

Chapter 17

Plan Sewing Projects

Chapter 18

Learn How To Sew

Unit Preview

This unit is about the sewing basics. In this unit, you will learn about:

- Using a sewing machine for basic stitches.
- Preparing and planning for sewing projects.
- Selecting and preparing fabrics and patterns.
- Basic sewing and serging skills.

Explore the Photo

Knowing how to sew can be a very valuable skill. **What are some useful things you can do if you know how to sew?**



Design Your Own Clothing

When you are done studying this unit, you will complete a project in which you will:

- ✓ Create a pattern for an article of clothing.
- ✓ Interview someone who sews as part of his or her job.
- ✓ Share with your class what your project says about you.

The prewriting activity below will help you get started.



Prewriting Activity **Sketch Ideas**

Think of ideas for simple sewing projects that you could wear. Sketch several designs. Below each sketch, describe what fabrics, supplies, tools, and notions you might need to complete it.

- What elements of your designs make them practical, or useful, in regular life?
- What elements of your sketches make your designs stylish?



Plan Sewing Projects

Section 17.1

Sewing Machine Basics

■ **Main Idea** All sewing machines operate in the same basic way. Use the machine's operating manual to learn the functions of individual machines so you can start learning basic stitches.

Section 17.2

Patterns, Fabrics, and Notions

■ **Main Idea** Before beginning a sewing project, learn about the basics of pattern selection, fabric selection, and choosing notions.





Explore the Photo

You can learn basic sewing skills at school.

What do you want to make as your first sewing project?



Writing Activity

“How To” Paper

Sewing Repairs Choose a common clothing repair, such as fixing a seam, adjusting a hem, or sewing on a button. Write a “how to” paper to explain the process of making the repair. Remember to include an introduction and a conclusion.

Writing Tips In order to write an effective “how to” paper, follow these steps:

1. List all of the materials you will need.
2. List detailed steps in the order they should be completed.
3. Use transitional words and phrases, such as “first,” “next,” and “and then.”

Section 17.1 Sewing Machine Basics

Reading Guide

Before You Read

Look It Up As you read, use a dictionary in addition to the glossary at the back of the book. If you read a word that you do not know, look it up in the glossary or the dictionary. Before long, this practice will become a habit.

Read to Learn

Key Concepts

- ✓ **Describe** the main function all sewing machines have in common.
- ✓ **Explain** how a hem is created.

Main Idea

All sewing machines operate in the same basic way. Use the machine's operating manual to learn the functions of individual machines so you can start learning basic stitches.

Content Vocabulary

- interlock
- hem


Academic Vocabulary

- operate
- raw

Graphic Organizer

As you read, list and describe the four basic sewing machine stitches a beginning student can practice. The first one is done for you. Use a graphic organizer like the one shown to help you organize your information.

Sewing Machine Stitch	Description
regular stitch	a medium-length stitch used for sewing most projects

 **Graphic Organizer** Go to this book's Online Learning Center at glencoe.com to print this graphic organizer.

Academic Standards



English Language Arts

NCTE 8 Use information resources to gather information and create and communicate knowledge.



Mathematics

NCTM Measurement Understand measurable attributes of objects and the units, systems, and processes of measurement.



Social Studies

NCSS IA Culture Analyze and explain the ways groups, societies, and cultures address human needs and concerns.

NCTE National Council of Teachers of English

NCTM National Council of Teachers of Mathematics

NSES National Science Education Standards

NCSS National Council for the Social Studies

Sewing is a great way to show off your personal style in your wardrobe and in your living space. You can make gifts, personalize your garments, and adjust patterns to make clothes exactly the way you want them. This section introduces you to the sewing machine.

Sewing Machines

Most sewing machines have the same basic parts. Before you use any sewing machine, read the operating manual. You can use it to find the parts on your sewing machine and learn how to use its special features and any accessories. All sewing machines **operate**, or work, in the same basic way. A needle moves up and down through the fabric, and two sets of threads **interlock** to form closely fitted stitches.

Although sewing machines work the same way, there is a wide range in the number and complexity of functions they can perform. A very basic machine is useful for general sewing projects. Modern sewing machines are computerized and can create detailed embroidery designs for special projects. The more a machine can do, the more it costs. Be sure to use sewing machines carefully and according to the instructions to keep them in good working order. See **Figure 17.1** to familiarize yourself with the parts of a basic sewing machine.

