

TOPIC #9: Textiles Equipment Technology

Student Activity Guide



NAME _____ PERIOD _____ DATE _____ SCORE _____

T-L-C SEWING PERMIT

DIRECTIONS: Have the teacher initial each item listed when you have completed that item.

- _____ 1. Know and identify sewing machine parts and functions.
- _____ 2. Complete "Crazy Stitching."
- _____ 3. Wind the sewing machine bobbin.
- _____ 4. Thread the sewing machine.
- _____ 5. Insert bobbin in bobbin case, place in machine, and bring up lower thread.
- _____ 6. Do a basting stitch.
(Width=____, Length=____, 3/8-inch seam)
- _____ 7. Do regular stitch and proper backstitch (three stitches).
(Width=____, Length=____, 5/8-inch seam)
- _____ 8. Use the rotary cutter and mat properly and safely. Watch teacher demonstration first!
- _____ 9. Do decorative stitches on bookmark.
- _____ 10. Do zigzag stitch on table pad.
(Width=____, Length=____)
- _____ 11. Use the serger properly and safely.

T-L-C SEWING LICENSE

This certifies that _____ has completed the above requirements and qualifies for an operator's license in the _____ class.

Signed:

_____ Family and Consumer Sciences Teacher

_____ Date

I agree to abide by the rules of this lab and clean up after myself.

Student's Signature

TOPIC #9: Textiles Equipment Technology**Student Activity Guide**

NAME _____ PERIOD _____ DATE _____ SCORE _____

**PARTS OF THE SEWING MACHINE
STUDY GUIDE AND QUIZ**

Directions: Write the name of the machine part in the blanks.

NOTE: Each teacher will need to put a diagram of the machine(s) in his/her classroom on this page with blanks drawn in for the students to identify the various machine parts.



PARTS OF THE SEWING MACHINE

1. Bobbin: holds the thread inside the machine.
2. Bobbin case: holds the bobbin; allows the bobbin to turn and form the stitch; provides bobbin thread tension.
3. Bobbin winder spindle: holds the bobbin while winding the bobbin.
4. Bobbin winder tension: provides tension on the thread when winding the bobbin.
5. Feed dog: moves the fabric along as you sew.
6. Feed-dog control knob: lowers and raises the feed dog.
7. Foot or knee control: controls how fast the machine sews.
8. Handwheel: controls the movement of the take-up lever and needle; can be controlled by power or by hand; should always be turned toward you.
9. Handwheel release: stops needle movement during bobbin winding.
10. Light switch: turns the light off and on.
11. Needle: carries the thread and pierces the fabric.
12. Needle clamp: holds the needle in place.
13. Needle plate: fits around the feed dogs and the needle goes through it; has a seam guide on it.
14. Needle position control knob: moves the needle to different positions: center, right, and left.
15. Power switch: turns the sewing machine on or off.
16. Presser foot: holds fabric in place while you sew.
17. Presser foot lever: lifts and lowers the presser foot.
18. Reverse control: allows the machine to stitch backward.
19. Spool pin: holds the spool of thread in place.
20. Stitch length control: sets the length of the stitch.
21. Stitch pattern selector: shows you which pattern the machine will sew.
22. Stitch width control: sets the width of the zigzag stitch.
(zigzag control)
23. Take-up lever: pulls thread from the spool.
24. Thread cutter: a place to cut the thread(s) without using scissors.
25. Thread guides: holds the thread in place on the sewing machine.
26. Thread tension control: adjusts the tension on the thread as required for a particular project.



PARTS OF THE SEWING MACHINE STUDENT DIRECTIONS

You may complete this activity by yourself or with several other students.

- STEP #1:** Study the diagram of your sewing machine provided by your teacher, and the list of sewing machine parts (page 9.13). When you think you can name the parts AND their functions (what they do), get the quiz from your teacher and complete it. (You must pass the quiz before you can use the sewing machine.)
- STEP #2:** Correct your quiz. If you had any incorrect answers, return to your machine and study the machine parts, then retake the quiz until you can identify all of the machine parts and their functions.
- STEP #3:** Congratulations! You are now ready to use the sewing machine.





