Explore Fibres & Fabrics Leader Guide

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Welcome 4-H Leaders!

Welcome to the “Exploring Sewing” project. There is lots of information, fun facts, and hands on activities that covers basic sewing principles. This guide provides you with project meeting plans (Skill Builders) that include, a skills list, background information, activity suggestions, and ways to know if your members have learned the skills identified. In short, all the information and tools necessary to make this project a rewarding one for you and your members.

In this project, members will examine, by learning to do by doing, the different kinds of fabrics and their fibres and basic sewing techniques required to make garments and a variety of other items. The Leader Guide is written with the expectation that the project leader(s) will have a working knowledge about sewing. If not, you may need to do some pre-work / research on the activities, or recruit assistance for certain sections.

Be sure to try out activities, demonstrations or hands on work ahead of time to ensure you have an understanding of each Skill Builder - this also allows for any adjustments should an activity not work for you or if any equipment or supplies are unavailable.

The 3D’s of Learning - Each Skill Builder has three sections of learning called “Dream it!”, “Do it!” and “Dig it!” Below is a description of each.

Dream it! Plan for Success - this gives members a chance to help plan their activities. A skills checklist, background information, important words, and activating questions are included in the Member Manual so they will be able to think about the topic and activity and decide how they will approach it. The Leader Guide contains in-depth background information on the topics, material lists, suggestions, time requirements for activities, and activating, acquiring, and applying questions to engage member’s thinking through each step of the learning process.

Do it! Hands on learning - this is where members are engaged in the activity planned / discussed in the Dream it! Section. Here members are doing the activities and leaders are observing, recording, and providing feedback on how well they are doing. Allow as much individual practice as required; you are assessing the progress and understanding of individual members.

Dig it! What did you learn? - this simply means that members and leaders need to ‘dig into their learning’. For the learning cycle to be completed, both need to reflect on how things went and how well they did. For members, this involves self-assessment, giving feedback, creating meaning from their experiences, and thinking about what they would do differently next time. Once this is done, they will be in a good position to apply what they have learned to the next experience.

The sequence of project meetings and specific skill building outcomes for members in this project are on the chart on the following page.
What Skills Will The Member Learn?

Each section, Skill Builder (or Builder) in this project has activities that will help your project group learn to do by doing while learning new skills and having fun!

To complete this project, members must:
- Complete the activities in each Builder OR a similar activity that focuses on the same skills as you and your members may plan other activities
- Plan and complete the Showcase Challenge
- Complete the Portfolio Page
- Participate in your club’s Achievement (See the inside back cover for more information about 4-H Achievements).

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When members successfully complete the builders, they will showcase what they have learned.

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Showcase Challenge and My Portfolio Page

At the end of the members’ section are the “Showcase Challenge” and “My Portfolio Page”. The Showcase Challenge page gets members to think about their accomplishments and explain or demonstrate how they were successful. There are a number of suggestions along with planning information to help them decide how they will best “showcase” their learning to friends, family, community members and/or fellow 4-H members.

Record keeping is an important part of every 4-H project. “My Portfolio Page” is a graphic organizer used to keep track of members’ 4-H experiences. As each member learns skills, the evidence of learning (through participation and completion of the various activities) is recorded on the page. When the Portfolio Page has been completed and confirmed by the leader, then it becomes a record of the member’s completion of the project and participation in other 4-H activities beyond the project.

4-H leader assessment of members will happen throughout the project as you assess the progress and understanding of individual members. You need to observe the members doing the skill and record what you see and hear. Your feedback should be positive and descriptive (not just “well done”). Share that feedback with members frequently so they can put your suggestions into action. How you choose to observe and record is up to you. Some methods are to create checklists, videos and notes while encouraging discussions, peer observations and questions. Recognize that members may improve over the course of a builder and that records should be updated to reflect when they demonstrated their best learning. You are discussing how well members are meeting the skills checklists that are at the beginning of each of the project books, in each Builder and on the Portfolio Page.

Projects promote technical, communication, meeting management, and leadership skills, as well as community involvement and real-world experiences. In addition to the specific skills members are to learn in each builder, the following general learning goals for members are important: Following instructions - Working with others - Using supplies safely - Using the key words - Improving with practice - Respecting timelines.

### 4-H Project Series Skill Development Levels

Each project topic series contains three levels of skill development: explore, discover, and master.

**Explore** - each project series has is one project outlining the fundamentals. All members will be expected to complete the Explore level project before moving into the Discover level of projects. It introduces the basic skills and terms needed by members for subsequent projects in that series.

**Discover** - each project series has several project options and members are encouraged to take as many as they would like. At this level, members practice topic specific techniques and gain theme related skills through specialized builders.

**Master** - multiple project options encourage members to specialize in a topic. They may branch out and take advantage of community options such as cooking for a canteen or participating in a food drive. The leader’s role is to look for opportunities for their members to have more authentic experiences by: working with other mentors, partnering with outside agencies, participating in exchanges, entering competitions, etc. Projects at this level may include the “Partner-a-Project” whereby pre-approved courses will allow members to advance their skills, while applying their learning to the 4-H program.
4-H LEADER TIPS FOR SUCCESS!

♦ To complete, members must complete all the activities referred to on the “Project Completion Requirements” page OR alternate idea for an activity that would teach the same skill or an age appropriate variation. If activity substitutions are used, be sure to have the member make note in their manuals.

♦ Dependent on time available at each meeting, group size and abilities of group members, you may wish to break the Builders into more than one project meeting.

♦ The internet has lots of interesting websites and educational activities. You may choose to use a search engine to explore the options available. We do not endorse any website or the safety or functionality of any products they may sell. Information/products will be used at your own discretion.

♦ Safety is a number one priority. Care has been taken to create safe, age appropriate activities throughout this manual. As leaders, it is important for you to emphasize safety rules and manage or adapt activities in a manner that will safely match your members abilities. Ensure members have a good understanding of safe working and handling practices when using tools, that they use the appropriate safety equipment when necessary, and that appropriate supervision is provided. A quality experience needs to be a safe experience.

♦ The multiple intelligences theory teaches us that people learn in at least 8 different ways. All individuals will be stronger in some ways of “intelligences” and weaker in others. It follows that the more ways we teach, the more members we will reach. Throughout this project, you will find a mix of writing, reading, hands-on work, artwork, self-evaluation, group discussion and math calculations. Teaching projects using a broad blend will help increase the learning potential of all members.

♦ Projects are designed to teach many skills. However, the 4-H member is always more important than the subject matter. Stress cooperation in the activities where possible to develop teamwork and cooperation skills. These are valuable skills that will assist them in a number of settings. Ensure the work is completed in a manner that members feel good about themselves and their efforts. This can be done by assigning appropriate tasks or roles based on member’s individual abilities. Modelling and expecting supportive behaviour (i.e. no “put-downs”) amongst members, or by other adults, also contributes to a positive experience.

♦ There will be opportunity for experimentation and applying skills that members have learned throughout this project. Experimenting can be frustrating, but learning through trial and error is an important life skill. Explain to members that it is alright to either go onto the next builder or do the builder again if they need the practice. Help the members work through their challenges until they are satisfied with the quality of their designs. Creating inventive 4-H members will be very rewarding.

♦ Celebrating success is an important but sometimes overlooked part of our lives. We encourage you to use the final section to empower the members by celebrating all they have learned in a fun manner. Anything that you do to add to the spirit of fun and the sense of accomplishment of each member will likely be remembered as the high-light of their 4-H year.

Have fun and thanks for your belief in young people!
Skill Builder 1: Tools of the Trade

Skills Checklist

- To identify basic sewing tools
- To identify the parts of a sewing machine
- Stitch with a sewing machine

Dream it!

Background for Leaders

Cutting tools:
Sewing scissors are very important and you'll need your own. Choose a pair 10 cm to 15 cm long, with sharp blades for cutting threads, trimming and clipping seams.

Dressmaker’s shears are used for cutting fabric, and are very sharp. Use them with care. Bent-handled shears are recommended for easier cutting. You do not need to purchase shears for this unit. If you borrow a pair, take good care of them.

Measuring tools:
Tape measure – choose one that measures 150 cm, that has metal ends and is plastic coated, so it won’t stretch or ravel.

Ruler – a 15 cm clear plastic ruler or a metal sewing gauge is handy.

Sewing tools:
Pins – choose fine, non-rusting, stainless steel dressmaker pins. Pins with coloured heads are easy to see and handle.

Pin cushions - come in different shapes and sizes. The tomato shape is popular; the type that clips to your wrist is easy to work with.

Sewing machine needles - come in different sizes to sew different fabrics. You do not need to purchase needles for this unit.

Stitch ripper - a useful tool used to take out stitches when you make a mistake.

Marking tools:
Marking pencil - used to draw stitching lines on your fabric. The washable fabric markers are easy to use.

Pressing tools:
Iron and ironing board – necessary when sewing - learn how to use them properly, and safely. They will be used frequently throughout the project.
The Sewing Machine

One of the most important things in sewing is learning to use the sewing machine. Not all sewing machines are exactly alike, so yours may not be identical to this diagram. But, all machines do have the same basic parts.

Knowing the parts and what they do is the first step in learning how to use a sewing machine.

1. **Needle** – is held in place by a screw. An eye is located at the needle point which takes the thread into the fabric. See if you can find both the needle and the screw that holds it in place.

2. **Presser Foot** – this holds the fabric in place while the needle passes between its two toes. At the back of the machine above the presser foot is a lever to raise and lower the foot. Try raising and lowering the foot.

3. **Feed Teeth** – these carry the fabric along when you sew. They are below the presser foot (sometimes called feed dogs). Find the feed teeth on your machine.

4. **Bobbin** – it holds the thread for the bottom half of the stitches. Find the bobbin on your machine.

5. **Balance Wheel** – use it to raise the needle and to help start the machine. When the wheel turns, the needle moves up and down. Slowly turn the balance wheel towards you.

6. **Thread Take-up** - it is like a long arm with a hole for the thread at the end. It moves up and down with the needle as the stitches are formed and pulls the thread from the spool.

7. **Upper Tension Control** – the thread passes through the discs of this control before it goes to the needle. It regulates the tightness or looseness of the stitches.

8. **Stitch Length Selector** – it is used to lengthen or shorten the stitches.

9. **Stitch Width Selector** – this is used to change the width of the zigzag stitch.

10. **Spool Pin** – holds the thread in place when sewing.

11. **Bobbin Winder** – the bobbin is placed here to be wound, except on machines with self-winding bobbins.

12. **Reverse Button or Lever** – used to backstitch at the beginning and end of seams.
4. Place your fabric in front of the needle; lower presser foot. Start at the edge and sew three or four stitches. Now you want to fasten the threads to keep them from coming apart. Make the necessary adjustment and sew backward three or four stitches. This is called **backstitching**.

5. Continue stitching to the end of the fabric and repeat the backstitching to fasten the stitching again.

6. Be sure the thread take-up lever is all the way to the top when you stop; if it isn’t, the thread will come out of the needle when you start to stitch again.

7. Raise the presser foot. Pull the fabric gently out and back with the top thread between the toes of the presser foot. Cut the thread close to the edge of the fabric.

**Important words**

Help members define the following words and listen for them using these words in their discussions. To increase the member’s understanding try providing a synonym members know or provide examples. The more personalized the examples the better.

