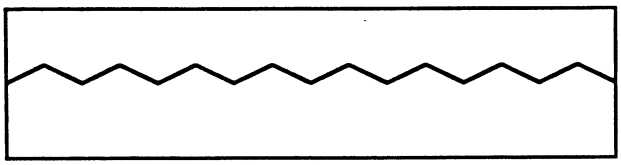
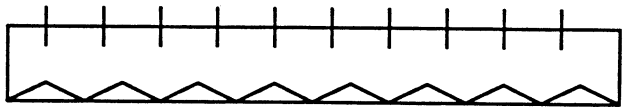
SEWING ON KNITS

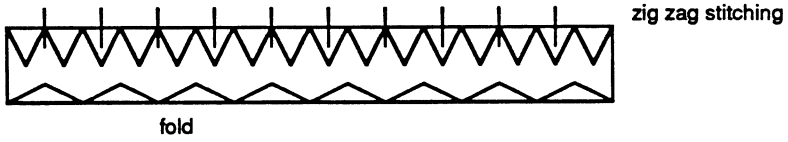
1. Get a piece of knit fabric from your teacher.
2. Thread your sewing machine.
3. Sew a zig zag of stitching down the center of the fabric.



4. Does it feel different to sew on knit fabric rather than on denim, a woven fabric?
5. You are going to make a headband with the knit fabric. Fold the fabric in half, lengthwise, on the stitching.



6. Pin the fabric in place.
7. Sew very near the edge with a zig zag stitch.



8. Sew down the other side of the fabric with a zig zag stitch.

9. Now fold the headband in half, so the two unsewn edges are even.

10. With a tight, straight stitch, sew the headband together.
11. Sew over the seam again.
12. Show your teacher your headband.

FABRIC CONSTRUCTION TERMS

GRAIN
Threads from which fabric is made form what is called the grain in fabric. No matter what the weave or texture appear to be, the threads always cross each other at right angles. The grain that makes the fabric is similar to the grains of sand that make a beach. Grain means direction or one thread.

ON GRAIN
Fabrics which are grain perfect have warp and weft threads which meet at right angles--90 degrees. This is referred to as fabric which is grain perfect.

BLOCKING
When fabrics are somewhat off grain, they can be pressed back into shape with an iron.

LENGTHWISE
Lengthwise threads are placed on the loom first. They form the foundation of the fabric. Because they must take much stress during the weaving process, they are the strongest. Another name for lengthwise is warp.

CROSSWISE
Crosswise threads are the filling threads. They are woven over and under the lengthwise threads, back and forth. Other names for crosswise threads are weft and woof.

SELVAGE
At the two ends of each row the crosswise thread and the lengthwise threads make the strong edges known as the "selvage". Each piece of fabric is woven with two selvages, one on each side, running in the lengthwise direction.

RAW EDGE
The raw edge of the fabric is the torn edge of the fabric, or any cut edge of fabric that is not finished.

BIAS
The true bias of a fabric is the direction at a 45 degree angle. It is very stretchy. It is often used for hemming garments or putting a bias trim around a quilt.

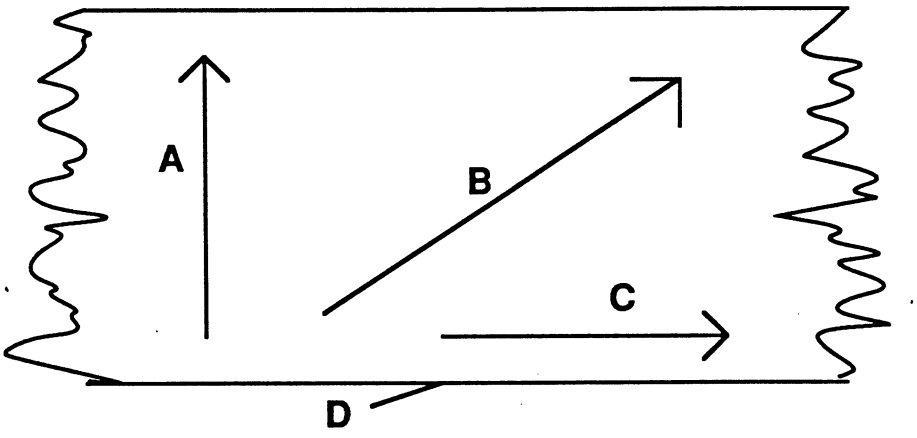
PARALLEL
Two lines which run equidistant from each other are parallel. Remember, the two l's in parallel are parallel to each other.