CRAZY STITCHING

Some helpful ideas:

1. Sew slowly to begin with.
2. Don't hold the fabric back; let it go through as fast as the machine takes it.
3. Guide the fabric lightly with the tips of your fingers.
4. Sew in the following order:
 1. Longest straight lines
 2. Curved lines
 3. Spirals
 4. Square corners

STARTING

- STEP #1: Turn the sewing machine on.
- STEP #2: Put your right hand on the handwheel. Turn the wheel TOWARD YOU until the take-up lever is as high as it can be at the top of the machine.
- STEP #3: Place the fabric between the presser foot and the needle, and directly over the line of stitching.
- STEP #4: Lower the needle into the fabric.
- STEP #5: Put the presser foot lever down.
- STEP #6: Press the foot or knee control very carefully and begin sewing.

STOPPING

- STEP #1: When you come to the end of a pattern, stop the machine by taking your knee or foot off the power control. Make certain that the needle is up out of the fabric. If it is still in the fabric, turn the handwheel until the needle comes up and the take-up lever is at the top.
- STEP #2: Lift the presser foot lever. Move the fabric to the next position.



CRAZY STITCHING - PAGE 2

BACKSTITCHING

- STEP #1: Put the edge of the fabric under the needle and lower the presser foot.
- STEP #2: Sew three (3) stitches forward and stop.
- STEP #3: Put sewing machine in "reverse" and sew backward for three (3) stitches.
- STEP #4: Put sewing machine in "forward" and continue sewing on the line of stitching.
- STEP #5: At the end of the line of stitching, put the sewing machine in "reverse" and sew backward for three (3) stitches.
- STEP #6: Put sewing machine in "forward" and stitch to edge of fabric and stop.

CURVED, SPIRAL, AND PIVOTING

CURVED AND SPIRAL:

