RULES FOR USING THE SEWING MACHINE

The procedures and/or rules for using the sewing machine are:

1. Before beginning to sew, pull threads UNDER and BACK behind the presser foot about 3 or 4 inches.

2. The handwheel always turns toward you, even when stitching in reverse.

3. Keep fingers several stitches away from stitching line; keep them flat on the machine to the sides of the presser foot.

4. The presser foot must always be in the "down" position for sewing.

5. Don't force or pull the fabric—the machine will feed it automatically.

6. Use the thread cutter to cut the thread tails or trim threads with scissors as you work.

7. The take-up lever should always be at the "top" when beginning and ending a line of sewing.

8. Report any repairs needed.

9. NEVER sew paper in the sewing machine.

10. Take pins out as you sew; DO NOT SEW OVER PINS.

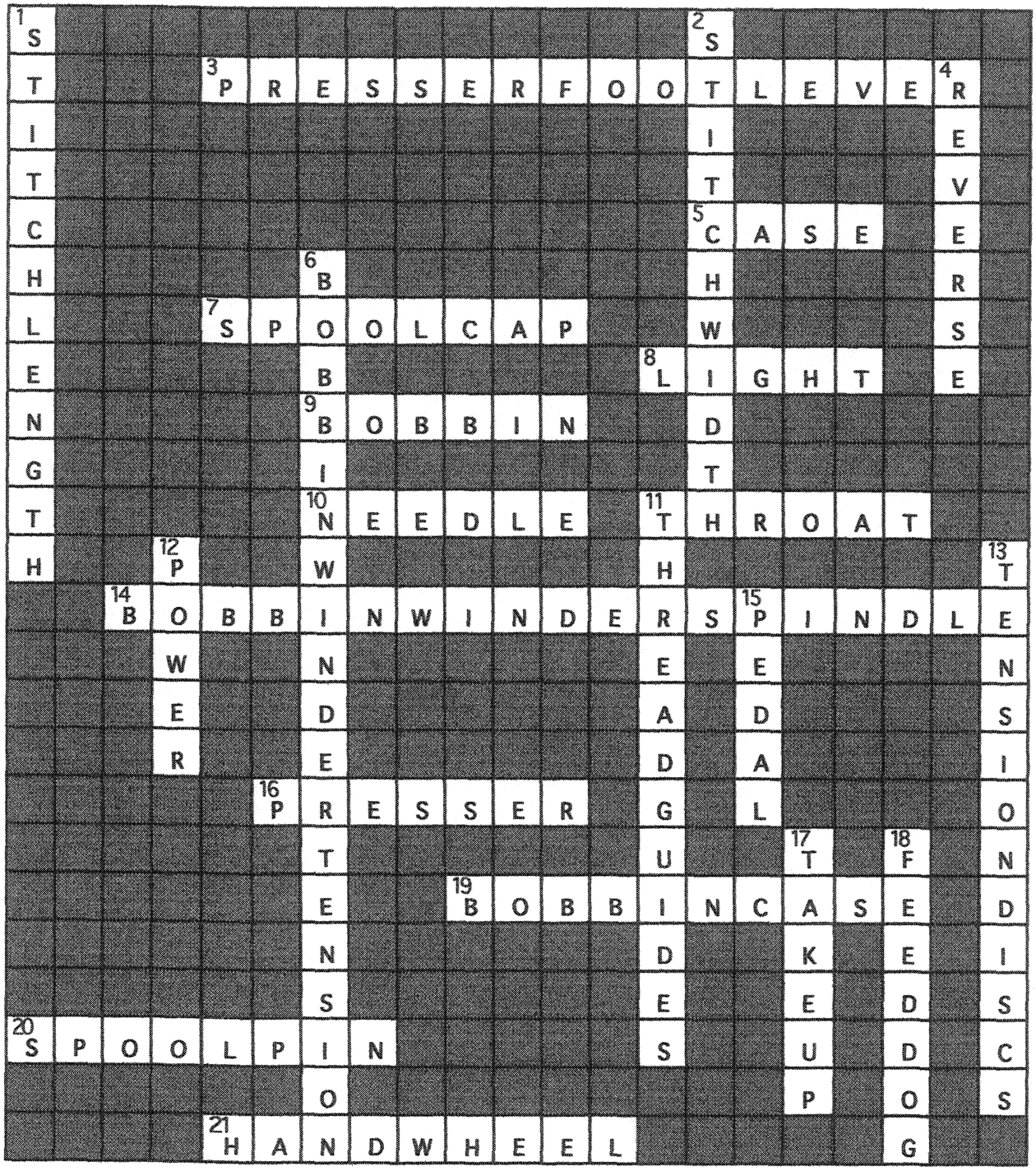
11. Maintain a slow, even speed with the foot control.