As You Read

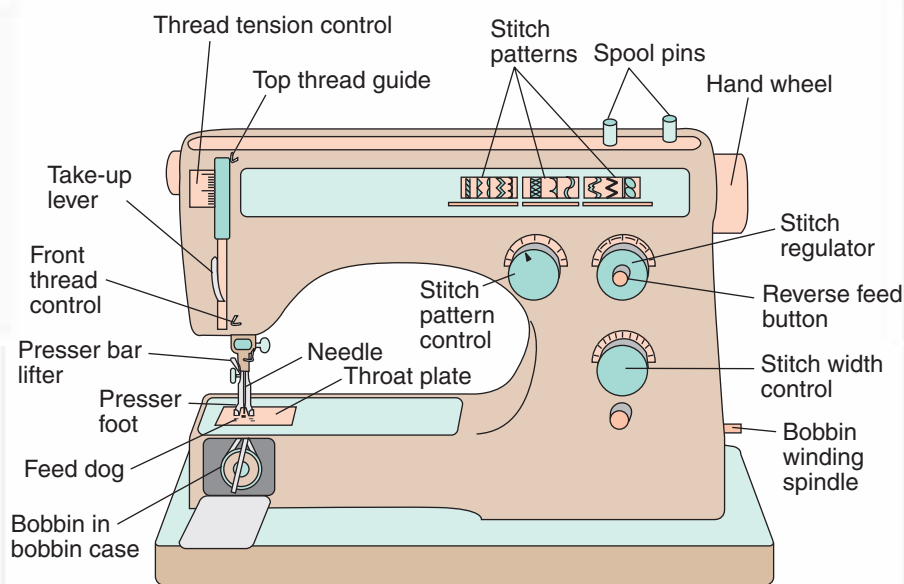
Connect What, if any, sewing experience have you had?

Vocabulary

You can find definitions in the glossary at the back of this book.

Figure 17.1 The Sewing Machine

Standard Parts All sewing machines have the same basic parts and functions. *Why do you think sewing machines include different stitch patterns to choose from?*





Converting Measurements

While on vacation in Europe, Grace went into a store that sold sewing patterns. However, when looking for patterns in her size, Grace realized that all of the measurements provided on the envelopes are in the metric system. Grace's measurements are 33 inches (chest), 25 inches (waist), 34 inches (hip), and 16 inches (back-waist). What are her measurements in centimeters? The package tells her that she needs 1.9 meters of fabric. How many yards will she need?

Math Concept Length Conversions While the U.S. generally uses the customary system of measurement, most other countries use the metric system. To convert inches to centimeters, multiply by 2.54. To convert yards to meters, multiply by 0.914.

Starting Hint Multiply each inch measurement by 2.54 to convert to centimeters, and round to the nearest centimeter. To convert meters into yards, you will need to divide by 0.914.

Math For more math help, go to the Math Appendix located at the back of this book.

NCTM Measurement Understand measurable attributes of objects and the units, systems, and processes of measurement.

Sewing Lab

Your sewing lab is a great place to learn and practice basic sewing skills. Equipment and supplies are important to understand. However, it is just as important to work cooperatively with others in your sewing class and manage your time wisely. The keys to making the most of your time in the sewing lab are:

- **Organization** Keep your supplies neat and organized so they will be ready to use when you need them.
- **Preparation** Bring in or gather the required supplies. Before you start to sew, read any instructions carefully.
- **Consideration** When you finish using an item, return it to where it belongs.



Identify What is the term for two sets of threads that form closely fitted stitches?

Hems

A hem finishes the bottom edge of a shirt, jacket, sleeve, skirt, or pants leg. A **hem** is an edge made by folding fabric over and stitching it down. Hems can be sewn by hand or with a sewing machine. Hems are made in ways that depend on the garment's fabric and design. The most common way to make a hem is to turn the **raw**, or unfinished, edge of fabric to the inside of the garment and stitch it in place. A good introduction to using a sewing machine is to practice making hems. The steps on page 376 explain how to make a hem. You will learn much more about other sewing machine functions in the next chapter.

Sewing in Class When you are in your sewing class, you need to share equipment and supplies. **Why is it so important to be organized?**



Basic Sewing Machine Stitches

In this activity you will learn to use a sewing machine for four basic stitches. Before you begin, read through the entire Hands-On Lab assignment. Write down any questions that you have about the activity. Reread the text or ask your teacher for help if you need it



Supplies


- ✓ Sewing machine
- ✓ Operating manual
- ✓ Thread
- ✓ Scissors
- ✓ Fabric scraps

Develop Your Plan

- Review the sewing machine operating manual.
- Practice making four basic stitches.