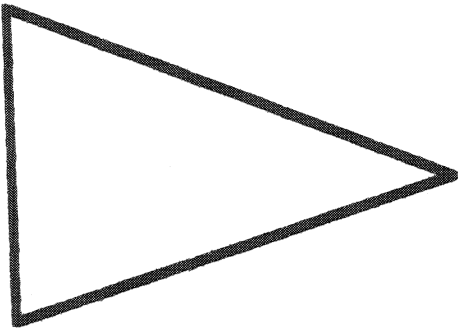
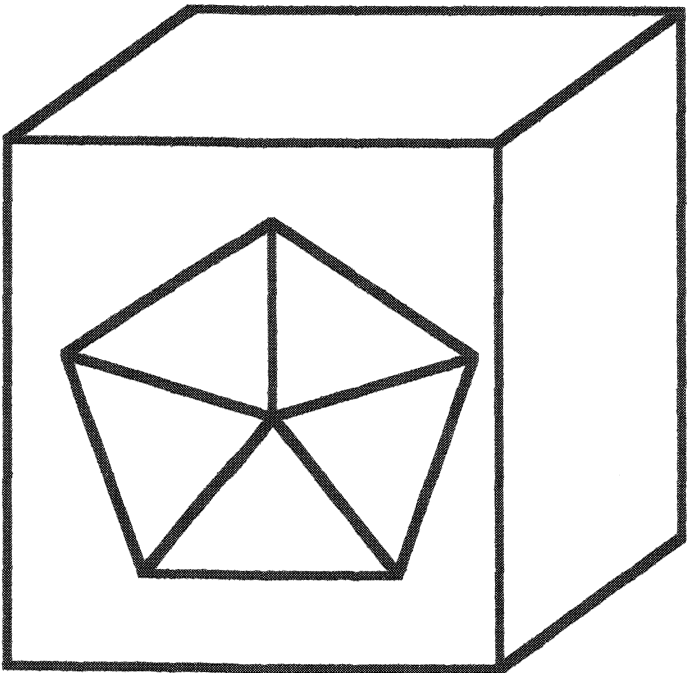
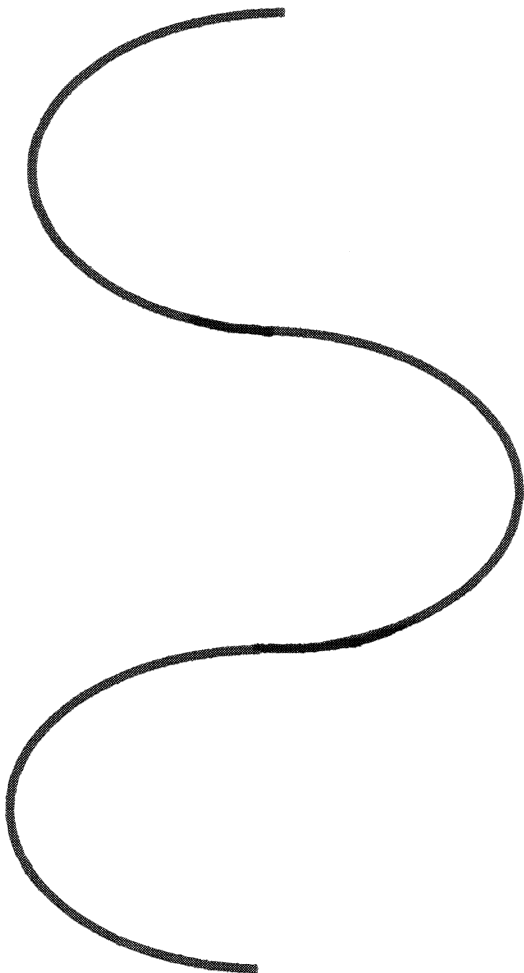
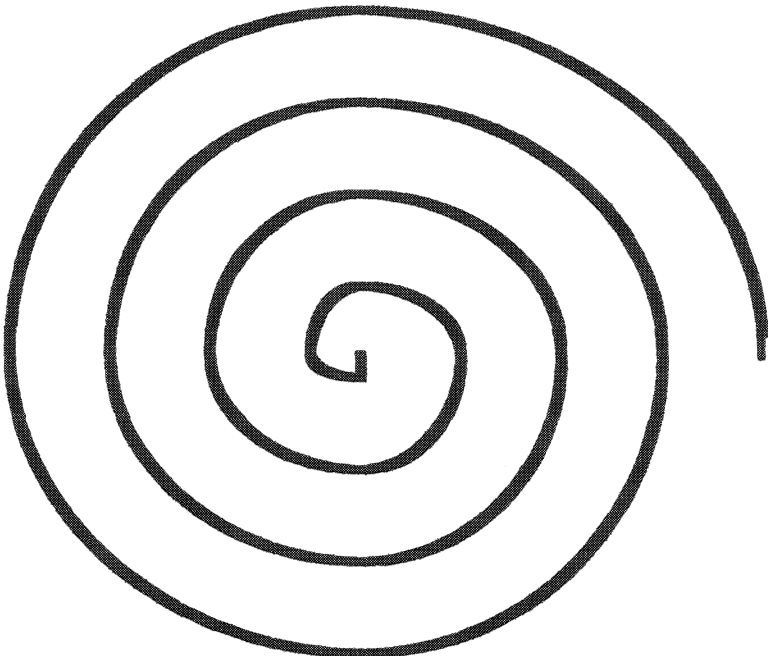
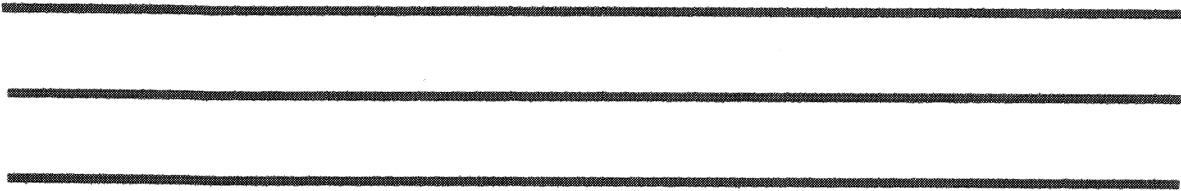
Stop the machine every fourth or fifth stitch to adjust the fabric so that you stay on the curved line. **BE SURE THE NEEDLE IS DOWN IN THE FABRIC WHEN YOU STOP.** Lift the presser foot lever and turn the fabric so that the machine will sew in the direction of the line.

PIVOTING:

Stitch to the first corner of the design and stop. With the needle still down in the fabric, lift the presser foot lever and turn the fabric so that the machine will sew in the new direction. Lower the presser foot lever and continue.