12. Watch the seam guide as you sew (NOT THE NEEDLE) to produce an even sewing line.

13. When stopping in the middle of a line of sewing, put the needle down into the fabric to prevent thread loops.

14. Keep the bulk of the fabric to the left of the needle when sewing so you can see the seam guides on the needle plate.

SEWING MACHINE PARTS CROSSWORD PUZZLE - TEACHER KEY



THE SEWING MACHINE

A sewing machine uses two threads to form a stitch. It has helped families to have better and less costly clothing. In factories, it has helped make possible the mass production of clothing. Elias Howe is considered the inventor of the sewing machine as we know it today. His model was patented in 1846 and was the first practical machine sold. Elias Howe struggled with the problem of how to get the needle to pull the thread through the fabric. Finally, he decided to think about something else for a while. One night, he solved the problem as he was dreaming. Experts who have studied problem solving theorize that even while we may be doing something quite unrelated to the problem, the brain is still working on solutions. Remarkable discoveries have often been made this way.

The first sewing machines were powered by people using their feet or hands. Machines made it possible to produce clothing and household goods much more easily. Before machines were invented, everything had to be stitched by hand. This was a very slow process. Most people had only two sets of clothes; one for best and one for everyday. Clothing was made at home until the sewing machine was invented, and then factories began to make clothing.

Clothing can be made in factories very quickly because many copies (layers) are cut at once. The sewing is divided up so that one person sews the same thing on many copies of the article, thus each person does only one job. For example, one person sews all the collars (and only collars) and another sews all the buttonholes (and only buttonholes). Another worker will set in sleeves, while others sew zippers or hems, or sew on buttons. This is called "assembly line production." Generally the workers never see the garment once it is completed—they only see the part(s) they sew.

Factory workers use very sophisticated machines which have been developed to do specific tasks in the clothing industry, such as sewing on elastic, making buttonholes or hemming. For example, the machine that makes buttonholes is called the "buttonholer," the machine that sews on buttons and makes tacks is called the "tacker," and the machine that does the hem is called a "hemmer." Regular lockstitch sewing machines as well as many types of sergers are used in clothing production. The machines have larger motors than home sewing machines and therefore can go much faster.

Clothes made at home go through the same process as in a factory, but at home you have the satisfaction of seeing the fabric become the finished article. Both men and women sew in factories for wages as well as at home for their own pleasure.

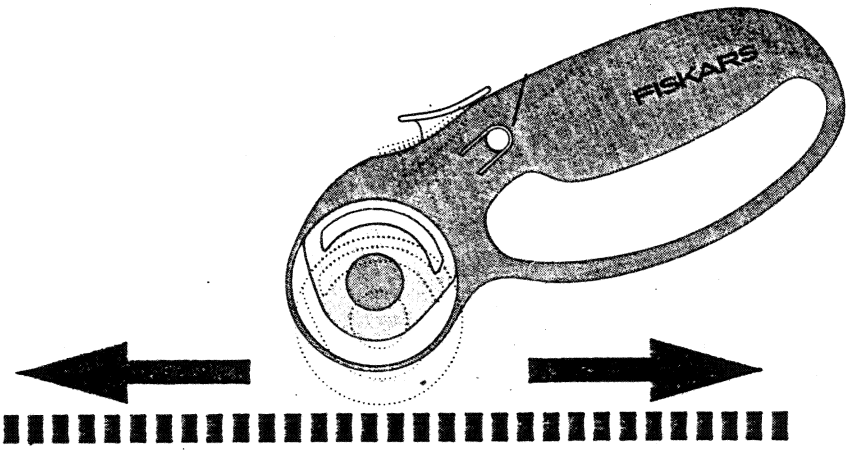
THE ROTARY CUTTER AND MAT

When you think of equipment technology for clothing construction, what is the first piece of equipment you think of? Many people think that technology applies only to sewing machines. This is far from correct! One of the most useful pieces of equipment that has recently been invented is the "rotary cutter and mat." This equipment can be used instead of scissors or shears to cut fabric.