Implement Your Plan

- Follow the instructions in the operating manual to wind your thread from your spool onto the bobbin.
- After you thread the bobbin, insert it in the bobbin case.
- Follow the instructions in the operating manual to thread the machine.

 **Projects and Activities** Go to this book's Online Learning Center through glencoe.com for more projects and activities.

- Use a separate fabric scrap to make each of the four basic stitches:



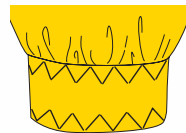
Regular Stitch A medium-length stitch used for sewing most projects.



Basting Stitch A very long stitch used for holding layers of fabric together temporarily.



Reinforcement Stitch A short stitch used to strengthen a corner or a point.



Zigzag Stitch A sideways stitch used to make button-holes, finish seam edges, and sew special seams.

Evaluate Your Results

Did you have trouble with any of the stitches? Review the operating manual to find out what you can do to correct any problems you had. Compare your stitch samples with your classmates. How are they the same or different? Write one or more paragraphs to describe your experience.

- Step 1** Use a seam ripper to remove the thread in the old hem. Press out the hem crease.
- Step 2** Put on the garment to determine the new hem length. Place pins every 2 to 4 inches (5–10 cm) around the hemline.
- Step 3** Fold the hem to the new length, and pin it in place. Double-check the length to make sure that it is even.
- Step 4** Take off the garment. Using a sewing gauge or a ruler, mark the proper length of the finished hem with pins or chalk.
- Step 5** Trim away the excess fabric along the markings. Lightly press the fold of the hem.
- Step 6** The raw edge can be pinked, zigzag stitched, edge-stitched, or overlapped with hem tape to prevent raveling.
- Step 7** Stitch the edge of the hem, making sure the stitches do not show on the outside. Keep the stitches loose so the hemline does not pucker.
- Step 8** Carefully press the hem.

Section **17.1** After You Read

Review What You Have Learned

1. **Name** three keys to making the most of the time in your sewing class.
2. **Explain** why you should use loose stitches when sewing a hem.

Practice Academic Skills



English Language Arts

3. Go to a library or a fabric store, or get permission to go online to find instructions for sewing projects. Find a project designed for beginners and a project designed for people with advanced sewing experience. What conclusions can you draw by comparing instructions from the two projects?

NCTE 8 Use information resources to gather information and create and communicate knowledge.



Social Studies

4. Research the typical clothes of a group of people in American history before 1950, such as a Native American population or an immigrant population. How did families obtain clothing during that time? What materials and techniques were used? Write a summary of your findings in a brief report.

NCSS 1A Analyze and explain the ways groups, societies, and cultures address human needs and concerns.



Check Your Answers Check your answers at this book's Online Learning Center at glencoe.com.

Reading Guide

Before You Read

Prepare with a Partner Work with a partner. Read the heads and ask each other questions about the topics that will be discussed. Write down the questions you both have about each section. As you read, help each other answer those questions.

Read to Learn

Key Concepts

- ✓ **List** the factors you need to consider before choosing a pattern.
- ✓ **Explain** how to determine the kind of fabric you need.
- ✓ **Identify** commonly used notions.

Main Idea

Before beginning a sewing project, learn about the basics of pattern selection, fabric selection, and choosing notions.

Content Vocabulary

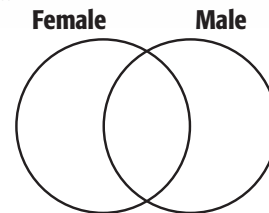
- pattern
- notions
- ravel
- nap
- interfacing

Academic Vocabulary

- dart
- reinforce

Graphic Organizer

As you read, compare and contrast the ways to take measurement for male and female clothing styles. Use a graphic organizer like the one shown to help you organize your information.



Graphic Organizer Go to this book's Online Learning Center at glencoe.com to print this graphic organizer.

Academic Standards



English Language Arts

NCTE 7 Conduct research and gather, evaluate, and synthesize data to communicate discoveries.

NCTE 9 Develop an understanding of diversity in language use across cultures.



Science

NSES A Develop abilities necessary to do scientific inquiry, understandings about scientific inquiry.



Social Studies

NCSS I E Culture Demonstrate the value of cultural diversity, as well as cohesion, within and across groups.