CRAZY STITCHING



TOPIC #9: Textiles Equipment Technology

Student Activity Guide



NAME _____ PERIOD _____ DATE _____ SCORE _____

SEWING MACHINE PARTS CROSSWORD PUZZLE

Directions: Write the name of the machine parts in the correct space in the puzzle.

ACROSS:

3. Raises and lowers the presser foot. (3 words)
5. The bobbin _____ holds the bobbin while sewing.
7. Holds the spool of thread on the spool pin. (2 words)
8. This switch turns the light off and on.
9. Carries the lower thread in the machine.
10. Carries the upper thread and pierces the fabric.
11. The _____ plate covers the machine mechanism and usually has a seam guide on it.
14. Holds the bobbin while it is being wound. (3 words)
16. The _____ foot helps to hold the fabric in place while sewing.
19. The _____ (2 words) also allows the bobbin to turn and help form the stitch; provides bobbin tension.
20. Holds the spool of thread on the machine. (2 words)
21. Can be turned by hand to control the position of the needle. (2 words)

DOWN

1. This regulator controls the length of the stitch. (2 words)
2. This regulator controls the width of the zigzag stitch. (2 words)
4. The sewing machine sews backwards when this control is activated.
6. Provides tension on the thread while winding a bobbin.
11. Guide the thread from the spool to the needle while sewing. (2 words)
12. The _____ switch turns the machine on and off.
13. Provide tension on the thread so it feeds through the needle evenly. (2 words)
15. The foot _____ controls the speed of the motor.
17. The _____ lever pulls the thread from the spool. (2 words)
18. The _____ moves the fabric through the machine as you sew. (2 words)