The main advantage of this equipment is that it cuts fabric quickly and smoothly. The main disadvantage is that it is very easy to cut your fingers. You must be very careful to keep your fingers away from the cutting edge.

The procedure and/or rules for using a rotary cutter and mat are:

1. Only one student at a time is allowed in the cutting area.
2. Place the mat on a flat surface in a corner or a confined area.
3. Place your fabric on the mat.
4. A 6-inch wide plastic ruler should be used as a guide for cutting straight edges for accuracy and safety.
5. Place the pattern on the fabric. Use weights instead of pins to hold the pattern in place.
6. Cut the fabric by pressing down on the rotary cutter. Some cutters have a lock on the blade of the cutter. It must be unlocked before the cutter will work. Other cutters are built to hide the blade until you place pressure on it. When pressure is placed on the cutter, the blade is exposed and will cut the fabric.
7. Use a one-way stroke away from you to cut, not a back-and-forth motion.
8. Push the guard back over the blade when you have finished cutting.



THE SERGER

Sergers are relatively new in the home market, although they have been used in factories for a long time. They look much different than a regular machine and sew much faster. Two, three, four, or five spools of thread are used during the serging process, depending upon the stitch selection.

Another difference between a serger and a conventional machine is the knife that trims the fabric as it is sewn. It makes a nice edge, finishing the fabric so that it doesn't fray. Most of the time, the finished edge is placed on the inside, but sometimes it is left on the outside as a decorative trim. A serger sews the seam, finishes the edge, and cuts off the excess fabric all in one operation.

Sergers can use the same kinds of thread as conventional machines, but because they use so much, it is usually purchased on large cones rather than regular spools. Some sergers use different kinds of thread that the conventional machine cannot handle. People who enjoy sewing often own both kinds of machines because they perform different functions.

The procedures and/or rules for using the serger are:

1. Report any repairs needed.
2. If the machine comes unthreaded, tell the teacher.
3. The handwheel turns the direction of the arrow on the handwheel—some turn toward the back and some turn toward the front.
4. Keep fingers back away from stitching line!
5. The presser foot must always be in the "down" position for sewing.
6. NEVER sew paper in the serger.
7. DO NOT USE PINS IN THE SERGER AREA! PLEASE!
8. Don't force or pull the fabric—the serger will feed it automatically.
9. Leave the thread tail to be cut with scissors.
10. Check the foot control position.

NAME _____ PERIOD _____ DATE _____ SCORE _____

TEXTILES EQUIPMENT - TEACHER KEY

THE SEWING MACHINE

1. How many threads does a sewing machine use to form a stitch? two
2. Who is Elias Howe? inventor of sewing machine
3. How were the first sewing machines powered?
   by using the hands or feet
4. How did people sew before the sewing machine was invented?
   by hand
5. What is "assembly line production"?
   where each person does only one job in the construction process
6. Which direction should the handwheel always be turned (even when stitching in reverse)? forward
7. The presser foot should always be in this position for sewing: ___ up _X_ down
8. The take-up lever should be in this position at the beginning and the ending of a line of sewing: __X__ up _____ down