NCTE National Council of Teachers of English

NCTM National Council of Teachers of Mathematics

NSES National Science Education Standards

NCSS National Council for the Social Studies

Wouldn't it be nice to just be able to sit down at the sewing machine and start sewing? Unfortunately, it is not quite that easy. As with almost every project you want to complete, there are steps that need to be taken to get you to the finished product. In addition to learning basic sewing skills, you need to choose the right pattern, the right fabric, and the right tools.

As You Read

Connect Like any project, you need the right tools to get the job done. Other than a sewing machine, what tools do you think you will need to start a sewing project?

Vocabulary

You can find definitions in the glossary at the back of this book.

Pattern Selection

Most sewing projects call for a pattern. A **pattern** is a plan for making a garment or project. It contains paper shapes of the various pieces and gives the instructions for sewing. Your success in completing your project depends in part on the pattern you choose.

When you choose a pattern, you will want one that matches your abilities and the time you have to complete the project. Before you choose a pattern, consider the following:

- **Purpose** Do you want to make clothing for yourself, something for your room, or a specialty item, such as a backpack or a purse?
- **Sewing Skills and Experience** If you have never worked on a project before, choose a simple pattern. Many patterns are designed especially for beginners.
- **Time** Do you have enough time to complete the project? This is especially important if you are sewing at school and sharing a sewing machine.
- **Cost** How much money are you willing to spend?

These factors can help you choose the best pattern for your needs. When you find a pattern that you like in the fabric store catalog or display, make a note of the brand name and pattern number. Then you can find and read the pattern envelope for more information.



Pattern Selection Choose a pattern that matches your skill level, time frame, and budget. *Why is it so important to choose a pattern carefully?*

The Pattern Envelope

The pattern envelope provides you with the information you need to plan a sewing project. The front of the envelope shows a picture of the completed project. Sometimes more than one view is shown. For example, a shirt pattern may show one view with short sleeves and another with long sleeves. On the back of the envelope, you will find the following:

- A drawing showing the pattern pieces and construction features, such as design details, seams, and darts. A **dart** is a tapered, V-shaped seam used to give shape to the garment.
- A chart that tells you how much fabric to buy for the view and size pattern you are using.
- Recommendations for which fabrics to use.
- Additional materials you will need, such as thread and buttons. These are called **notions**.


Pattern Choice

How can you find an appropriate pattern for your first project? Pattern books indicate which patterns are simple to sew and even have special sections for quick and easy projects. In addition, look for these features to help you choose an easy-to-make pattern:

- **Number of Pattern Pieces** Fewer pattern pieces mean fewer pieces of fabric to cut out and stitch.
- **Number of Seams** Seams join two pieces of fabric together. The fewer seams involved, the easier it will be to complete the pattern.
- **Garment Fit** Loose-fitting styles are easier to sew than close-fitting styles.
- **Closures** Elastic waists require less advanced sewing skills than do zippers and buttonholes.

Pattern Size

Patterns, like ready-to-wear clothing, come in different sizes. Pattern sizes are based on five measurements. For females, measure the sleeve, bust, back waist length, waist, and hips.

 **Clues on the Pattern Envelope** The front of the pattern envelope shows you how the finished garment should look. *What information is provided on the front of this envelope?*



Healthy Competition

Friends It is natural to compete with your friends occasionally. Instead of feeling like you are not as good at something as your friends are, let them inspire you to do your best.



For males, measure the sleeve, neck, chest, waist, and hips. See **Figure 17.2** to learn how to take these measurements. When taking measurements, be sure that the measuring tape is held parallel to the floor. Never stretch the measuring tape.

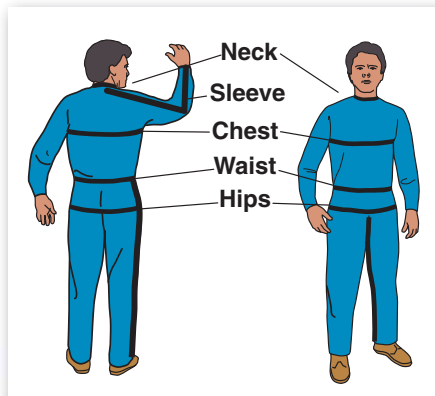
Compare your measurements to the measurements on the pattern envelope. Choose the size that has the closest measurements. Use the following guidelines to decide which measurement is most important for a particular type of garment:

- For blouses and tops, fit the bust measurement.
- For shirts, fit the chest and neck measurements.
- For full skirts, fit the waist measurement.
- For pants and semi-fitted skirts, fit the hip measurement.