PERPENDICULAR
A perpendicular direction is at 90 degrees or a right angle.

SEWING ---------- INDIVIDUALIZED ACTIVITY
16 POINTS POSSIBLE

FABRIC CONSTRUCTION TERMS

DIRECTIONS: Label the following items on the diagram and place the letter by the numbers below.



_____ 1. Selvage
_____ 2. Crosswise
_____ 3. Lengthwise
_____ 4. Bias

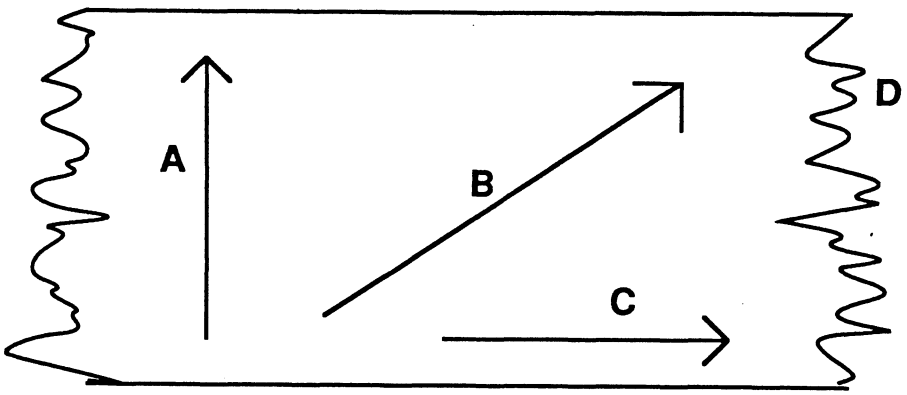
5. A fabric is _____ when the crosswise and lengthwise threads run at _____ angles to each other.
6. Warp is another name for the _____ threads.
7. Weft is another name for the _____ threads.
8. The process that helps fabric stay in the dimensional shape it is pressed in is _____ .

Define the following:

9. GRAIN _____
10. LENGTHWISE _____
11. CROSSWISE _____
12. SELVAGE _____
13. BIAS _____
14. PARALLEL _____
15. PERPENDICULAR _____
16. TORN EDGE _____

FABRIC CONSTRUCTION TERMS--KEY

DIRECTIONS: Label the following items on the diagram and place the letter by the numbers below.



___D____ 1. Selvage
___A____ 2. Crosswise
___C____3. Lengthwise
___B____4. Bias

5. A fabric is _____ON GRAIN_____ when the crosswise and lengthwise threads run at ___RIGHT___ angles to each other.
6. Warp is another name for the _____LENGTHWISE_____ threads.
7. Weft is another name for the ___CROSSWISE_____ threads.
8. The process that helps fabric stay in the dimensional shape it is pressed in is ___BLOCKING_____ .

Define the following:

9. GRAIN _____ONE THREAD IN THE FABRIC_____
10. LENGTHWISE _____WARP YARNS, RUN PARALLEL TO SELVAGE_____
11. CROSSWISE __WEFT YARNS, RUN PERPENDICULAR TO SELVAGE_____
12. SELVAGE _FINISHED EDGE OF FABRIC MADE OF WEFT AND WARP YARNS_____
13. BIAS _____CROSSWISE DIRECTION IN FABRIC THAT RUNS AT 45 DEGREE ANGLE_____
14. PARALLEL _____LINES EQUIDISTANT TO EACH OTHER_____
15. PERPENDICULAR ____LINES OR AN ANGLE AT A 90 DEGREE ANGLE____
16. TORN EDGE _____THE CUT OR TORN EDGE OF THE FABRIC_____

BASICS OF FIBERS AND FABRICS

There are three general types of fabrics: wovens, knitted fabrics and non-woven fabrics.