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<th>Part of a sewing machine used to raise the needle and to help start the machine. When the wheel turns, the needle moves up and down</th>
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<tr>
<td>Pressure Foot</td>
<td>A part of a sewing machine used to hold fabric in place while the needle passes between its two toes. Located above the pressure foot is a leaver to raise and lower the foot.</td>
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<tr>
<td>Bobbin</td>
<td>A small spool that holds the thread for the bottom half of the stitches.</td>
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<tr>
<td>Tension</td>
<td>The tightness or looseness of the stitches.</td>
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<tr>
<td>Reverse</td>
<td>Used to backstitch at the beginning and end of seams.</td>
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**Age Considerations:** 8 and up

**Thinking ahead**

1. What will you have your members bring to the first meeting?
   - Sewing scissors, tape measure, 15 cm ruler, pins, pin cushion, marking pencil, stitch ripper
   - A box or mason jar to use as a sewing box, decorations for the box which could include such things as fabric scraps, iron-on patches, buttons, trims
   - Supplies for the stitching project - 2 bandanas the same size, matching thread, polyester fibrefill
2. What will you discuss with members? Gather observations and think of examples that will help support your discussion.
Preparing for Success

- Ask members how they know they will be successful in this builder. Discuss what success looks like, sounds like, and feels like.

Activating Strategies

- Activate member’s prior knowledge of sewing by asking them to think about what they know about sewing, who have they seen sewing, what were they making and what would members like to sew.

Whazzit? What is it?

- What are the parts of the sewing machine and what do they do?

**Time Required:** 15 minutes

**Equipment/Supplies:** Sewing machine

**Safety Considerations:** Ensure that members do not sew their fingers with the needle.

**Instructions**

1. Show members the parts of the sewing machine and explain what each part does.
2. With a partner, take turns pointing to different parts of the machine and having the other person name them.

*Remember that not all sewing machines are exactly alike but, all machines do have the same basic parts. Knowing the parts and what they do is the first step in learning how to use a sewing machine.*

**Do it!**

- Members should now have an idea of what the important sewing tools (notions) are, the parts of the sewing machine and how it works. Now it is time for members to use the sewing machine and sew their first project.
- Help members do the skill builder activities below.

*Note: Make sure you ask members the activating and applying questions at the end of each activity to get them thinking about the activity and applying the knowledge they have acquired.*

**Your Own Sewing Kit**

It’s a good idea to have a sewing kit for your sewing tools - something to protect them and keep them stored together. Then you’ll know where to find the things you’ll need. There are lots of sewing boxes to buy, but it’s more fun to make your own from a shoebox, basket, tin box or a mason jar. Be creative with an old fishing tackle box. Choose one of the following kits to help members organize and become familiar with sewing tools.

**Time Required:** 30 minutes

**Safety Considerations:** Hot glue from glue gun
Activity Options:

**Sewing Box**

**Equipment/Supplies:** shoe box or other sturdy box to use as a sewing box, glue gun or glue sticks items to decorate the box; fabric scraps, iron-on patches, buttons, trims or even colourful paper, etc.

**Instructions:**

1. Using the glue sticks or glue guns secure the chosen materials or items to the box. Be careful not to use anything that can’t be secured or that will come off easily.
2. As members start to collect their own sewing tools, label them with the members name so they are not misplaced at the meetings.

**OR**

**Mason Jar Sewing Kit**

**Equipment/Supplies:** One mason jar with a two part lid, polyester batting, thick cardboard, square of cotton fabric, glue gun

**Instructions:**

1. Separate the sealer from the lid. Trace the sealer’s circumference onto the cardboard and cut out.
2. Trace a circle on the fabric 5 cm larger than the cardboard circle and cut out.
3. Make a cushion by stuffing batting between the fabric and the cardboard.
4. Turn the screw cap upside down and apply hot glue on the inside edge of rim; quickly press assembled cushion into lid until the cloth side protrudes smoothly above the screw caps opening and cardboard is flush against the rim.
5. Apply hot glue around the edge of cardboard backing; fold over excess fabric and press down. Glue top of sealer to cardboard for a neat finish.
6. Fill the jar with sewing notions. Use the top of the jar as a pin cushion.

**Stitch-a-rama!**

**Time Required:** 30 minutes

**Equipment/Supplies:** Sewing machine, paper patterns, samples of a variety of different fabric types for the member to experiment stitching on. For example; cotton, spandex, denim, polar fleece, satin or silky polyester, felt, wool, fun fur etc.

**Safety Considerations:**

- Be sure there is good light to see the needle clearly to control it.
- Keep the knee or foot control where you won’t accidentally bump it.
- Have your right hand ready to control starting and stopping with the balance wheel.

**Instructions:**

As you get ready to sew, have a comfortable chair and sit directly in front of the needle. Good posture at the machine helps you to do better work.
1. Before you start to practice on the machine, remove the top thread and the bobbin, and raise the presser foot.

2. Put your right hand lightly on the balance wheel. There will be a foot or knee control. Press on the control to make the machine start, but not too fast. Moving the balance wheel towards you at the same time helps the machine to begin slowly. Try for a slow, even speed. You will need to learn how much pressure to put on the knee or foot control to keep the machine running smoothly. When the wheel starts moving, take your hand away and place it on the machine to the right of the needle. Rest your left hand on the left side of the needle in position to guide fabric through the machine.

3. Try stopping the machine by releasing the pressure on the electric control. With your right hand, stop the balance wheel and turn the wheel toward you with your hand until the thread take-up is as high as it will go. Always do this when stopping the machine, leaving the machine in this position.

**Paper Stitching**

- Have members stitch one paper pattern using the sewing machine without any thread.
- Use a pattern provided or have the members draw their own pattern to stitch.
  - For example printing their name or initials with draw a circle or square around it on the paper.

**Fabrics**

- Have members select 5 fabrics they like from the sample fabrics.
- Thread the sewing machine and ask them to sew a straight line on the fabric.
- Name the fabrics and ask members which was easier to sew and why.

**Straight stitching:**

1. Take a piece of lined paper and place it under the presser foot.
2. With your hand on the balance wheel, turn the wheel toward you until the needle comes down on the first line of stitching on the right side of the paper. The largest piece on which you are sewing should be to the left of the presser foot when starting.
3. Lower the presser foot.
4. Stitch as straight as you can on the line. Guide the paper placing your hands as shown. Do not place your hands too close to the needle.
5. Stop stitching when the end of the paper is reached. Don’t worry if the stitching is a bit crooked. With a little practice, fewer stitches will stray off the straight line.
6. Continue to practice stitching lines until you can do it well.

**Turning square corners:**

1. Draw lines on a piece of paper as shown in the diagram.
2. Stitch on one line as far as the corner.
3. Stop the machine, leaving the needle down exactly at the corner.
4. Raise the presser foot, turn the paper until the new line runs towards you. Lower the presser foot and stitch to the next corner.
5. Practice until it is easy to turn corners.
Lines of Stitching
**Bandanna Pillow**

... bandannas are Colourful, square scarves. They have a detailed pattern made of one colour, plus white.

**Time Required:** 60 minutes

**Supplies & equipment you’ll need:**
- one bandanna square – bandannas come pre-printed in many colours. You can also choose a brightly printed piece of fabric from the fabric store sale bin (size approximately 45 cm x 45 cm).
- one backing square – choose EITHER a second bandanna square or a piece of plain coloured fabric, cut the same size as the front bandanna.
- one bag of polyester fibrefill, or clean plastic grocery bags. If you’re using the grocery bags, first cut them into strips, about 5 cm wide and 30 cm long.
- matching thread
- small scissors
- marking pencil and ruler
- iron and ironing board

**Let’s Sew!**

1. Iron fabric or bandanna square and backing.
2. Put the backing fabric flat on a table with the wrong side up. Place the bandanna or pillow top on top of the backing, KEEPING THE WRONG SIDE FACING YOU. Pin the two pieces together, following the directions given by your leader.

3. Starting at the middle of the bottom of the pillow, machine stitch around the four sides of the square leaving a 1.5 cm seam allowance on each side. (Use the stitching guide on the throat plate of the machine). Leave a 20 cm gap on the last side (this will be the bottom), between where you started and where you finish.

**Backstitch** at the beginning and end of your stitching.

Remember to sew right angles at each corner so your pillow will be square with sharp corners.

4. Turn the pillow inside out, through the opening.
5. Stuff the pillow with fibrefill or cut plastic bags.
6. Carefully fold under the two cut edges of the opening into the pillow, making sure you do not catch the stuffing. Pin and sew, by machine, along the edge to close the hole.

**Enjoy your pillow as a toss cushion for your bed or for watching TV.**

If you stuff lightly, you get a soft and flexible pillow; stuffing tightly gives a harder, fuller pillow.
Dig it!

Now that members have a deeper understanding of the basics of sewing it is time for them to reflect on their learning and apply what they now know by answering the following questions.
1. What have you learned? Have members go back to the skills checklist and review what they have learned. Ask them how they know that they can …
2. Which was more difficult sewing on paper or fabric? Which fabrics were more difficult to sew? Did you improve as you went along?

What’s next?

In the next builder members will learn to thread the machine, backstitch, seam finish including how to use a serger and press seams. Members will be sewing one of three sewing project options. Spend a few minutes discussing which project they would like to sew. What supplies do they need to bring to the next meeting? Make a list.

Leader’s Notes
In the Member Manual

Skill Builder 1: Tools of the Trade

**Needles Says...**
There are many tools that are necessary when sewing,
- Cutting Tools - sewing scissors, dressmakers shears
- Measuring Tools - tape measure, ruler
- Sewing Tools - pins, pin cushion, stitch ripper, sewing machine needles
- Marking Tools - marking pencil, chalk
- Pressing Tools - iron and ironing board

**SKILLS CHECKLIST**
- Identify basic sewing tools
- Identify the parts of a sewing machine
- Stitch with a sewing machine

**Important words**
Watch for these important words throughout this builder:
- Balance Wheel, Reverse, Pressure Foot, Bobbin, Tension

**Dream it!**
To begin any project and be successful you need to plan. In Dream It! You will learn important background information on using a sewing machine as well as prepare yourself to have a successful learning experience.

All sewing machines have the same basic parts.

1. Needle  
2. Pressure Foot  
3. Feed Teeth  
4. Bobbin  
5. Balance Wheel  
6. Thread Take up  
7. Upper Tension Control  
8. Stitch Length Selector  
9. Stitch Width Selector  
10. Spool Pin  
11. Bobbin Winder  
12. Reverse Button or Lever

**Do it!**
Sewing Box
It is a good idea to have a sewing box for your sewing tools. A sturdy box will protect your tools and keeps them stored together. There are lots of sewing boxes to buy, but it is more fun to make your own from a shoebox, basket, or mason jar. Be creative and make a sewing box with your leading.

Think about it: As you place your sewing tools into your sewing box think about how you will use each one to help you sew.

**Stitch-a-Rama!**
What will you need: sewing machine, paper patterns, scrap fabric pieces from a variety of different fabrics.

1. Learn how to stitch with a sewing machine.

   Using an unthreaded sewing machine practice stitching on a paper pattern. Use one provided by your leader or make your own by printing your name or initials on the paper in large block letters and drawing a large circle or square around it.

   1. Select 5 fabrics you like from the sample fabrics. Thread the sewing machine and sew a straight line on the fabric.
   2. Name the fabric and if it was easy or hard to sew.

<table>
<thead>
<tr>
<th>Fabric Type</th>
<th>Easy to Sew</th>
<th>Hard to Sew</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
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<td>2.</td>
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<td>4.</td>
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<td>5.</td>
<td></td>
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</tr>
</tbody>
</table>
In the Member Manual

Bandanna Pillow

Time to sew your first project! Bandanas are colourful, square scarves. They have a detailed pattern made of one colour plus white. Using two bandannas and some fibre fill make a pillow for your bedroom following the instructions given to you by your leader.

Discuss with other members what happened in this activity:

- What is the best way to sew a corner?
- What sewing tools did you use making your pillow?