 **Reading Check** *Recall* What information can you find on the back of a pattern envelope?

Figure 17.2 Taking Your Measurements

Accuracy is the Key Choose your pattern size by your actual measurements, not by the size you wear when you buy clothes. *What should you do if your measurements fall between two sizes on the pattern envelope?*



← Measurements for Males

Sleeve Bend the arm up, then measure from the base of the neck to the elbow and up over the wrist bone.

Neck Measure around the base of the neck and add ½ inch (1.3 cm).

Chest Measure around the fullest part of the chest.

Waist Measure around the natural waistline over a shirt, but not over pants.

Hips Measure around the fullest part of the hips.

→ Measurements for Females

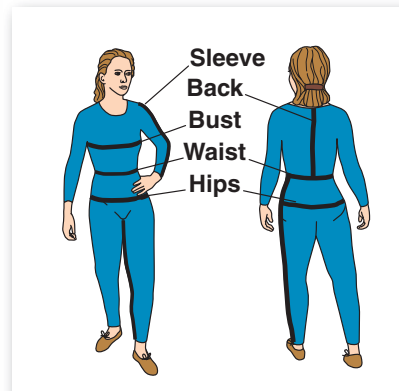
Sleeve Measure from the top of the shoulder over the bent elbow to the wrist.

Bust Measure around the fullest part of the bust, continue under the arms and straight across the back.

Back Waist Length Measure from the base of the neck to the waistline.

Waist Measure around the natural waistline.

Hips Measure around the fullest part of the hips.



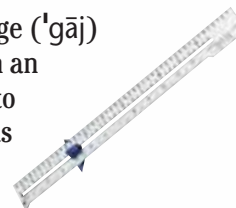
Build a Sewing Kit

To complete any sewing project successfully, you need the right tools. Experience and the types of projects you choose will determine the exact items you need. The items shown on this page represent some basic tools you will probably use for almost every project. These tools are a good start toward building your sewing kit.



Shears, Scissors, and Pinking Shears Shears are large scissors that often have a raised handle easier cutting. Scissors are used for trimming, clipping, and cutting threads. Pinking shears are scissors that zigzag edge.

Sewing Gauge A sewing gauge ('gāj) is a 6-inch (16-cm) ruler with an adjustable pointer. It is used to measure short spaces, such as hems and seam widths.



Needles and Thread Needles are used for hand sewing. Select thread color that matches your fabric.



Pins and Pincushion Dressmaker pins are slender, sharp-pointed, and rust proof. The pincushion is a convenient holder for pins and needles.



Tape Measure A flexible tape is used to take body measurements.

Seam Ripper This pen-shaped tool has a small, hook-like blade at one end for removing stitches.



Thimble A thimble protects your finger while you are hand sewing. It makes it easier to push the needle through the fabric.



Healthy Competition

Avoid Comparisons

Competition can be a great way to inspire you to do your best. However, try to avoid comparing yourself to others when it comes to schoolwork.



Choosing Fabrics

Fabrics come in many different colors, textures, designs, and finishes. You need to evaluate the fiber content, how the fabric is made, and any finishes that have been added. When choosing a fabric, ask yourself these questions:

How much sewing experience do I have? Select fabrics that are easy to sew for your first few projects.

Who will use the item? When making something for yourself, look for colors that can be mixed and matched with other clothes you own.

When will I use the item? The time of day and the season the item will be used may affect the type of fabric you choose.

How will I use the item? When making a non-clothing item such as a tote bag, a dark-colored fabric that does not show dirt is a good choice.

What type of care is needed? Look for fabrics that are machine washable and that require little or no ironing.

Some fabrics are challenging. Lightweight and extremely soft fabrics can be slippery and hard to sew. Plaids, stripes, and large prints need to be matched at the seams and may require extra fabric. Loosely woven fabrics tend to **ravel**, which is when loose threads pull out of the cut edge. Fabrics such as corduroy have a one-way texture called **nap**. Napped fabrics require special instructions.