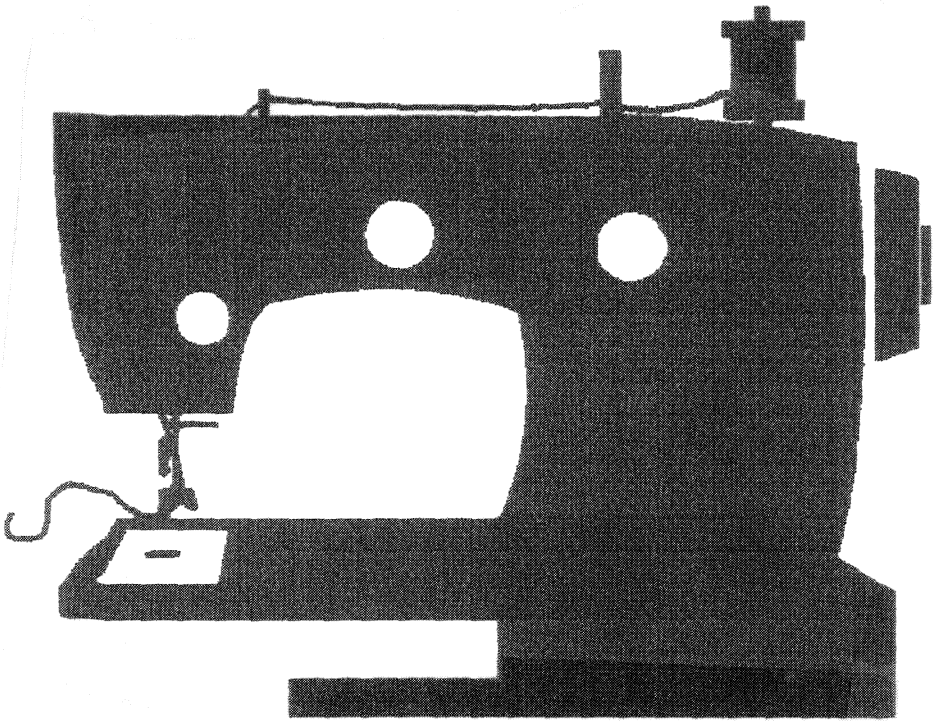
THE ROTARY CUTTER AND MAT

1. What does the rotary cutter and mat do? cuts the fabric
2. What piece of small equipment is the rotary cutter and mat used in place of?
   scissors
3. What is the main advantage in using a rotary cutter and mat?
   cuts fabric quickly and smoothly
4. What is the main disadvantage in using a rotary cutter and mat?
   easy to cut your fingers
5. Is it okay to use pins to hold the pattern in place while cutting? no
6. Is it okay to use a back-and-forth motion when cutting? no

TEXTILES EQUIPMENT - PAGE 2 - TEACHER KEY

THE SERGER

1. Three differences between the serger and the conventional sewing machine are:
   a. uses two, three, or four spools of thread
   b. sews faster
   c. trims excess fabric as it sews
2. The serger does three steps in one operation. They are:
   a. sews the seam
   b. finishes the edge
   c. trims off the excess fabric
3. Can pins be used with the serger? no
4. Is it necessary to pull the fabric through the serger as it sews? no
5. Which direction should the handwheel be turned on your serger?
   the handwheel turns the direction of the arrow on the handwheel—some turn toward the back and some turn toward the front



CAREER INFORMATION

SEWING EQUIPMENT REPAIR PERSON:

A person who is mechanically inclined and can repair sewing equipment is a person much in demand. Like automobiles, sewing machines tend to break down and must be repaired to keep functioning. Although this is not a very glamorous career, it is a very fulfilling and satisfying service career.

Little or no formal training is required to be a sewing equipment repair person, although it is important that they keep up to date on the new technology used in manufacturing sewing machines. Earnings are dependent upon the locale, demand, level of expertise, and experience. Except for repair persons who are employed by a specific manufacturing company, most are self-employed. Earnings vary greatly, but an honest person who diligently pursues this career can do very well financially. Sewing equipment repair is a skill that will always be in demand as long as people wear clothes.

SEWING EQUIPMENT OPERATOR:

These people operate equipment used in the apparel and/or textile industry. The textile industry is one of the largest in the United States. There are many factories throughout the country that manufacture all types of apparel. Because of the basic need for wearing apparel, there are always jobs available in the clothing manufacturing industry. Some of the factories are quite large while others are much smaller in size. The equipment operators must be quick thinking and must learn to work very fast. They are paid a basic wage plus a "piece rate," so the faster they can perform accurately, the more they get paid. Working conditions vary from factory to factory, but newer facilities tend to have more pleasant working conditions. There are many different types of equipment at the factory to be operated—the lockstitch machine and serger are only two of many. The equipment today is advanced technologically, with much of the cutting being done by a laser cutter. The equipment operators must be willing to learn new skills as needed for new career opportunities.

A person must be 18 years old to work in the apparel industry, and the only training necessary is the operation of basic sewing equipment, such as the students are learning in this class. Many factories provide some on-the-job training, but the better a person's skills are to begin, the quicker his/her earnings will increase.

SEWING EQUIPMENT REPAIR PERSON

SEWING EQUIPMENT OPERATOR