Sew Much Fun

Check out these fun puzzles at http://www.enchantedlearning.com/themes/sewing.shtml
http://www.bunkhousesewing.com/site/934188/page/437979/1

Needles' Fun Facts!

The first mass-produced sewing machine was patented by Isaac Singer in 1850. It was powered by a foot treadle. By 1863 over 20,000 machines were sold annually.

Dig it!

Think about this builder and the activities you did ...

- Review the Skills Checklist on page 3. What skills have you developed? Do you need more practice?

Record it . . .

Discuss what you have learned with your leader so that the information can be recorded on your Portfolio Page.

Apply it . . .

How could you explain to others how a sewing machine works?

What's next?

Now that you have a basic understanding of how a sewing machine works it is time to learn more sewing techniques. In the next lesson you will learn to thread the sewing machine, backstitch, seam finish, to use a serger and how to press seams. You will do this by selecting one item to sew!
Skill Builder 2: Time to Sew!

Skills Checklist

- Thread a machine, backstitch, seam finish and press seams
- Optional: Identify a serger and how it works
- Practice sewing

Dream it!

Background for Leaders

Threading the Machine

There are two threads on your machine, the lower or **bobbin thread** and the upper or **spool thread**.

**Bobbin thread** - Show members the sewing machine instruction book. Using the instructions, help members learn to wind and thread the bobbin. Be sure the bobbin is in the bobbin case right side up – otherwise the machine may skip stitches.

**Spool thread** - Begin with the take-up lever at its highest point. Place the spool on the spool pin and by following the instruction book, guide the thread through the necessary hooks and guide posts. These are thread guides and they keep the thread where it belongs while you are stitching.

Position Threads for Sewing

1. Before beginning to sew with thread, pull both the top and bottom threads into the correct position.
2. Hold the thread from the needle in your left hand.
3. Turn the balance wheel by hand so the needle goes down and comes up once.
4. Pull the thread in your left hand gently and it will bring up a loop. Pull the loop up – this is the bobbin thread.
5. Take both threads behind the presser foot. Be sure the thread from the needle is between the two toes of the presser foot.
6. Both threads should always be in position behind the presser foot when starting to stitch.
7. Be sure the thread take-up lever is all the way to the top. If not, the thread will pull out of the needle on the first stitch.

Sew a Seam with Backstitching

A **seam** is a line of stitching that joins two or more fabric layers. It is stitched along the seam line, found 1.5 cm from the cut edge, unless instructions say differently.

1. Pin right sides of fabric together. You insert the pins through both layers of fabric, at right angles to the stitching line. The seam edge should be to the right of the needle and the rest of the fabric kept to the left.
2. The standard seam allowance is 1.5 cm.
3. Keep your eyes on the seam edge and the 1.5 cm seam guide on the throat plate of your machine. DO NOT watch the needle.
4. Place your fabric in front of the needle; lower presser foot. Start at the edge and sew three or four stitches. Now you want to fasten the threads to keep them from coming apart. Make the necessary adjustment and sew backward three or four stitches. This is called **backstitching**.

5. Continue stitching to the end of the fabric and repeat the backstitching to fasten the stitching again.

6. Be sure the thread take-up lever is all the way to the top when you stop; if it isn’t, the thread will come out of the needle when you start to stitch again.

7. Raise the presser foot. Pull the fabric gently out and back with the top thread between the toes of the presser foot. Cut the thread close to the edge of the fabric.

**Finishing Seams and Raw Edges**

Seam finishes are used to keep edges from fraying. Most woven fabrics require seam finishes. The seams of cotton and cotton-blend fabrics can be finished in these ways:

**Zigzag Stitch:** Suitable for all fabrics, particularly ones that fray.
- Machine stitch the seam, backstitching at each end.
- Press the seam open.
- Zigzag over the raw edge on each side of the seam allowance.

**Fold and Stitch:** Good for light and some medium weight fabrics.
- Machine stitch the seam, backstitching at each end.
- Press the seam open.
- Fold under 3 mm of fabric, to the wrong side.
- Press well.
- Stitch close to the fold.

**Pressing Your Seams**

**Pressing** is the up and down motion of the iron. **Ironing** is a back and forth motion across the fabric. Use this method to press open seams:
- Press on the wrong side of your fabric only.
- Press both edges of the seam flat together along the stitching line.
- Open the seam and press seam allowances back with the point of the iron along the length of the seam.

**Optional:** The Serger Sewing Machine
- The serger sews very fast AND it trims and finishes fabric edges all at the same time. Sergers can’t replace a regular machine for all steps.
Differences between regular sewing machines and sergers:

1. **Threads** – there are three or four threads on a serger machine and they all sit on top at the back. There is no bobbin! The **needle threads**, on the left, form the stitch as they go through the fabric. The **looper threads** on the right help to lock the needle threads in place. The threads are lighter in weight than regular sewing machine threads and are purchased on cones.

2. **Blades** – these are the knives that trim the seam as the fabric passes through the machine and the seam is made.

3. **Stitch finger** - found on the throat plate or presser foot, the stitch finger is in the middle of the stitch as it is being made.

Sewing on a Serger

1. A serger does not backstitch, so you begin to sew by first stitching a thread chain **without the fabric in place**. First hold the looper and needle threads in your left hand and lower the presser foot. Turn the wheel slightly with your right hand while you start the machine working with the foot control. Continue to use the foot control as the thread chain is formed. The thread chain should be about 5 cm in length.

2. Because of the blades, you cannot pin pieces of fabric together at right angles through the seam line. Instead, pin well into the fabric with **pins parallel to the seam line**.

3. Guide the fabric under the presser foot, which is still in the down position. As you sew, the **seam will be stitched, the seam allowance trimmed off and the seam's raw edges finished**. Voila!

4. When you come to the end of a seam, stitch right off the end of the fabric and finish with a thread chain. To finish the seam, you can thread the chain back into the seam by hand with a needle. Or, you can use a glue product called Fray Check™ to seal the threads and prevent ravelling. Then trim off the threads closer to the end of the fabric.

**Important Words**

Help members define the following words and look for members using this vocabulary in their discussions. Here are some examples of how to use the “important words” to increase the members understanding:

- Ask members to form a mental image of the new word.
- Get members to use a dictionary and show them the range of information it provides.
- Have members describe (rather than define) the new word in terms of their experiences.

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serger</td>
<td>A sewing machine that trims and finishes fabric edges at the same time.</td>
</tr>
<tr>
<td>Back stitching</td>
<td>To sew backwards over beginning and end stitches so that they will not come undone.</td>
</tr>
<tr>
<td>Seam finish</td>
<td>A sewing technique used to prevent edges from fraying. Examples would be zigzag, fold and stitch or serge.</td>
</tr>
<tr>
<td>Pressing</td>
<td>Pressing is the up and down motion of the iron.</td>
</tr>
<tr>
<td>Ironing</td>
<td>Ironing is the back and forth motion across fabric.</td>
</tr>
</tbody>
</table>
Age Considerations
- Ages 8 and up

Thinking Ahead
- What will you discuss with members? Gather observations that will help support your discussion

Preparing for Success
- Ask members how they know they will be successful in this builder.

Activating Strategies
- Activate member’s prior knowledge by reviewing builder 1. What sewing tools and skills will they need to sew any items? Where would they use these skills in day to day life?

**Do it!**

1. Have members choose one project to practice basic sewing skills.
   - Notebook Cover
   - Pillow Case
   - Quilt Pillow

2. Optional: Make a Technology Case using a Serger

Help members do this skill builder activity by teaching them to thread the machine, back stitch, seam finish and press seams as the member sews the project.

**Serge a Technology Case**

. . . . . . . . Make a case to hold a cell phone, USB stick, I pod or MP3 player.

**Time Required:** 20 minutes

**Equipment/Supplies:** double sided quilt fabric, thread, serger sewing machine, sewing tools

**Instructions:**

1. Cut a rectangle of double sided quilt fabric 2.5 times the height of the item and 4 cm wider than the item.
2. Serge both top and bottom edges.
3. Fold bottom edge towards the top the length of your item leaving space for a flap. Pin in place.
4. Serge side edges being careful not to serge over the pins.
5. Sew on a snap to close the case.

- Ask members what are the main differences between sewing with a sewing machine and a serger.
Quilt Pillow

Create your own design with pieces of colourful fabric; the ideal pillow for you or as a gift.

Time Required: 90 minutes

Equipment/Supplies:

- Fabric - to make a 45 cm square pillow top, select 2 or 3 matching pieces of cotton/cotton blend fabrics for the top. Pieces from the scrap bag are perfect! For the back, you'll need one piece of fabric.
- Stuffing - polyester fibrefill, or lots of clean plastic grocery bags. If you're using the grocery bags, first cut them into strips, about 5 cm wide and 30 cm long.
- Matching thread; choose a darker shade that will blend with the printed fabrics.
- Sewing tools
- Iron and ironing board

For the quilt pillow top, choose printed fabrics that are similar in colour but different in scale. For the quilt bottom, choose a solid colour that is found in one of your prints.

Let's Sew!

If you choose stripes:
1. First label your fabrics: A, B, C, etc. You will be sewing the strips together, so you will need to add seam allowances of 1.5 cm to each side of the fabric strip before you cut your printed fabrics into strips 45 cm long and as wide as you wish. (Remember, the total finished width after strips are sewing together will be 45 cm).

Try out these designs or try one of your own.

A B A B

If you choose blocks:
1. First label your fabrics: A, B, C, etc. You will be sewing the blocks together, so remember to add seam allowances of 1.5 cm to all sides of the blocks before you cut! Measure, pencil mark and cut your printed fabrics into squares, the size needed to make a 45 cm square after they are sewn together.

4-block pattern
6-block pattern
9-block pattern
2. Iron fabric before and after cutting into strips or blocks.
3. With right sides facing each other, sew two strips together along the long sides. Then sew on the third strip, fourth, etc. If you are working on a block pattern, sew two (or three) blocks together first, then sew them in strips. Either way you’ll end up with a 45 cm square. With wrong side up, iron the quilt pillow top pressing the seams flat, and to one side.
4. Put the backing fabric with the flat side up flat on a table. Place the quilt design on top of the backing, KEEPING THE WRONG SIDE FACING YOU. Pin the two pieces together.

Remember to BACKSTITCH every time you begin and end a stitching line!

5. Starting at the middle of the bottom of the pillow, machine stitch around the four sides of the square leaving a 1.5 cm seam allowance on each side. Leave a 20 cm gap on the last side (this will be the bottom), between where you started and where you finish.

   Backstitch at the beginning and end of your stitching.

6. Turn the pillow inside out, through the opening.
7. Stuff the pillow with fibrefill or cut plastic bags.
8. Carefully fold under the two cut edges of the opening into the pillow, making sure you do not catch the stuffing. Pin and sew, by machine, along the edge to close the hole.

Notebook Cover

Time Required: 60 minutes

Equipment/Supplies:
- 1 thread-bound composition book (25 cm x 19 cm)
  (Adjust amount of fabric according to size of notebook)
- Light weight denim or twill fabric 28 cm x 70 cm
- 30 cm of 15 cm wide ribbon
- Matching thread, scissors, pins, marking pencil and ruler
- Iron and ironing board
- Optional: Members may wish to decorate the notebook cover with ribbons, buttons, fabric paint, etc.
Let's Sew!