Fabric



Indian Textiles

India has a rich and diverse textile tradition. A textile is a cloth or fabric made from raw materials. The origin of Indian textiles can be traced to the people of the Indus valley civilization, where cotton and silk were handwoven

for garments. The ancient Indian epic, *Ramayana*, refers to elaborate garments worn by royalty, and simple garments worn by commoners. Indian silk and cotton was traded around the world in ancient times. Fragments of Indian textiles have been found in Rome, Egypt, China, and Indonesia as far back as the 13th century. Muslin, a thin cotton material, and chintz, a shiny cotton cloth often printed with a flower pattern, were especially popular and remain so today.

Muslin ['mɛz-lən] a thin plain-weave cotton cloth, used to make clothing, curtains, and sheets.

NCTE 9 Develop an understanding of diversity in language use across cultures.

Selecting Quality Fabrics

When you shop for fabrics, you will notice that they come in many price categories. How can you tell which ones are high quality? Keep in mind that you do not have to buy the most expensive one to get a good fabric. Quality is not determined by cost alone. Like ready-to-wear clothing, fabrics can be made by brand-name designers and cost more because of the name. When judging quality in fabrics, examine the following:

- **Crosswise Threads** They should be straight and at right angles to the lengthwise threads. This means the fabric is on grain.
- **Pattern** Make sure that a printed pattern runs straight with the grain. If the fabric is not printed properly, the garment will look off-grain.
- **Weave** The weave should be firm and durable.
- **Color** All colors should be consistent.
- **Finish** The finish should feel comfortable and pleasing to the touch.
- **Label** Read the label on the end of the bolt of fabric. It gives facts about fabric width, fiber content, finishes, shrinkage, and care instructions.



Judge Should you buy the most expensive fabric for quality? Why or why not?



Care Instructions
When choosing fabrics, check the fiber content and care instructions listed on the end of the fabric bolt. *What is the benefit of choosing fabric with easy care instruction?*

SCIENCE YOU CAN USE



Scientific Method

Making sound decisions is important in order to solve problems that arise during a sewing project. Some of these decisions may include what to sew, where to find the materials, and how much money to spend.

Procedure Make a decision using the scientific method. First, ask the question to be answered. Then, form a hypothesis or possible answer.

Analysis Experiment. Collect and examine data, then form a conclusion.

NSES A Develop abilities necessary to do scientific inquiry, understandings about scientific inquiry.



Thread Color One of the most essential notions is thread, which comes in many types and colors. *How would you choose a thread color for a print or plaid fabric?*

Notions

After you have chosen a fabric, refer to the back of the pattern envelope for a list of the type of notions you will need. In addition to sewing tools, you will need notions to complete the project. Notions are the small items that become a permanent part of the finished product. Choose notions carefully, making sure the colors look good with the fabric you will use. Also, choose buttons, tapes, trims, and interfacings that require the same care as the fabric. For example, a cotton shirt cannot be machine washed if its trim can only be dry cleaned. Here are some basic notions necessary for many types of sewing projects:

- **Thread** Choose thread to match your fabric color. Thread should be the same color as the fabric or slightly darker because it will appear lighter when stitched. Fabric type determines the thread you need. You can find this information on the pattern envelope. A good quality thread is strong and smooth, has even thickness, and resists tangling.
- **Fasteners** There are many types of fasteners to choose from. They are used to close a garment. Some are designed to be almost invisible, such as snaps, and zippers that are sewn into a seam. Others can be functional as well as decorative, such as buttons, buckles, and hook-and-eye closures.
- **Tapes and Trims** Like fasteners, tapes and trims can be functional or decorative. Tapes and trims cover fabric edges and **reinforce**, or strengthen seams. They can also be used to create a design on the outside of a garment. They can be woven, knitted, braided, or made of lace. You can match trims to your fabric, or create contrast with a different color or texture.

- **Elastic** Your choice of elastic depends on whether it will be used in a casings, which you will learn about in the next chapter, or stitched directly to the garment. The pattern envelope will describe what kind of elastic may be needed.
- **Linings and Interfacings** Fabrics used on the inside of the garment are linings and interfacings. A lining is fabric used to finish the inside of a jacket, coat, skirt, dress or pants. Linings can be visible, so choose a color to match or contrast with the out fabric. Fabric **interfacing** is placed between two pieces of fabric to prevent stretching around necklines, closures, and buttonholes. Unlike a lining, it will not be visible in the finished garment. Interfacing adds shape to collars, cuffs, pockets, and hems.



Sewing Equipment

Follow these safety rules when learning how to use the supplies and equipment in the sewing lab:

- Keep your fingers away from the path of the needle.
- Do not attempt to use the machine if it is jammed or making an unusual noise.
- Do not hold pins or needles in your mouth. Use a pin cushion.
- Keep scissors closed when not in use.

