burlap and ask them to look for the two perpendicular threads. Explain that the lengthwise threads are called the **warp** and the cross wise threads are the **weft**. The two work together to create a pattern in fabric.

- Fabric and tapestries are created on looms. Examples of looms can be seen in the cultures of the *Ancient Greeks*, *Incas*, and *Native Americans* for examples. The warp thread is secured to the loom and the weft thread is threaded through the warp and pushed together. On a mechanical loom, certain warp threads are lifted up by a **harness** in a specific order creating a space between the pulled up threads and the down threads. This space is called the **shed**. The weft thread is wound onto to a **bobbin** (which is like a spool) and slipped into a **shuttle** - a long skinny boat shaped piece of wood. The shuttle is then passed through the shed to the other side. The threads that were pulled up are then released and another set of threads is pulled up. The shuttle is passed back to the other side again through the new shed. The weft threads are pushed together by the **reed** or batton. This process is repeated over and over again to create a pattern in the fabric.
- Discuss that fabric is made of threads woven together. Threads or yarns are created by twisting fibers together very tightly. Brainstorm about what could be used to make the threads and yarns - natural: wool, linen, cotton, etc. man-made: nylon, acrylic, polyester, etc.
- Tie in for Social Studies - Wool was the predominant material for fabric for the working class (year round!) because cotton and linen were expensive to produce. The *Cotton Gin* invented by Eli Whitney made is easier and less expensive to process cotton.
- Show an example of a cardboard loom with a weaving piece on it. Explain how the weft alternates going over and under the warp threads.
- Hand out the cardboard sheets. Have the students make marks in half inch increments along the short sides of the board. Then they need to draw a line one half inch from both sides. Cut the edges at these marks up to the line.



## Day 2

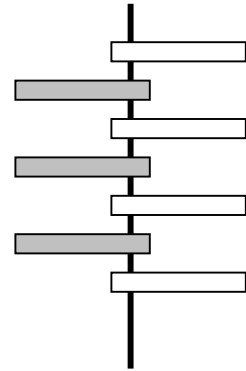
- Review weaving terms - loom, warp, weft
- The students should create a design on their looms which they intend to weave. Have them keep in mind that the image can only have square shapes in it - no rounded edges. Discuss why this is with the class. The designs can be drawn on the cardboard with markers or crayons.
- When the design is completed, the students will have to **dress their looms**. Leaving a six inch tail, thread the cotton thread through the first notch on edge A from back to front. Thread through the first notch on edge B from front to back, then through the second notch on edge B from back to front. Go back up to notch two on edge A, and so on. Before continuing on, knot the tail to the thread laced through notch two on edge A. When you get to the last notch, leave another six inch tail. Before you knot this tail off, go back and tighten up your warp threads. They do not need to be extremely taut, but not flimsy either. Knot the tail to the thread immediately next to it like at the beginning.



- Students should choose a color to start with. If there is a shape in a field of another color, they will want to start with the inside shape first. In true tapestry the weft yarns are not tied onto the warp threads. But

for durability, the students will be tying them on. Tie the starting yarn onto the first warp thread with a simple square knot.

- The students can begin weaving using their hands, or may create a shuttle, or use a large plastic embroidery needle. If they run out of yarn, they can tie an additional length of yarn to the old piece and continue weaving. When they are finished with the color, they can tie the yarn off to the warp thread as they did to start. The next color will likely share a warp thread with the previous yarn. The new yarn will have to be woven alternately between the other color.
- Impress upon the students not to pull their weft yarns too tight because it cause the piece to pull in at the center. This is easy to do, but hard to correct.
- When the entire piece is completed, the piece can be removed in one of two methods:
  - They can bend back the tabs on the card board loom and slip the warp threads off. Or
  - After pressing the weft yarns together, they can cut the warp threads on the wrong side of the loom, and then knot the warp threads together in groups of 3 or 4. This can be done if the tapestry does not go all the way to the edges of the loom.
- The final piece can be hung on its own, or mounted on sheets of colorful wallpaper over top of poster board. Tuck all knots and threads under the piece.



### **Illinois State Standards:**

LS 25.A.2d - Identify and describe the elements of 2- and 3-dimensional space, figure ground, value and form; the principles of rhythm, size, proportion and composition; and the expressive qualities of symbol and story.

LS 26.A.2e - Describe the relationships among media, tools/technology and processes.

LS 26.A.2f - Understand the artistic processes of printmaking, weaving, photography and sculpture.

LS 26.B.2d - Demonstrate knowledge and skills to create works of visual art using problem solving, observing, designing, sketching and constructing.