1. To seam finish the raw edge of the 70cm edge on the top and bottom use a zig zag stitch, stitching close to the edge.
2. On both 28cm ends fold over 15cm wrong sides together and stitch to form a hem.
3. Centre the notebook on the RIGHT side of the cover. Fold the flaps and measure both sides until they are even; 14.5cm. Pin the flap at the top and bottom and slide out the notebook.
4. Sew the flaps down with a 15cm seam allowance back stitching where the flap ends near the centre.
5. Clip corners and turn cover right-side out.
6. Gently ease the notebook into the cover. If it is too tight, rip out the seam and make it slightly larger. Remove the cover.
7. Press in raw edges on the top and bottom towards the inside of the cover.
8. Fold the edge of the ribbon under 5 cm. Place on the centre of the cover at the top with the fold facing the inside of the cover. Pin in place.
9. Edge stitch making sure to sew over top of the ribbon and to backstitch at the beginning and end. Diagonally cut the end of the ribbon.
10. Place cover on notebook and use the ribbon as a bookmark.

Pillow Case

Choose 4 different colours and prints of light weight cotton or polyester/cotton fabrics that look good together. The fabrics should be 115 cm wide. Choose the fabric you would like for the body of the pillowcase. This will be fabric #1. The remaining fabrics will form stripes for the end of the pillowcase.

Time Required: 90 minutes

Equipment/Supplies:
- Fabric #1 65cm x 100 cm
- Fabric #2 6 cm x 100 cm
- Fabric #3 6 cm x 100 cm
- Fabric #4 20 cm x 100 cm
- Thread to match each colour of fabric. Remember to select one shade darker than the fabric, Sewing tools

Let's Sew!

1. Prewash and dry all fabrics and press flat with an iron.
2. Wind a bobbin and thread the sewing machine with thread to match #2.
3. Place the cut 100 cm edges of fabric #1 and fabric #2 right sides together. Stitch with a 15cm seam allowance.
5. Topstitch the seam allowance in place from the right side of the fabric. Stitch on top of fabric #2 with a 5 cm seam line.

6. Change the thread on the machine to match fabric #3. Repeat steps #3, #4 and #5 using the fabric strip #3 and pressing the strip toward fabric #3.
7. Change the thread on the machine to the colour matching fabric #4. Repeat steps #3 and #4 pressing the seam allowance toward fabric #4.
8. Change the thread on the sewing machine to the thread matching fabric #1. Fold the pillowcase in half right sides together. The seam lines of each of the sewn together sections should match. Pin the edges in place. Stitch with a 15 cm seam allowance. Press the seam allowance open and flat and seam finish using a zigzag stitch.
9. Pin the top of the pillowcase together and stitch with a 15 cm seam. Zigzag over the raw edges of the seam allowance at the top of the pillow.
10. On the lower edge of the pillowcase measure 15 cm and press to the wrong side of the fabric. Bring the folded edge up to meet the stitching line of fabrics #3 and #4 and cover the seam allowance. Pin.
11. Change the thread on the machine to the colour matching fabric #4. From the right side of the fabric, topstitch the hem in place, stitching 15 cm from the seam line.
12. Press the pillowcase.

**Dig it!**

Members should now understand how a sewing machine works and the basic skills needed to sew any item. Have them reflect on their learning by asking the following questions:

- Why is it important to learn the parts of a sewing machine?
- Why is it important to press as you sew?
- How could the skills you learned today help you in the future?

**What’s next?**

In the next builder members will learn how to identify different fibres and fabrics. They will also learn how to sew a casing. Members will sew one project using woven and non-woven fabric and one item with a casing. To get members thinking about the next builder have them discuss what they know about fabrics. What would be the difference between natural and synthetic fibres? Make a list of supplies to bring to the next meeting.

**Leader’s Notes**
In the Member Manual

**Skill Builder 2: Time to Sew**

- **Needles Says...**
  - Having basic sewing skills will ensure that your sewing project is the best it can be. Knowing the backstitching, seam finish, and press as you sew will help to give you the results you are looking for. The more you sew, the easier it gets!

- **SKILLS CHECKLIST**
  - Thread a machine, backstitch, seam finish and press seams
  - Optional: Identify a serger and how it works
  - Practice sewing

- **Important Words**
  - Look out for these important words in this builder: Serger, Bobbin, Back Stitching, Seam Finish, Pressing, Woven, Non-Woven

- **Dream it!**
  - Threading the Machine
    - There are two threads on your machine, the lower or bobbin thread and the upper or spool thread.
  - With your leaders help read the sewing machine instruction book and practice threading the machine and winding the bobbin.

- **Position Threads for Sewing**
  - Before beginning to sew with thread, pull both the top and bottom threads into the correct position.
  - 1. Hold the thread from the needle in your left hand.
  - 2. Turn the balance wheel by hand so the needle goes down and comes up once.
  - 3. Pull the thread in your left hand gently and it will bring up a loop. Pull the loop up — this is the bobbin thread.
  - 4. Take both threads behind the presser foot. Be sure the thread from the needle is between the two toes of the presser foot.
  - 5. Both threads should always be in position behind the presser foot when starting to stitch.
  - 6. Be sure the thread take-up lever is all the way to the top. If not, the thread will pull out of the needle on the first stitch.

- **Optional: The Serger Sewing Machine**
  - The serger sews very fast AND it trims and finishes fabric edges all at the same time. Sergers can’t replace a regular sewing machine for all steps. Ask your leader to show you how a serger works.

- **Backstitching**
  - 1. Pin right sides of fabric together.
  - 2. Place your fabric in front of the needle; lower presser foot. Start at the edge and sew three or four stitches. Now you want to fasten the threads to keep them from coming apart. Make the necessary adjustment and sew backward three or four stitches. This is called backstitching.
  - 3. Continue stitching to the end of the fabric and repeat the backstitching to fasten the stitching again.

- **Finishing Seams and Raw Edges**
  - Seam finishes are used to keep edges from fraying. Most woven fabrics require seam finishes. The seams of cotton and cotton-blend fabrics can be finished in these ways:

  - **Zigzag Stitch:** Suitable for all fabrics, particularly ones that fray.
    - Machine stitch the seam, backstitching at each end.
    - Press the seam open.
    - Zigzag over the raw edge on each side of the seam allowance.

- **Fold and Stitch:** Good for lightweight and some medium weight fabrics.
  - Machine stitch the seam, backstitching at each end.
  - Press the seam open.
  - Fold under 3 mm of fabric, to the wrong side
  - Press well
  - Stitch close to the fold

- **Pressing Your Seams**
  - **Pressing** is the up and down motion of the iron. **Ironing** is a back and forth motion across the fabric.
  - Use this method to press open seams:
    - Press on the wrong side of your fabric only.
    - Press both edges of the seam flat together along the stitching line.
    - Open the seam and press seam allowances back with the point of the iron along the length of the seam.
In the Member Manual

Do it!
Choose one project to practice basic sewing skills.
- Notebook Cover
- PillowCase
- Quilt Pillow

You need the instructions on how to make these items.

As you sew your project, practice:
1. Threading and winding the bobbin on the sewing machine.
2. Backstitching at the beginning and end of each seam.
3. Try the different types of seam finishes and see which one you prefer to use when you sew.
4. Press as you sew to give your item a professional look. Follow your leaders instructions on how to press open a seam.
5. If available to you experiment with using a serger sewing machine. It can be one of the ways you seam finish on your project.

Safety First!
1. Remember to keep your fingers out of the way of the sewing machine needle.
2. An iron is very HOT when turned on. Be very careful not to touch your fingers to the iron. It will burn your fingers.

Optional:
- Serge a Technology Case

... Make a case to hold a cell phone, USB stick, i pod or MP3 player.

Your leader has the instructions to make a technology case.

What are the main differences between sewing with a sewing machine and a serger?

Needles' Fun Facts!
The Costume Museum of Canada is located at 109 Pacific Avenue in Winnipeg, Manitoba. It is home to a collection of 33,000 artifacts spanning 400 years.
The collection represents the identity of everyday Canadians, rural and urban, private and public, through the garments they made, purchased and wore. http://www.costuemuseum.com/collection.html

Dig It!
Think about the builder and the activities you did...
Review the Skills Checklist on page 6. What skills have you developed? Do you need more practice?

How Did it Go? Answer these questions:
Why is it important to learn the parts of a sewing machine and what they do?

Why is it important to press as you sew?

How could the skills you learned today help you in the future?

Draw a picture of the item you made. If you would make any changes to your item include those ideas in your drawing.

What's next?
You have learned some basic sewing skills needed to sew any item. Next builder, you will identify different fibres and fabrics and use this knowledge to sew one project using woven and non-woven fabric, and one item teaching you to sew a casing. With your leader, discuss which items you will sew at the next meeting. Make a list of supplies to bring to the next meeting.

Sew Much Fun
Check out this online sewing manual:
http://www.craftandfabriclinks.com/sewingbook/sewbool.htm
Skill Builder 3: Fabrics, Fabrics, Fabrics

Skills Checklist

- Identify different fibres and fabrics
- Know the difference between woven and non-woven fabrics
- Understand fabric terms
- Sew a casing

Dream it!

Background for Leaders

Every sewer needs to have a knowledge of fibres and fabrics. Where the fibres come from, how to sew the fabric and how to care for it. This builder will look at woven and non-woven fabrics. There are two types of fibres: natural and man made.

Many natural fibres come from agriculture: Linen (from Flax), Wool (from animals), Silk (from silk worms), Cotton, Hemp, Bamboo (all from plants).

Synthetic fibres are man-made. They include polyester, acetate, acrylic, nylon, spandex, viscose rayon, etc. Blends of natural and synthetic fibres are common and give the best features of both to a fabric.

Woven fabrics are made of yarns that weave over and under each other. They do not stretch, but will shrink in the wash. Be sure to wash your fabrics before using them: this is called preshrinking. Denim is an example of a woven fabric.

Non-wovens are fabrics that are made of a mat of fibres. They don’t stretch at all, and are useful for special projects. Felt is a non-woven.

The Look of Fabrics

Fabrics come in many different colours and designs.

Plain fabrics are solid colours, with no design or pattern. The front and back of the fabric look the same.

Prints are fabrics with a coloured design on the right side of the fabric. The design may be all over the fabric or just in some areas; it might be big or small. They can be of flowers or people or abstract in design.

Striped fabrics have coloured stripes, along the length or across the fabric. Some stripes may be printed.

Plaids are fabrics with stripes in two directions at once. Most plaids look the same on the front and back.

Woven Fabric Terms

Fabrics are wrapped as bolts, with a firm board in the middle. There is a label on the bolt end; it will list what the fabric is made of, like cotton or polyester or wool.
A selvage (or selvedge) is the smooth tightly woven edge of the fabric along the length wise edge. This edge never frays.

The straight grain is a term often used in sewing. It means "with the threads", or following the length wise or crosswise thread.

On grain means that the crosswise threads are at right angles or square with the length wise threads. You want your fabric to be on grain.

Off grain fabric has crosswise threads that slant instead of being at right angles to the length wise threads. If your fabric is off grain, you will need to straighten it.

Buying Fabric

Lengths of fabric sold in the store are measured in metres (m) or tenths of metres. Be sure you know how many metres you need before you go shopping.

Fabrics are sold in standard widths. Cotton fabrics and cotton-blend fabrics are either 90 cm (centimetres) wide, or 115 cm wide. Some fabrics like wool are sold in very wide widths, at 150 cm wide.

Straightening fabric

Look at the ends of the piece of fabric. If the fabric was torn from the bolt, the torn end is even with the crosswise thread. If it was cut from the bolt, then straighten the fabric by cutting along a thread across the width of the material. Now look at the fabric carefully to see if it needs to have the grain line straightened.

If it is grain perfect, it will fit along the right angle edges of a table. If not, try straightening it this way: for fabric that is just a little off-grain, pull one short corner of the fabric and let someone else pull the other short corner. Pull until it is even with the sides of the table. You are actually pulling those crooked threads straight.