Section 17.2 After You Read

Review What You Have Learned

1. **Identify** the features that will help you choose an easy-to-make pattern.
2. **List** the most important qualities to consider when choosing fabric.
3. **Describe** a good quality thread.

Practice Academic Skills

English Language Arts


4. Imagine that you will soon attend a wedding or a family reunion, or go on a vacation. What special outfit would you like to make? Using information from pattern catalogs, pattern envelopes, and this book, make a list of the fabric, equipment, tools, and notions you would need to complete your special outfit. Present your list in the form of a “how to” report.

NCTE 7 Conduct research and gather, evaluate, and synthesize data to communicate discoveries.

Social Studies

5. Cultural heritage can be displayed in fabrics. Some fabric designs and weaves are unique to certain cultures, such as Navajo rugs and blankets. Gather three or more samples of cultural fabrics. Use actual fabric if possible. If not, find images you can copy or print. Create a poster with the samples, and include information about the country of origin and the uses for the fabric.

NCSS I E Demonstrate the value of cultural diversity, as well as cohesion, within and across groups.

 **Check Your Answers** Check your answers at this book’s Online Learning Center at glencoe.com.

Discovering Careers

Focus on Careers in Sewing ▼



Do you like to work with your hands? Do you have an eye for fabric and for creating actual clothes? If you answered yes to either of those questions, you might want to consider a future career in sewing. The following chart explores several careers in the sewing industry.

Job Title	Job Description
Alterations Specialist	Alters clothing to fit individual customers. Repairs garments as requested by customers. Remakes old garments into new styles.
Machine Operator	Creates fibers, yarns, and fabrics by spinning, weaving, knitting, printing, and dyeing. Oversees multiple machines that treat tanks, dye jigs, and vats.
Pattern-maker	Translates sample garments into paper patterns. Increases and decreases the size of all pattern pieces to correspond to garment sizes.
Apparel Stylist	Creates adaptations of designer originals. Produces fashionable, yet affordable clothing. Makes garments that fit the image of a company or clothing line.
Sewing Instructor	Teach basic sewing techniques. Help those who need advanced help with special projects. Motivate students with the possibilities of sewing.

Career Activities ▼

At School

1 Select three of the careers listed. Research the education, training, and work experience required for each career. Write a summary of your results.

At Home

2 Go through your closet to find clothing that needs repairs. Ask your family members if they have clothing that needs repairs. Make a list of the repairs and explain how you would make the repairs.

At Work

3 List five examples of how fabrics are used in a workplace. Compare lists with your classmates.

In the Community

4 Contact and interview someone in your community who works in the sewing industry. Ask this person to describe what his or her typical work day is like. Share what you learned with your class.

Learn More Online  glencoe.com

Career Investigations Go to this book's Online Learning Center for activities and worksheets to help you explore careers.



Chapter Summary

Section 17.1 Sewing Machine Basics

The keys to making the most of your time in the sewing classroom are organization, preparation, and consideration. Sewing machines all operate in the same way. A needle moves up and down through the fabric, and two sets of threads interlock to form stitches. A good introduction to using a sewing machine is to practice making hems. A hem finishes the bottom edges of sewn projects. Hems can be sewn by hand or with a sewing machine.

Section 17.2 Patterns, Fabrics, and Notions

Patterns, fabrics, and notions are essential for getting started on sewing projects. Choose a pattern to match your abilities and the time you have to complete the project. Quality fabric does not have to be expensive. When selecting fabric, use the information on your pattern envelope to find out what kind and how much fabric you will need. After you have chosen a fabric, refer to the back of the pattern envelope for a list of the type of notions you will need.

Words You Learned

1. Create multiple-choice test questions for each content and academic vocabulary word.

Content Vocabulary

- interlock (p. 373)
- hem (p. 374)
- pattern (p. 378)
- notions (p. 379)
- ravel (p. 382)
- nap (p. 382)
- interfacing (p. 385)

Academic Vocabulary

- operate (p. 373)
- raw (p. 374)
- dart (p. 379)
- reinforce (p. 384)

Review Key Concepts

2. **Describe** the main function all sewing machines have in common.
3. **Explain** how a hem is created.
4. **List** the factors you need to consider before choosing a pattern.
5. **Explain** how to determine the kind of fabric you need.
6. **Identify** commonly used notions.