BOBBIN

BOBBIN CASE

BOBBIN WINDER SPINDLE

BOBBIN WINDER TENSION

CASE

FEED DOG

HANDWHEEL

LIGHT

NEEDLE

PEDAL

POWER

PRESSER

PRESSER FOOT LEVER

REVERSE

SPOOL CAP

SPOOL PIN

STITCH LENGTH

STITCH WIDTH

TAKE UP

TENSION DISCS

THREAD GUIDES

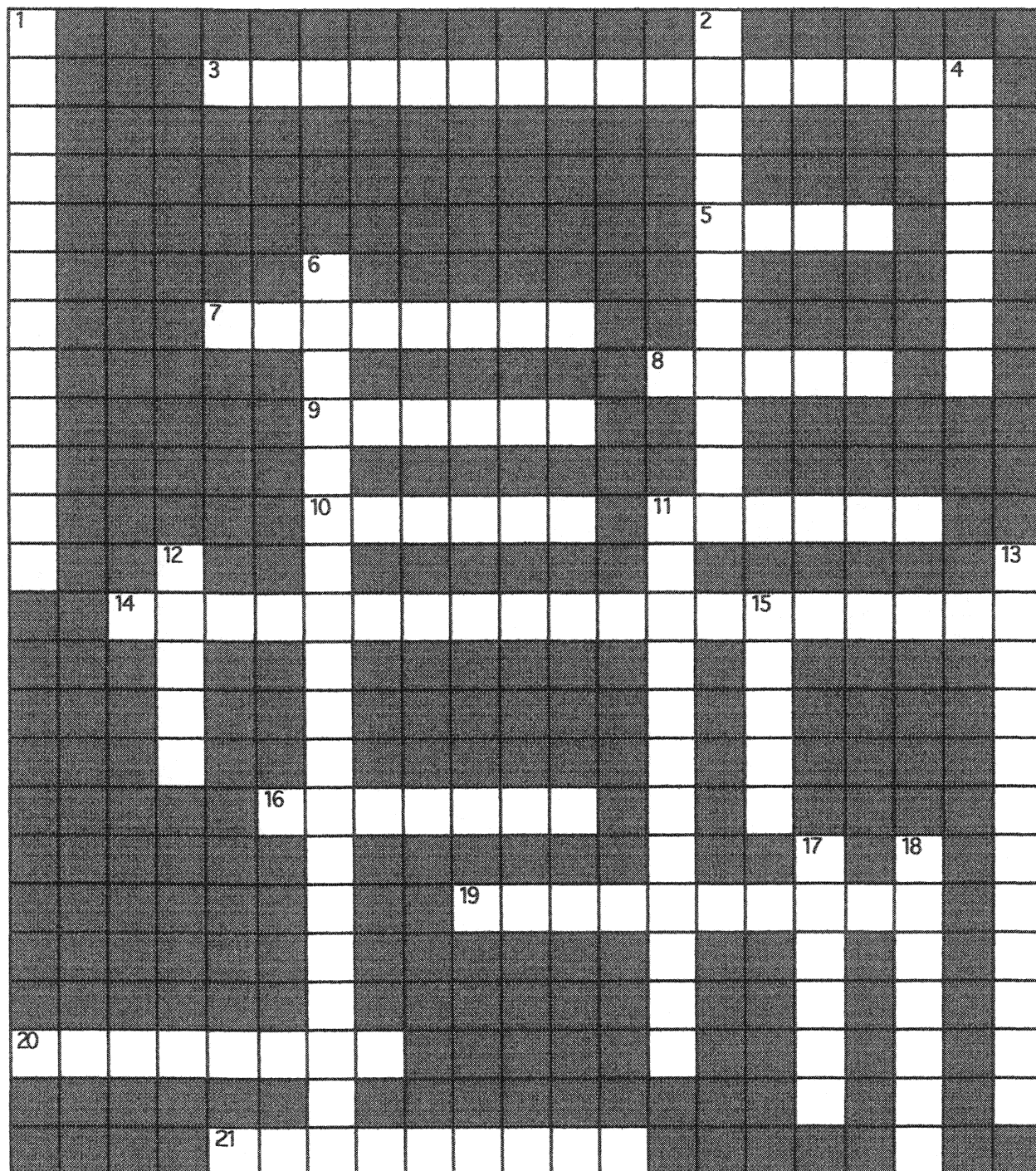
THROAT

TOPIC #9: Textiles Equipment Technology

Student Activity Guide



NAME _____ PERIOD _____ DATE _____ SCORE _____

SEWING MACHINE PARTS CROSSWORD PUZZLE



WINDING A BOBBIN

To complete this activity, you will need to:

1. Have a bobbin and some thread.
2. Take this direction sheet and go to the sewing machine.

(NOTE: Each teacher will need to remove this message and put the diagrams for winding the bobbin here. These can be found in the sewing machine instruction booklets.)

WASN'T THAT FUN! Now that your bobbin is wound, you may proceed to the next activity. If the class period is ending, remove the bobbin and thread from the machine and put them away as directed by your teacher.



THREADING THE SEWING MACHINE

To complete this activity, take your thread and bobbin to your machine and follow the directions provided by the teacher.

(NOTE: Each teacher will need to remove this message and put the diagrams for threading the machine here. These can be found in the sewing machine instruction booklets.)

THAT WASN'T SO HARD, WAS IT?

Now, practice threading your machine several times.

You may now proceed to the next activity.

TOPIC #9: Textiles Equipment Technology

Student Activity Guide



NAME _____ PERIOD _____ DATE _____ SCORE _____

TEXTILES EQUIPMENT

THE SEWING MACHINE

1. How many threads does a sewing machine use to form a stitch? _____
2. Who is Elias Howe? _____
3. How were the first sewing machines powered?

4. How did people sew before the sewing machine was invented?

5. What is "assembly line production"?

6. Which direction should the handwheel always be turned (even when stitching in reverse)? _____
7. The presser foot should always be in this position for sewing: ____ up ____ down
8. The take-up lever should be in this position at the beginning and the ending of a line of sewing: _____ up _____ down

THE ROTARY CUTTER AND MAT

1. What does the rotary cutter and mat do? _____
2. What piece of small equipment is the rotary cutter and mat used in place of?

3. What is the main advantage in using a rotary cutter and mat?

4. What is the main disadvantage in using a rotary cutter and mat?

5. Is it okay to use pins to hold the pattern in place while cutting? _____
6. Is it okay to use a back-and-forth motion when cutting? _____

**TEXTILES EQUIPMENT - PAGE 2****THE SERGER**

1. Three differences between the serger and the conventional sewing machine are:
 - a. _____
 - b. _____
 - c. _____
2. The serger does three steps in one operation. They are:
 - a. _____
 - b. _____
 - c. _____
3. Can pins be used with the serger? _____
4. Is it necessary to pull the fabric through the serger as it sews? _____
5. Which direction should the handwheel be turned on your serger?