Some fabrics, like polyester / cotton blends seem to be in a permanent position. If you try to pull these fabrics straight, they go right back to their off-grain shape. They cannot be straightened. If you must use the fabric, be sure the lengthwise grain is straight.

Sewing Machine Needles

For woven and non-woven fabrics use a sharp needle. These needles feature a narrow shaft and sharper point to pierce the threads of a woven fabric. They vary in size from 60/8 - 90/14. The heavier the fabric the larger number of needle you should use.

Casings

A casing is a fabric tunnel made to enclose elastic or a drawstring. Casings should be at least .5 cm wider than the elastic or drawstring they are to enclose, to allow for its free movement through the fabric tunnel. A fold-down casing is best suited to straight edges. It can be used for waistlines of skirts, pants, shorts, blouses and drawstring bags.
1. To make a casing turn the edge under .5 cm and press. Turn the casing to the wrong side the desired depth and pin in place.

2. Machine stitch lower edge of casing in place. On a closed circle leave a small opening for threading elastic or drawstring - (not needed if ends are open). If casing will have no heading, place a second row of stitching close to top fold.

3. For a casing with a heading, make it wider and omit edge stitching along the top fold. Measure up from lower stitching the desired width and machine stitch a second row with no opening. Backstitch ends to secure.

**Resources/Handouts/References**

- Felt is created when heat and moisture are introduced to the raw wool and high pressure is applied over a period of time. This is commonly referred to as pressed felt.
- Find out the history of felt at www.yoneshima.co.jp/en/bunrui.html
- Go to www.ktcanada.ca/non_woven.htm to find out other non-woven fabrics and their uses.

**Important Words**

Help members define the following words and look for members using this vocabulary in their discussions. The word puzzle later in this builder will help you identify which words they know!

<table>
<thead>
<tr>
<th>Woven</th>
<th>Woven fabrics are made of yarns that weave over and under each other.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-woven</td>
<td>Non-wovens are fabrics that are made of a mat of fibres.</td>
</tr>
<tr>
<td>Straight Grain</td>
<td>It means with the threads” or following the length wise or crosswise thread</td>
</tr>
<tr>
<td>On-grain</td>
<td>Means that the crosswise threads are at right angles or square with the length wise threads.</td>
</tr>
<tr>
<td>Natural Fibre</td>
<td>Fibres that come from a plant or animal. For example, wool, cotton, linen</td>
</tr>
<tr>
<td>Synthetic Fibre</td>
<td>Fibres that are man made. Such as acrylic, polyester and nylon.</td>
</tr>
<tr>
<td>Salvage</td>
<td>The smooth tightly woven edge of the fabric along the length wise edge. This edge never frays.</td>
</tr>
<tr>
<td>Casing</td>
<td>A fabric tunnel used to enclose elastic or a drawstring.</td>
</tr>
</tbody>
</table>

**Age Considerations:** Ages 8 and up

**Thinking Ahead**

- What will you discuss with members? Gather observations that will help support your discussion. What supplies do members need to bring to the meeting to sew their projects?

**Preparing for Success**

- Ask how they know they will be successful. Discuss what success looks, sounds, & feels like.

**Activating Strategies**

- Ask members, “What types of fabrics are there?”, “Where does fabric come from?”, How is fabric made?”, “What are some examples of where you would use a casing?”
Do it!

Fabrics, Fabrics, Fabrics

Time Required: 30 Minutes

Equipment and Supplies: Pencil

Instructions: Complete Word Search.

Word list

<table>
<thead>
<tr>
<th>ACRYLIC</th>
<th>COTTON</th>
<th>NON-WOVEN</th>
<th>STRAIGHT-GRAIN</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGRICULTURE</td>
<td>HEMP</td>
<td>ON-GRAIN</td>
<td>SYNTHETIC-FIBRE</td>
</tr>
<tr>
<td>BIAS</td>
<td>LINEN</td>
<td>POLYESTER</td>
<td>WOOL</td>
</tr>
<tr>
<td>BROADCLOTH</td>
<td>NATURAL-FIBRE</td>
<td>SILK</td>
<td>WOVEN</td>
</tr>
</tbody>
</table>

Time to Sew!

1. Have members choose **one** project using a woven and non-woven fabric.
   ✗ Catchall
   ✗ Felt Box

2. Choose **one** project with a casing in a lightweight woven fabric.
   ✗ Pillowcase laundry bag
   ✗ Drawstring Backpack

   ✗ Catchall

This handy fabric tray folds flat when not in use... great for your room or in your suitcase.
Time Required: 1 hour

Equipment/Supplies:
- One 23cm square of lightweight cotton fabric; one 21.5cm square of heavy weight felt; 4 snaps
- Sewing tools: iron, tailor’s chalk or a temporary fabric marker, ruler, thread, hand-sewing needle

Let’s Sew!
1. Press a 15 cm fold toward the wrong side on all four sides of the fabric square. Turn each doubled corner under and press.
2. Place the fabric square on top of the felt, wrong sides facing. Centre it and pin in place. Sew the fabric to the felt along the outer edge of the fabric square pivoting at the corners. Trim the felt as close as possible to the fabric edge so that both squares are the same size.
3. Using the ruler and tailor’s chalk mark a line 4 cm in from each side of the square. Sew along the marked lines. Rub away the remaining tailor’s chalk.
4. Place a snap ball and socket at the edge of the straight line on each corner. Repeat for all four corners.
5. Snap each corner together and you are finished!

Felt Box
. . . . . Quick, easy and fun storage

Time Required: 1 hour

Equipment/Supplies:
- 1 piece of heavy weight felt 15 cm x 25 cm
- 1 piece of printed cotton fabric 17 cm x 27 cm
- Contrasting embroidery cotton
- Thread to match cotton fabric
- Sewing tools: ruler, 1 hand sewing needle, sewing machine, iron

Let’s Sew!
1. Cut piece of felt as per the diagram.
2. Fold so that the 15 cm edges are together and stitch the 9 cm sides by hand using the embroidery cotton and a simple whip stitch. Join one finished edge to another.
3. Open the box and sew the two bottom seams using the same stitch. The 9 cm side seam will sit at the centre of the 7 cm bottom edge. Refer to the picture.
4. Cut the lining piece (the printed cotton fabric) as per the diagram.
5. Using the sewing machine, right sides together stitch the sides and bottom of the lining. Use a 1 cm seam allowance. Press the seams open.
6. Place the lining inside the box with wrong sides facing. Line up the side seams so they match. Turn the top edge of the lining over to the same height as the felt box to neaten raw edges. Use a running stitch with the embroidery cotton through both layers to secure in place.
**Pillowcase Laundry Bag**

...This project teaches you how to sew a casing.

**Time Required:** 1 hour

**Equipment/Supplies:**
- One pillowcase made with two side seams, thread
- 2.6 metres of either ribbon, grossgrain ribbon or cording for the drawstring
- Sewing tools: stitch ripper, sewing machine, large safety pin

**Let's Sew!**

1. Using the stitch ripper carefully take out 6cm of stitches on the side seam of the pillowcase.
2. With the sewing machine use the backstitch to secure the end of the side seam so that it does not come undone.
3. On the raw edge of the undone side seam fold .5cm towards the inside of the bag. Top stitch in place.
4. Fold the upper edge down towards the inside of the pillowcase 3cm and press upper edge and pin in place.
5. Stitch .5cm from the bottom edge.
6. Stitch .5cm from the top edge.
7. Fold the bottom corner so the side seam and bottom fold come together. Mark a line forming a triangle 4cm from the point. Sew, backstitching at each end. Fold point to side seam.
8. Cut the drawstring in half. Pin the safety pin to the end and thread the drawstring through both sides of the casing. Thread the second drawstring from the opposite end. Tie a knot in the end of each drawstring.

**Drawstring Backpack**

...Turn a drawstring bag into a backpack

**Time Required:** 1 1/2 hour

**Equipment/Supplies:**
- cotton-polyester fabric 40cm x 46cm, thread to match
- 4 - 5cm squares of lightweight fusible interfacing
- 2 grommets large enough for two cords to go through
- 4 metres of .5cm cording Optional - 2 cord locks/toggles
- Sewing machine, iron, basic sewing tools, safety pin

**Let's Sew!**

1. Following the manufacturers instructions fuse the 4 interfacing squares to the bottom corners of both fabric pieces (40cm side) on the **wrong side of the fabric**.
2. Place front and back right sides together with the 40cm side as the top and bottom of the bag. Measure down 8cm from the top and pin. Do for both sides.
3. Starting at a pin stitch the side seams and bottom of the bag using a 1 cm seam allowance. Be careful to backstitch at the pins and pivot at the corners.
4. Zigzag or serge the seam allowance.
5. On the raw edge of the unsewn side seam fold .5cm towards the inside of the bag. Top stitch in place.
6. At the top of the bag fold the edge towards the inside of the bag .5cm press the fold.
7. Fold the top edge once more towards the inside of the bag by 4cm. Press and pin.
8. Stitch the bottom fold .5cm from the bottom to form a casing on both sides of the bag.
9. Following the instructions of the grommet package, attached one grommet in each bottom corner.
10. Cut the drawstring in half. Pin the safety pin to the end and thread the drawstring through both sides of the casing. Thread the second drawstring from the opposite end.
11. Take the two ends of the cord that are coming out of the right opening and line them up. Push them through the grommet in the lower right corner. Tie a knot on the back. Attach toggles if using.
12. Repeat with the cord on the left, pushing it through the grommet on the lower left. Tie a knot on the back.
13. To close the bag pull on the cord on both sides.

**Dig it!**

Have members reflect on their learning by asking the following questions:
- What have you learned about fibres and fabrics?
- When would you use a casing in a sewing project?
- How will your new skills help you at home?

**What’s next?**

In the next builder members will learn about knit fabric and sew one project from t-shirt knit and one from polar fleece. To get members thinking about the next builder, have them discuss what they know about knits. What would the fibre content be: natural or synthetic? How will it compare to sewing woven fabrics and what kind of needle should be used? What supplies are needed for the next meeting. Make a list of supplies to bring to the next meeting.

**Leader’s Notes**
In the Member Manual

Skill Builder 3: Fabrics, Fabrics, Fabrics

Needles Says...
The many different types of fibres and fabrics is what makes sewing so much fun! They make your clothing truly your own design. Agriculture has an important role to play in the making of natural fabrics. Scientists have even invented materials to make man-made fabrics. How cool is that?

SKILLS CHECKLIST
- Identify different fibres and fabrics
- Know the difference between woven and non-woven fabrics
- Understand fabric terms
- Sew a casing

Important Words
Look out for these important words in this builder: Woven, Non-Woven, Straight Grain, On-Grain, Natural Fibre, Synthetic Fibre, Salvage, Casing

Dream it!
Many natural fibres come from agriculture: Linen (from Flax), Wool (from animals), Silk (from silk worms), Cotton, Hemp, Bamboo (all from plants).

Synthetic fibres are man-made. They include polyester, acetate, acrylic, nylon, spandex, viscose, rayon, etc. Blends of natural and synthetic fibres are common and give the best features of both to a fabric.

Woven fabrics are made of yarns that weave over and under each other. They do not stretch, but will shrink in the wash. Be sure to wash your fabrics before using them: this is called preshrinking. Denim is an example of a woven fabric.

<table>
<thead>
<tr>
<th>Fibre Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural</td>
</tr>
<tr>
<td>Man-made</td>
</tr>
</tbody>
</table>

Non-wovens are fabrics that are made of a mat of fibres. They don't stretch at all, and are useful for special projects. Felt is a non-woven.