WOVEN FABRICS

Woven fabrics are made on a loom by interlacing two sets of yarns together. The lengthwise yarns are placed on the loom first. The weft or crosswise filling yarn is passed over and under the lengthwise yarn from side to side. You have probably seen a small loom at one time. Perhaps you even have one in your home. A number of different weaves can be created by changing the pattern of the crosswise yarns. Some examples of different weaves are: plain, twill, satin, basket.

KNITTED FABRICS

Knitted fabrics are made by interlocking loops from a single yarn. Knits stretch more than woven fabrics, especially in the crosswise direction. They are comfortable, can be used in many garments and are easy to take care of--especially because they seldom need ironing.

NON-WOVEN FABRICS

Non-woven fabrics are neither woven nor knitted. They are made by wetting the fibers, pressing them together, and heating them. Felt is made this way. It is often used for crafts or decorative trims on other fabrics. A non-woven fabric will not fray or ravel when you cut it. Bonded fabrics are another example of non wovens. They are used to make paper diapers. Vinyl, which is used on car and bicycle seats, is a non-woven fabric.

NATURAL FIBERS

The most widely used natural fibers are wool, cotton, flax and silk. Natural fibers are produced seasonally and stored until used. They are subject to lack of uniformity and variation in quality because they are affected by weather, nutrients in the soil, insects and disease. The price of natural fibers has continued to increase through the years because of these variables and because of their limited supply.

WOOL:

Wool is a protein fiber of animal growth. Wool is not always taken from sheep. The wool from goats, rabbits, camels, and llamas is sometimes used. It is often blended with other fibers to reduce its expense. The length of wool fibers usually ranges from one to six inches. The wool fiber is a protein called keratin.

It is the same protein that is found in human hair, fingernails, horns and hooves.

* Wool burns very slowly and if ignited, will usually extinguish itself.
* It is very durable which means it has a strong resistance to abrasion because it is flexible and elastic.
* Wool fibers can retain more moisture than any other fiber without surface wetting. Wool clothing keeps you cool in hot weather, because it absorbs moisture from the skin.
* The fibers incorporate much air which serves as an insulator. Wool clothing helps keep you warm in cold weather, because of the still air trapped inside the fiber which keeps body heat close to the body.
* Wool does not soil easily. Grease and oils do not spot wool fabrics. It is best that wool be dry cleaned, but it it is laundered, it should be done in cold water and agitated very little to prevent shrinkage and fuzzing.

SILK: Silk is produced from a caterpillar called a silkworm. First, the silk moth lays eggs on specially prepared paper. When the small worms hatch, they are eat only young mulberry leaves. The silkworm spins its silk filaments into a cocoon. Two glands in the silkworm's head extrude twin filaments through a common duct. At the same time, two other glands secrete a gum, called sericin, which cements the two filaments together. The cocoon is boiled to kill the larvae and soften the sericin. After boiling, the cocoons are brushed to find the outside ends of the filaments and then several filaments are reeled to make a skein of yarn which is about 1,000 yards long.

Silk was discovered in 2640 BC. by the Chinese who guarded their secret very carefully. Silk can be produced in any temperate climate, but because it takes hundreds of hours to produce, it is economical only where there is a cheap source of labor.

The best quality of silk is that it is very soft and does not wrinkle easily. If silk cloth is finished under taut conditions, the fabric will be stiff and boardy and wrinkle easily.

1. Silk has a natural luster. It is recognized as a luxury fiber. It also dyes very well and has a brilliance of color known only to silk.
2. Silk is very supple and drapes very well.
3. Extreme care should be taken during cleaning. It is best to have is dry cleaned.
4. Silk is especially sensitive to sunlight, which can cause damage and yellowing.

COTTON: Cotton grows from the seeds of the cotton plant. Mature cotton is mostly cellulose. Cellulose is a chemical compound that is made of glucose units. Other natural cellulose fibers are jute, hemp and ramie. These fibers come from the stem, the seed or the leaf. Cotton is the most widely used fiber in the world. It is thought that cotton may have been used in Egypt in 12,000 BC.