Critical Thinking

7. **Analyze** this scenario. Christa says to you, “There is no reason I should learn how to sew.” Why do you think she would say this? How would you respond?
8. **Predict** what might happen if a beginning sewing student ignores the recommendation on a pattern envelope to use knit fabric.
9. **Describe** how you could alter a garment in your closet to change its look.

Real-World Skills and Applications

Problem-Solving

10. Help for Beginners Sewing can be an intimidating task for someone who has never sewn before. Look through a pattern catalogs and select patterns that beginners might use. Identify which features make patterns easy to follow.

Interpersonal and Collaborative

11. Project Management Follow your teacher's directions to form small groups. Work with your group to write a timeline for a long-term project you might work on in class. When will you work on the project? What tasks can you realistically accomplish each time you meet? Who will be responsible for each task? What will you do if someone misses a class? What supplies and resources will you need? Present your information to the class.

Financial Literacy

12. Estimate Costs Imagine that you are going to make two shirts from the same pattern. Research the prices of the pattern, fabric, notions, and any other supplies and materials you will need to complete the project. Using spreadsheet software or a worksheet, make a table presenting these costs. Label four columns with the names *Item*, *Price*, *Quantity*, and *Cost*. List one item per row, such as buttons in the first row, thread in the next row, and so on. Show a grand total of all the costs at the bottom of the table. Compare your results to the cost of buying two similar shirts at a clothing store. Which is the better value for your and money? Present your information along with a summary to explain the better value.



13. Fabric Guide Cut out small samples of different types of fabrics. Arrange the fabric samples in a scrapbook or photo album and add descriptive captions. Organize the fabric in a way that is meaningful for you. For example, arrange by texture, color, cultural significance, or type of weave. Add more samples as you discover new fabrics you like to use when sewing.

14. Home Decorating Visit a fabric store and select a pattern for a home furnishings project. Note the recommended fabrics listed on the pattern envelope. Look around the store for fabrics suitable for home decorating. What types of fibers, fabrics, and trims are most common? How are they different from fabrics used for clothing? Summarize your findings a report to present to your class.



15. Sewing Ideas With permission from your parents or teacher, go online to search for information that can help you learn about different ways to apply sewing techniques, such how to customize a pattern, how to make stuffed animals, or how to alter something you already own. Choose a project that you find especially interesting. Make a list of the supplies you would need to complete it, and a list of the skills you would need to learn. Include the information in your Life Skills Binder.

Academic Skills



English Language Arts

16. **Personal Style** When you know how to sew your own clothes, you have freedom to experiment with colors and fabric. Write a one-page journal entry to describe your personal clothing style. Include descriptions of the projects you would like to make that reflect your style.

NCTE 12 Use language to accomplish individual purposes.



Science

17. **Modern Technology** The first sewing machines were operated by a hand-crank. Today, sewing machines are run by computers that do much of the work for you. **Procedure** Consider how the modern sewing machine compares to the earliest sewing machines. **Analysis** Choose one function of a modern sewing machine, and use these questions to evaluate the function: 1. Is the function necessary? 2. Does it make me less creative? 3. Does it help me make higher quality projects?

NSES E Develop understandings about science and technology.



Mathematics

18. **Estimate** Jackson is taking a summer class in clothing construction, and he is planning to make a shirt for his first project. He found a good pattern for \$6.98. The project requires $2\frac{1}{2}$ yards of fabric that will cost \$10.90. The matching thread costs \$2.95, and the buttons he picked out are \$8.10. He also needs to add interfacing for \$2.60. Use this information to estimate the total amount Jackson needs to make the shirt.

Math Concept Estimation Using

Compatible Numbers You can perform calculations quickly without using a calculator by replacing decimals with their closest compatible numbers.

Starting Hint Round each dollar amount to the nearest whole dollar by dropping the decimal portion. If the number to the right of the decimal point is 5 or greater, add 1 to the dollar amount.

NCTM Number and Operations Compute fluently and make reasonable estimates.



Standardized Test Practice

Multiple-Choice

Read the sentence. Then read the question below the sentence. Read the answer choices below each question and choose the best answer to fill in the blank.

Test-Taking Tip In a multiple choice test, read the question before you read the answer choices. Try to answer the question before you read the answer choices. This way, the answer choices will not confuse you.

19. By returning the scissors to the teacher's desk, John showed consideration for his classmates. In this sentence, the word consideration means _____.
- thoughtfulness
 - sympathy
 - disrespect
 - attention