<table>
<thead>
<tr>
<th>Fibre Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural</td>
</tr>
<tr>
<td>Man-made</td>
</tr>
</tbody>
</table>

Place a sample of a woven and a non-woven fabric over the above diagrams in your book. What is the fibre content and check if it is a natural or man-made fibre.

Woven Fabric Terms
A selvage (or selvedge) is the smooth tightly woven edge of the fabric along the length wise edge. This edge never frays.

The straight grain is a term often used in sewing. It means "with the threads", or following the lengthwise or crosswise thread.

On grain means that the crosswise threads are at right angles or square with the lengthwise threads. You want your fabric to be on grain.

Off grain fabric has crosswise threads that slant instead of being at right angles to the lengthwise threads. If your fabric is off grain, you will need to straighten it.

Straightening Fabric
Look at the ends of the piece of fabric. If the fabric was torn from the bolt, the torn end is even with the crosswise thread. If it was cut from the bolt, then straighten the fabric by cutting along a thread across the width of the material. Now lay the fabric carefully to see if it needs to have the grain line straightened.

If it is grain perfect, it will fit along the right angle edges of a table. If not, try straightening it this way: for fabric that is just a little off-grain, pull one short corner of the fabric and let someone else pull the other short corner. Pull until it is even with the sides of the table. You are actually pulling those crooked threads straight.

Some fabrics, like polyester / cotton blends seem to be in a permanent position. If you try to pull these fabrics straight, they go right back to their off-grain shape. They cannot be straightened. If you must use the fabric, be sure the lengthwise grain is straight.

Look at a length of woven fabric. Is it on the straight of grain? Practice straightening it.
In the Member Manual

Do it!

Fabrics, Fabrics, Fabrics

Get your pencil ready and see if you can find these important words.

Word List

<table>
<thead>
<tr>
<th>Acrylic</th>
<th>Agriculture</th>
<th>Cotton</th>
<th>Hemp</th>
<th>Non-Woven</th>
<th>On-Grain</th>
<th>Straight-Grain</th>
<th>Synthet...</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
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<td>C</td>
<td>D</td>
<td>E</td>
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<td>D</td>
<td>E</td>
<td>F</td>
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</tbody>
</table>

TK V A C N O N W O F E N Y
TY E M C U P I D Z X B T V
A W N C D R T E S Y E L O P
G Y P T L O Y J H F R E I O
R K B O H M F L Y S T E E N
I H R N W E P N I Y U R E P
C T O G T K T M Z C C R A D
U O F R C I A I X O B I A S
L L Q A N I S L C I E J F D
T C W I D O D K F F S A Y N
U D T H N L L P L C 3 I T P W
R A T H P X A K O I Y B X O
E D D W J R C V T W M Z R V
R F F T U W O P T R O O L E
U B I T E N B M O D C O W N
T P A R T T K E N K U I L O
L N I A R G T H G I A R T S
U P O L L E N B C Y N N Z A
C O T L I N N S K L I S P

Needles' Fun Facts!

In England, of the early 1700's the upper class went to great extremes. The expression “the whole nine yards” comes from the amount of fabric required to make the most fancy coat for a man of fashion.

Sew Much fun

To find out the history of felt and its uses, go to http://www.yoneshima.co.jp/en/bunrui.html

Find out about textile mills in Canada at http://www.frasers.com/public/searchResults.jsf?
dimensionName=Textile+Mills&guided=true&ProductId=24445
Non-woven fabrics and their many uses http://www.ktcanada.ca/non_woven.htm

1. Often in a sewing project you combine more than one type of fabric. Choose one project using a woven and a non-woven fabric.
   - Catchall
   - Felt Box
   - Drawstring Backpack

2. A casing is a fabric tunnel made to enclose elastic or a drawstring. Choose one project to practice sewing a casing.
   - Pillowcase laundry bag

Your leader has the instructions on how to sew these items.

What is the name of the fabrics you have chosen for your projects?

What is the fibre content?

Are the fabrics natural or synthetic?

Dig It!

Think about this builder and the activities you did...

Review the Skills Checklist on page 10. What skills have you developed? Do you need more practice?

Record it...

Discuss what you have learned with your leader so that the information can be recorded on your Portfolio Page.

Apply it...

How could you explain to others how a sewing machine works?

What's next?

Fabrics are everywhere. They have practical and decorative purposes. You have learned about woven and non-woven fibres and fabrics. The next builder looks at knit fabrics. You will sew one project from a t-shirt, knit and one from polar fleece. Where do you see knits around your home? Decide with your leader which items you will sew and make a list of supplies to bring to the next meeting.
Skill Builder 4: Knit Knowledge

Skills Checklist

- Discover how knit fabrics are made.
- Identify career opportunities and community service ideas
- Sew knit fabrics by constructing two items one from t-shirt knit and one from double sided fleece.

Dream it!

Background for Leaders:

Versatile knits have built in stretch

Little is known about the origin of knitting. Hand knitting was introduced in Europe about the fifth century, and by the fifteenth century knitted garments were in common use.

The first knitting machine was invented in 1589 by William Lee. Unfortunately, Queen Elizabeth I was afraid it would put many of her subjects out of work and refused to give him a patent. Lee died before the importance of his invention was recognized; but his brother established a successful hosiery business.

Knitted fabrics are made by using needles to interweave yarn to form a series of connected loops. All machine-knit fabrics are divided into two general groups, weft or filling knits and warp knits. They utilize only four basic stitches: plain, rib, purl and warp.

Knits are more comfortable to wear than woven fabrics because they have built in stretch. Knits are versatile and quite easy and quick to sew. Different sewing techniques are required, however.

There are a great many knitted fabrics available from T-shirt knits to sweater and bathing suit knits. For the sewing projects you make in this builder, choose 100 percent cotton, cotton/polyester, or a polar fleece. Avoid loosely knitted fabrics, 100 percent polyester, stretch terry or velour knits. They are all more difficult to sew.

Types of knit fabrics

Single knit fabrics have smooth, flat surfaces with definite right and wrong sides. Single knits appear to be knitted on the right side and purled on the underside. In other words, the right side has vertical ribs and the wrong side forms cross-wise rows. Single knits can be unravelled in the crosswise direction and the edges will roll when stretched. They may run in the lengthwise direction. Napped knits, such as terry or fleece, are examples of specialized single knits.
Fabric Selection

- Check the label on the bolt of fabric for information on fibre content and care instructions.
- Avoid very loosely knit fabrics as they are more difficult to sew. Buy good quality fabric with a firm uniform knit.
- Check the fabric for flaws. Ask the salesperson to turn the fabric over on the cutting table so you can check it carefully. Flaws and small holes are more common in knits than woven fabrics.
- Polyester and cotton blends need little or no ironing and will keep their shape better than 100% cotton knits.
- 100% cotton-knit fabric and cotton blends shrink. It may be necessary to purchase up to 10cm extra per metre. Check with store personnel for specific information. Fabrics with knit construction have a shaded effect — they look darker when viewed from one direction than the other. Use the “with nap” part to determine the amount of fabric needed because all pattern pieces must lie the same way.

Pattern Selection

- Select a pattern design for knit fabrics. They are usually sized smaller to allow for fabric stretch and are often a “pull-on” style, with no darts or zippers.
- Avoid tailored designs as well as straight skirts and fitted pants, which may stretch out of shape.
- Consider how much the knit will stretch. Pattern companies have different stretch requirements for different designs. Check the stretch guide on the back of the envelope to decide whether the knit has the right amount of stretch.

Fabric Preparation

**Preshrinking** - Launder fabric in the same manner you are going to care for it after it is sewn. Preshrinking knit fabrics is essential. If you are going to machine wash and dry your garment preshrink the fabric the same way.

For single knits only: Machine baste the cut ends together to keep the edges from rolling and for ease in handling after preshrinking. Rib knits that will be used for cuffs and neckbands should not be preshrunk. They can soften and become more difficult to handle.

**Rib knits** have great elasticity because they are knitted like ribbed cuffs on socks or mitts. The construction is knit one purl one. Rib knits have prominent vertical ribs on both sides and are used around the necks of T-shirts and on sweater cuffs.

**Double or interlock knits** appear knitted on both the right and wrong sides and are made with two interknitted yarns, usually on a circular knitting machine. Interlock knits don’t curl at the edges the way single knit fabrics of, and both sides of an interlock knit usually look identical.
Straightening knit fabric - because knits have no selvages and threads cannot be pulled, you must rely on your eye to tell whether a knit needs to be straightened. Knits are formed by interlocking loops of yarn called “wales” and “ribs”. They can be compared with the lengthwise grain in a woven fabric. The rows of loops at right angles to the wales are called “courses”. They are comparable to the crosswise grain of woven materials.

Before purchasing a knit, examine it carefully to see whether the wales are at right angles to the courses. Avoid knits that are obviously not straight. Knits made from natural fibers, such as cotton, can be straightened by washing, pulling and pressing. Synthetic knits, such as polyesters are almost impossible to straighten as they have been permanently heat-set.

Sewing Machine Needle

For knit fabrics, use a ball-point needle. These needles feature a medium tip that is more rounded than a sharp needle. It passes between the fabric threads instead of piercing them. Ball-point needles ensure more even stitches on course and heavy knits and won’t damage spandex, interlocks and other knits that snag or run easily. They vary in size from 10/10 - 100/16. The heavier the fabric the larger number of needle you should use.

Career Opportunities and Community Service

Sewing provides the opportunity for young people to experience a sense of accomplishment by completing a project. It also provides an opportunity for youth to understand textiles, construction techniques, design principles as well as hand eye coordination. Research has found that youth who sew develop skills needed to become more creative thinkers.

There are many career opportunities for people who have strong sewing skills. These include: seamstress, costume designer, fashion designer, business owner (fabric store, repairs and alterations etc.), quilter, pattern drafter, textile scientist, upholsterer, work in the clothing manufacturing industry, teacher . . . . . . . How many can you think of?

There are also many opportunities to use sewing skills for community service activities.

- Sew toys or blankets for a women’s shelter or safehouse
- Sew for someone who is unable to sew due to age or health
- Make bean bags for a preschool or elementary school classroom
- Sew a 4-H banner for your club
- Design and sew costumes for the Christmas concert, local play, Halloween, etc.
- Sew on buttons or hem pants for friends or relatives

PJ’s for Preemies engages students and community sewers to make specially sized and customized pajamas and blankets for babies on the Neonatal Intensive Care Unit (NICU) at Sick Kids hospital in Toronto. These babies are so small that few such commercial products appropriately fit them or, if commercially available, are prohibitively costly. The program provides students with a valuable sewing project, a chance to become engaged in their community, as well as an educational opportunity.

The program was initiated by NICU Volunteer Linda Lo Ré in 2004 and has grown through the kindness and generosity of sewers from across Canada. To learn more, please email pjsforpreemies@yahoo.ca.
**Important Words**

Help members define the following words and look for members using this vocabulary in their discussions. One strategy to help members learn new vocabulary is to have them paraphrase the definitions. Using their own words increases connection making.

<table>
<thead>
<tr>
<th>Single knit</th>
<th>Single knits appear to be knitted on one side and purled on the other. The right side has vertical ribs and the wrong side forms crosswise rows.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Double knit</td>
<td>Double knits appear knitted on both sides and are made with two interknitted yarns, usually on a circular knitting machine.</td>
</tr>
<tr>
<td>Rib knit</td>
<td>Rib knits have great elasticity because they are knitted like ribbed cuffs on socks or mitts. The construction is knit one, purl one.</td>
</tr>
<tr>
<td>Ball point needle</td>
<td>This type of sewing machine needle has a medium tip that is more rounded than a sharp needle. It passes between the fabric threads instead of piercing them.</td>
</tr>
</tbody>
</table>

**Age Considerations:** 8 and up

**Thinking Ahead**

- What will you discuss with members? Gather observations that will help support your discussion.