Cotton grows in any part of the world where the growing season is long. Cellulose will not form if the temperature is below 70 degrees F. Cotton grows on bushes 3 to 4 feet high. The blossom appears, falls off and the boll begins its growth. Inside the boll are seeds from which the fibers grow. When the boll is ripe, it splits open and the fluffy white fibers stand out like a powder puff. The fibers range from 1/2 to 2 inches in length. Cotton is picked by hand or by machine. After picking, the cotton is taken to a gin to remove the fibers from the seed. The fibers are then pressed into bales weighing 500 pounds. The seeds, after ginning, look like the buds of the pussy willow. They are covered with very short fibers called intors.

A treatment called mercerization is a treatment done with caustic soda which increases the strength, luster and dye affinity of cotton.

Cotton has a low cost and is easy to wash. If treated with a Sanforized finish it will not shrink. The cotton fiber is stronger when it is wet than when it is dry which means that it can be handled quite roughly during washing and rubbed to remove soil.

Cotton is very comfortable to wear. It is cool in the summer, because the fiber breathes and absorbs perspiration, which is then evaporated without touching the skin.

FLAX:

Flax comes from the stem of the plant. Flax is then made into linen. Hard labor is required to process the fibers, so production has been best in countries where leabor is cheap. First the plants are cut and bundled. The stems are sealed together by a waxy, pectin substance which is removed by soaking in fields or streams. After the plants are dried, the woody portion is removed by breaking, or scutching. Then the fibers are combed and separated. Some of the fibers still cling together; however, this accounts for the characteristic thick and thin texture in linen fabrics. Flax is a prestige fiber beccasue of its limited production and its relatively high cost.

* Flax has good body and strength and a characteristic thick-and-thin fiber bundle which gives texture to fabrics. It is twice as strong as cotton and even stronger when wet.
* Flax is not very elastic and breaks easily when folded in the same area over and over. It should not be ironed and folded with a sharp crease for this reason.
* Flax is not very resilient and so it wrinkles easily, unless treated with a special finish.

RAMIE:
Ramie is another name for grass cloth. It has been used for thousands of years in China. It is grown in areas with a hot, humid climate. It is one of the strongest fibers known and its strength increases when it is wet. It has a silk-like luster. However, it has some disadvantages. It is stiff and brittle and is low in elasticity. It can break easily if folded. repeatedly in the same place. It is used in fabrics resembling linen for suits, shirts, tablecloths, napkins and handkerchiefs.

HEMP:
Hemp is very strong and is used mainly for twine, cords and threading for stitching the soles on shoes.

JUTE:
Jute is the cheapest textile fiber, and is used second only to cotton. It is the weakest of the cellulose fibers. Most of the jute production goes into bagging for sugar or coffee or for carpet backing.

SEWING---------- INDIVIDUALIZED ACTIVITY
25 POINTS POSSIBLE

FIBERS AND FABRICS

NAME _____ CLASS _____

Complete the following questions:

1. Fabrics begin with _____.
2. Fibers are fine, hairlike substances that are spun into _____.
3. Fabrics have right and _____ sides.
4. There are three general types of fabrics:

   WOVEN--Woven fabrics are made on a _____.

   Name three basic weaves:

   1. _____
   2. _____
   3. _____

4. KNITS--Made by interlocking _____ of a single_____.
5. NON-WOVENS--They are neither woven nor _____.

   Examples are felt and vinyl.

6. <u>NATURAL FIBERS--Complete the following information:</u>

	ADVANTAGES	DISADVANTAGES
WOOL		
COTTON		
SILK		
LINEN		

FIBERS AND FABRICS--KEY

ONE POINT FOR EACH CORRECT LINE.

Complete the following questions:

1. Fabrics begin with _____FIBERS_____.
2. Fibers are fine, hairlike substances that are spun into ____YARNS_____.
3. Fabrics have right and _____WRONG_____ sides.
4. There are three general types of fabrics:

   WOVEN--Woven fabrics are made on a_____LOOM_____.

   Name three basic weaves:

   1. _____TWILL_____
   2. _____PLAIN_____
   3. _____SATIN_____

4. KNITS--Made by interlocking ___LOOPS_____ of a single____YARN_____.
5. NON WOVENS--They are neither woven nor ___KNITTED_____.

   Examples are felt and vinyl.

6. <u>NATURAL FIBERS--Complete the following information:</u>

	ADVANTAGES	DISADVANTAGES
WOOL	(ANY APPROPRIATE ANSWERS)	
COTTON		
SILK		
LINEN		