**Preparing for Success**

- Ask members how they know they will be successful in this builder. Discuss what success looks like, sounds like, and feels like.

**Activating Strategies**

- Ask members;
  - What would happen if you stretched the fabric as it is sewn?
  - Where would you use a ribbed knit?
  - What type of seam finish would be best for a knit fabric?

**Do it!**

**Stretch it!**

Get to know the different types of knit fabrics.

**Time Required:** 30 minutes

**Equipment/Supplies:** samples of a variety of different knit fabrics, several commercial patterns for a knit garment

**Instructions:**

- Collect samples of four kinds of knits; t-shirt knit, polar fleece, jogging fleece and rib knit.
- Mount samples in the Member Manual listing type of knit and fibre content.
- Using leftover pieces of knit fabric, test how much the knit will stretch. Check the amount of stretch against the stretch guides available from various pattern companies. Do your samples of knit fabrics meet the stretch requirements or these stretch guides?
Career Scavenger Hunt

Time Required: 30 min

Equipment/Supplies: Member Manual, pencil, research materials

Instructions:
By asking others, researching on the internet, or reading a book or magazine, search for a job that uses sewing and clothing skills and knowledge. Answer the questions:
1. Job Title  
2. Job description  
3. Education Required

Some career options are: seamstress, costume designer, fashion designer, small business owner, repairs and alterations, quilter, pattern drafter, teacher, fabric store owner, textile scientist, upholsterer

Community Service Activity

Time Required: 30 minutes

Instructions:
1. Brainstorm with members what good community service activities might be that involve their new sewing skills.  
2. Select one of the ideas and plan to do it in your community.

Time to Sew!

1. Have members choose one project using a T-shirt knit.
   - Headband  
   - Recycled T-Shirt Pillow

2. Have members choose one project using Polar Fleece.
   - Fleecy Boa  
   - Fleece Quillow  
   - Recycle T-Shirt Pillow

   . . . Recycle your favourite t-shirt that you have grown out of by making a pillow.

Time Required: 1 hour

Equipment/Supplies:
- T-shirt or sweat shirt, matching thread, pillow form  
- Ball point needle, sewing machine, iron, chalk or washable fabric marker

Let's Sew!

1. Mark cutting lines on the t-shirt with chalk or washable fabric pen. To determine size, take the dimensions of the pillow form and add 4 cm for seam allowance and ease (room for the pillow to fit).
2. Make sure the t-shirt is laying completely flat and pin the back and front together. This allows you to cut the front and back at the same time. If there is a design on the back that you would like to use as well, you can cut the t-shirt open at the side seam and cut out the back separately.

3. Cut along the lines you drew.

4. Put the backing fabric flat on a table with the wrong side up. Place the pillow top on top of the backing, KEEPING THE WRONG SIDE FACING YOU. Pin the two pieces together.

5. Starting at the middle of the bottom of the pillow, machine stitch around the four sides of the square leaving a 1.5cm seam allowance on each side (use the stitching guide on the throat plate of the machine). Leave a 20cm gap on the last side (this will be the bottom), between where you started and where you finish.

**Backstitch** at the beginning and end of your stitching.

6. Turn the pillow inside out, through the opening. Insert the pillow form. Carefully fold under the two cut edges of the opening into the pillow. Pin and sew, by machine, along the edge to close the hole.

Remember to sew right angles at each corner so your pillow will be square with sharp corners.

---

**Jersy Knit Headband**

**Time Required:** ½ hour

**Equipment/Supplies:**
- Piece of interlock knit 12cm by 50cm, or 15cm of 150cm wide fabric
- Matching thread, sewing machine

**Let's Sew!**

1. Cut a rectangle 12cm by 50cm with the 12cm along the lengthwise grain.

**Note:** try wrapping a folded piece around your head to figure out the exact length, adding in an extra 13mm for seam allowance. For a different width, multiply your desired finished headband width by 2 and add 13mm (seam allowance) to determine the width of fabric to cut.

2. Fold the short sides of the headband in half with right sides together. With a 6mm seam allowance and using a stretch stitch, sew the long edges together to create a tube, stopping 38 mm away from each end.

3. Turn the tube right side out.

4. With right sides together and using a 6mm seam allowance, sew the short ends of the headband together. You may have to pin and sew a portion at a time.

5. Fold the seam back into the inside of the tube. Tuck the raw edges at the opening to the inside of the tube and slipstitch the opening closed by hand.

6. Press the headband so that the seams lay flat.
**Fleecy Boa**

... Turn double sided fleece into a fun boa scarf

**Time Required:** 1 hour

**Equipment/Supplies:**
- 80cm of double sided synthetic fleece 150cm wide, matching thread
- Optional: If you wish to have a 2 colour boa, start with two different coloured fleece strips each 150cm x 40cm
- Sewing tools: ruler, sharp scissors, sewing machine, ball point needle

**Let’s Sew!**

1. Cut fleece into 2 strips, each 150cm x 40cm
2. Fold each strip in half right sides together and long edges even. Using a 6mm seam allowance, machine stitch or serge long edges together to form a tube. Turn right side out.
3. Flatten each tube so seam is centred down the middle of the flat tube. Align seams, lay one on top of the other. Pin then machine stitch all 4 layers along the centred seam. Remember to backstitch at the start and end.
4. Perpendicular to each folded edge, cut slits to within 4cm of seam, 2cm apart to form loopy pile.
5. Twist and shake boa to fluff up loops

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**Fleece Quillow**

... A cosy blanket that folds into a pillow

**Time Required:** 1 hour

**Equipment/Supplies:**
- 1.65m 150cm wide double sided fleece - this will give you enough left over fabric for 2 more pillow pockets, thread to match, sewing tools, ball-point needle, sewing machine

**Let’s Sew!**

1. Cut the blanket to measure 120cm by 150cm.
2. Cut one 45cm by 45cm square for the pocket.
3. Match the centre of the short side of the blanket and of the pocket.
4. Place pocket along the blanket short side (45cm side) right sides together matching the centre points. Pin in place.
5. Stitch 3 sides of the square in place leaving the interior bottom side open. Note: You could use a decorative stitch from the sewing machine if you wish.
Folding:

Turn your quillow so the pillow is underneath the blanket. Fold in each side so the blanket is in thirds the same width as the pillow. Now turn the pillow right side out tucking the blanket into the pillow.

Dig it!

To get members to “dig” into their learning, ask them the following questions:

- Which was easier to sew, the t-shirt knit or the double knit fleece and how did they compare to sewing with woven fabrics?
- What type of garments would knits work best for?
- How would you explain to someone the types of careers that are available for people who have sewing skills?

What’s next?

The next builder will focus on fastenings. Members will have the opportunity to learn how to sew a button, put in a zipper and how to sew Velcro. To get members thinking about the next builder have them look around their home and discuss where buttons, zippers and hook and loop fasteners are used. Members will sew one item using a button, one item using a zipper and one item using hook and loop tape. What supplies are need for the next meeting? Make a list of supplies to bring to the next meeting.

Leader’s Notes
**Skill Builder 4: Knit Knowledge**

**Needles Say...**
Knits are versatile and quite easy and quick to sew. They are more comfortable to wear than woven fabrics because they have built-in stretch. Stretching the fabric as you sew it fun and easy to do. Knits allow you to "stretch" your imagination when planning a sewing project!

**SKILLS CHECKLIST**
- Discover how knit fabrics are made
- Identify career opportunities and community service ideas
- Sew with knit fabrics

**Important Words**
Look out for these important words in this builder:
- Single Knit, Double Knit, Rib Knit, Ball Point Needle

**Dream it!**

**Types of Knit Fabrics**

**Single Knit Fabrics** have smooth, flat surfaces with definite right and wrong sides. Single knits appear to be knitted on the right side and purlled on the underside. In other words, the right side has vertical ribs and the wrong side forms cross-wise rows. Single knits can be unravelled in the crosswise direction and the edges will roll when stretched. They may run in the lengthwise direction. Napped knits, such as terry or fleece, are examples of specialized single knits.

**Fibre Content:**

- Natural Fibres
- Man-Made Fibres

**Rib Knits** have great elasticity because they are knitted like ribbed cuffs on socks or mitts. The construction is knit one purl one. Rib knits have prominent vertical ribs on both sides and are used around the necks of T-shirts and on sweater cuffs.

**Fibre Content:**

- Natural Fibres
- Man-Made Fibres

**Double or Interlock Knits** appear knitted on both the right and wrong sides and are made with two interknit yarns, usually on a circular knitting machine. Interlock knits don't curl at the edges the way single knit fabrics do, and both sides of an interlock knit usually look identical.

**Fibre Content:**

- Natural Fibres
- Man-Made Fibres

**Career Scavenger Hunt**
There are many career opportunities for young people with a knowledge of textiles and strong sewing skills.

**What you will need:** pencil, research materials, your leader

1. By asking others, researching on the internet, or reading a book or magazine, search for a job that uses sewing and clothing skills and knowledge. Answer the questions:

   1. Job Title: _______________________
   2. Job Description: _______________________
   3. Education Required: _______________________

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In the Member Manual

Do it!

Stretch it!

Get to know the different types of knit fabrics.

**What you will need:** Samples of a variety of different knit fabrics, several commercial patterns for a knit garment

1. Collect samples of four kinds of knits: t-shirt, polar fleece, jersey fleece and rib knit
2. Using leftover pieces of knit fabric, test how much the knit will stretch. Check the amount of stretch against the stretch guides available from various pattern companies. Do your samples of knit fabrics meet the stretch requirements or these stretch guides?

<table>
<thead>
<tr>
<th>Pick-A-Knit Rule</th>
<th>For this pattern - 10 cm of Knit Fabric must stretch crosswise from here</th>
<th>At Least to Here</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select-A-Knit Gauge</td>
<td>For this Pattern</td>
<td>Gently stretch 10 cm, of crosswise folded knit fabric from here</td>
</tr>
</tbody>
</table>

Community Service Activity

1. Brainstorm with your leader how you could use your new sewing skills to help out in your community.

**Community Service Ideas:**

1. 
2. 
3.

**What I am going to do:**

Needles’ Fun Facts!

Plastic bottles are recycled and made into double sided fleece fabric. The bottles are cleaned, crushed melted and extruded into the polyester fibres that make many of today’s most popular fleece clothing. It takes approximately 25, 2 litre bottles to make enough fabric for one adult sized garment.

Sew Much Fun


Time to Sew!

You will find that you will have to sew differently depending on the type of knit you are using. Practice by sewing 2 projects using different knits. Your leader will guide you through the instructions for the project choices below.

1. Choose one project using a T-shirt knit or sweatshirt knit:
   - Headband
   - Recycled T-Shirt Pillow

2. Choose one project using double sided fleece:
   - Fleece Bead Scarf
   - Fleece Quillow

Dig It!

**How Did it Go?**

Which was easier to sew, the t-shirt knit or the double knit fleece and how did they compare to sewing with woven fabrics?

What type of garments would knits work best for?

What type of careers are available for people who have sewing skills?

Would you do anything different if you were to make these items again?

What’s next!

You have learned about different types of fabrics and where it is best to use them. Now it’s time to focus on fastenings. You will sew a button, put in a zipper and sew hook and loop tape (Velcro). Fastenings are a very important part of learning to sew. Be creative with them when sewing your next items! With your leader talk about the supplies needed for the next meeting. Make a list so you know what to bring to your next meeting.
Background for Leaders

**Buttons** date to the Bronze age when cavemen carved them from bone and horn, and they were considered a status symbol. Only later did they become a functional closure, wrapped with sinew and leather loops.

Greeks and Romans used buttons as toga fasteners and later used them with slashes forming the first known buttonholes.

Men's and women's garments button in different directions. Women's garments traditionally button right over left and men's left over right. Historians speculate there could be two reasons for this. Traditionally, a man needed his right hand free to access weaponry in time of battle. Swords were often hidden under outer garments, and were more easily accessible with a left over right closure. Others think that maids and servants tended to dress high society women, and the right over left made dressing easier for the servant when facing the woman.

**Zippers** - In 1891 Whitcomb L. Judson invented the “clasp locker”. Later, in 1913 Gideon Sunback improved on it and patented it in 1913 and called it a “separable fastener”. The B.F. Goodrich Co. used the separable fastener in some rubber boots and came up with the name “zipper” because the Zipper Boots fastened with one hand.

Boots and tobacco pouches with a zippered closure were the two chief uses of the zipper during its early years. It took twenty more years to convince the fashion industry to seriously promote the novel closure on garments.

Not until 1934 when Lord Louis Mountbatten persuaded the Prince of Wales and George, Duke of York to give up their buttons for zipper flies. Tailors who disdained zipper flies as vulgar created a fold of cloth to conceal the zipper.

Most zippers have the letters YKK on them. In 1934, Yoshida Kogyo Kabushililaisha was founded. Sixty years later they changed their name to YKK Co. The privately owned firm, headquartered in Japan, now is made up of 80 companies at 206 facilities in 52 countries.

**Hook and Loop Tape** was invented by Swiss engineer George de Mestral of Switzerland in 1941. He was inspired by burr seeds from the plant Burdock. He discovered how to duplicate the hooks and loops of the burr sticking to cloth or animal hair.

Originally people refused to take the idea, seriously. Velcro fasteners got their first break when they were used in the aerospace industry to help astronauts maneuver in and out of bulky space suits. The next major use was by skiers followed by scuba divers. After seeing astronauts storing food pouches on the wall and standing upright in the weightless atmosphere with the aid of hook and loop tape, children's clothing makers came on board. As hook and loop only became widely used after NASA’s adoption of it, NASA is popularly credited with the invention of hook and loop.
Sewing on Buttons

Buttons should be sewn through two layers of fabric. Use as strong a thread as possible without looking too coarse for the item. Use double thread.

How to sew a two-hole button and thread shank:
1. Secure the thread on the wrong side of the fabric using two small stitches on top of the other or a knot, bring the needle up through one hole in the button.
2. Take the needle down through the opposite hole to the wrong side of the fabric.
3. To give space under the button for fastening there must be a stem of thread to act as a shank. The thicker the fabric, the longer the stem or shank must be.
4. To make the thread shank, place a pin or toothpick on the right side of the button under the thread between the two holes and sew as before.
5. When the button is securely fastened, remove the pin and hold the button away from the shank.
6. Bring the needle through to the back of the button and fabric.
7. Wrap the thread around the shank two to three times.
8. Carry the needle through to the wrong side of the fabric and secure by making two small stitches one on top of the other.

How to sew a four-hole button - in an X or in parallel lines.
1. Follow steps 1 through 8 above, including making a thread shank, if necessary.
2. For an X, sew as above for one line, then the opposite way. This makes a neat finish.
3. For parallel lines, sew one side and then the other, making the switch on the underside of the fabric.

How to sew a shank button:
1. Since there is already a shank on a shank button, a thread shank is not necessary. Secure the thread and bring the needle up through the fabric, through the hole in the shank and down through the fabric on the opposite side of the shank to the wrong side of the fabric. Continue 5 or 6 times until the button is secure.
2. Carry the needle through to the wrong side of the fabric and fasten by making two small stitches one on top of the other.

Exposed Zipper Application

There are many ways to put in a zipper. The easiest is the exposed application. This is a good way to learn about working with zippers for beginner sewers in the explore level. Other applications will be outlined in Discover and Master level projects. Use a light weight nylon zipper.

A zipper foot is a special sewing machine foot to use while you are inserting a zipper. It allows the needle to go up and down on either side of the foot, so that you can stitch close to the zipper.
1. Place zipper face down on the right side of the fabric edge. The zipper should be slightly longer than the fabric is wide. Centre the zipper on the fabric aligning the edge of the zipper tape with the raw edge of the fabric. Using the zipper foot, stitch in place.

2. Bring the other sides raw edge to the other side of the zipper tape. The right side of the zipper should be touching the right side of the fabric. Sew the zipper to the fabric again aligning the zipper tape with the raw edge of the fabric. Make sure to line up the side seams of both pieces of fabric.

3. Open up two pieces and lie flat. It is optional to topstitch along the edge of the fabric.

4. Sew across the zipper teeth to make the zipper the same length as the piece of fabric. Cut off the extra zipper tape.

5. Continue to sew your project.

**Hook and Loop Tape**

Hook and loop tape is a versatile fastener. It is an easy substitute for buttons or snaps. It is composed of two tape strips, one with looped surface (fuzzy) and the other with a hooked surface (rough). When pressed together the surfaces grip and remain locked until they are pulled apart. When the two sides are pressed together, the hooks catch in the loops and hold the pieces together. When the layers are separated, the strips make a characteristic "ripping" sound.

Velcro is a common brand of hook and loop tape and comes in sew-on strips as well as pre-cut disks in a variety of colours. Purchase according to use. To apply follow these instructions:

1. Place each part at least 6mm from the garment edge. The loop part goes on the overlap (top) the hook on the under lap (bottom).
2. To attach by machine stitch edge stitch the squares and strips, stitch dots with a triangle.

**Important Words**

Help members define the following words and look for members using this vocabulary in their discussions. Some examples of how to use the “important words” to increase the members understanding include: asking members to form a mental image of the new word, getting members to use a dictionary and showing them the range of information it provides, and having members describe (rather than define) the new word in terms of their experiences.

<table>
<thead>
<tr>
<th>Fastening</th>
<th>Any kind of sewing notion that is used to fasten 2 pieces together or to close something. For example, buttons, zippers, snaps</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shank</td>
<td>To give space under a button for fastening there must be either a shank on the back of the button or you must make one using thread when you sew on the button.</td>
</tr>
<tr>
<td>Zipper Foot</td>
<td>A special sewing machine foot used to sew in zippers. It allows the needle to go up and down on either side of the foot so that you can stitch close to the zipper edge.</td>
</tr>
</tbody>
</table>
Age Considerations: 8 and up

Thinking ahead
- What will you discuss with members? Gather observations and think of examples that will help support your discussion.

Preparing for Success
- Linking back to the Skills Checklist, help members identify how they will know they have been successful in learning from this builder. Discuss what success in these activities might look like, sound like, or feel like.

Activating Strategies
- Ask members where they have seen buttons, zippers and hook and loop tape used in their homes or at school. Would it work to switch them around i.e. use a zipper instead of a button? How would you decide which one to use on your sewing project?

Do it!

Repair It!

...Members will learn how sewing skills apply to daily life

Time Required: 30 minutes

Equipment/Supplies:
- Garment/garments with a missing button
- Thread, hand sewing needle, pin, scissors

Instructions
1. Gather up clothing items that need buttons replaced on them.
2. Following the instructions on page 2 and sew the buttons back on the garments.

Time to Sew! - Buttons

Have members choose one project that includes sewing on buttons.
- Bookmark
- Water Bottle Carrier
**Bookmark**

The button on this bookmark stops it from sliding down into the book.

**Time Required:** 30 minutes

**Equipment/Supplies:**
- Scraps of lightweight cotton fabrics. Lightweight fusible interfacing.
- Pinking shears, thread, buttons, sewing machine.

Optional: Use a ‘button to cover’ kit and make a button out of matching fabric.

**Let’s Sew!**

1. Make a paper pattern 6cm by 18cm. Cut out 2 in the cotton fabric and 2 in the interfacing. Optional: piece several scraps together to make a patchwork bookmark.
2. Following the manufacturers instructions fuse the interfacing to the wrong side of both fabric pieces.
3. Lay one on top of the other wrong sides together and top stitch 6mm around the entire bookmark.
4. Using the pinking shears, pink around the edges of the bookmark.
5. Sew on a button near the top of the bookmark.

**Water Bottle Carrier**

Drop in a water bottle, sling it over your shoulder and enjoy.

**Time Required:** 45 minutes

**Equipment/Supplies:**
- One piece of heavy weight cotton such as denim, twill or cotton upholstery fabric 20cm long by 26cm wide.
- One piece of same fabric as above, 13cm by 120cm for the strap. Adjust according to the length required for the person who will be using the water carrier.
- An assortment of buttons to decorate the water carrier.
- Thread (remember to choose one shade darker) scissors, sewing machine, sharp sewing machine needle, hand sewing needle, iron.

**Let’s Sew!**

1. Make a hem on one 26cm edge (this will be the top). With wrong side facing up fold down the top 6mm and then another 6mm. Pin and sew into place with a 6mm seam allowance.
2. Fold in half matching the 20cm edges. Pin and stitch with a 6mm seam allowance. Seam finish edges.
3. Lay flat with the seam down the middle of the fabric. Pin and sew across the bottom. Seam finish the edges.
4. Fold the bottom corner so the side seam and bottom fold come together. Mark a line forming a triangle 3cm from the point. Sew, backstitching at each end. Fold point to side seam.

5. To make the straps fold the long strap piece in half lengthwise. Sew a 6mm seam allowance. Turn right side out and press with the seam along the back of the strap. Topstitch 6mm from the edge the length of both sides of the strap.

6. 5cm from the end pin the strap to the other section. Match one end to the side seam and the other in the middle of the other side. Make sure the seam of the strap is facing outward so that when you turn it all right side out you won’t see the seam. Sew along the top. Close to the edge of the main piece.

7. Fold under the end of the strap about 2.5cm and sew across the bottom.

8. Turn to right side out.

9. Decorate by sewing buttons on the water carrier.

**Time to Sew! - Zipper**

1. Have members choose one project that includes sewing a zipper.
   - Beach Towel Pocket
   - Triangle Bag

   **Beach Towel Pocket**

   . . . You won’t loose your change, eye glasses, watch or sun screen if you have this handy pocket on your towel.

   **Time Required:** 45 minutes

   **Equipment/Supplies:**

   - 1 beach towel, 1 face cloth to coordinate with the towel (one that has a woven cotton band a few cm in from the edge works best).
   - 1 nylon zipper slightly longer than the facecloth, thread, sewing machine

   **Let’s Sew!**

   1. To make the pocket cut down the middle of the woven band on the facecloth. Zigzag or serge the edges to prevent fraying.
   2. Insert zipper according to the instructions on pages 3 and 4.
   3. Pin the facecloth with the enclosed zipper on the wrong side of the towel right side up. You may choose a corner or the middle of the towel.
   4. Stitch close to the edge of the facecloth along all 4 sides.
   5. Put your stuff in the pocket and go swimming!
**Triangle Bag**

... A fun bag to travel with

**Time Required:** 1 hour

**Equipment/Supplies:**
- One piece of reversible quilted fabric 32cm by 46cm
- One piece 6cm wide by 21cm long
- One nylon zipper 4cm longer than 32cm long
- Thread, sewing machine, scissors, sewing tools

**Let's Sew!**

1. For handle fold the 6cm x 21cm piece in half lengthwise, right sides together. Stitch long edge with a 1cm seam allowance. Turn right side out and press. Topstitch 6mm from finished edges. Fold handle in half and baste raw edges together. With raw edges UP pin handle to upper edge of bag in the centre and stitch in place with a 1.5cm seam allowance.
2. Zigzag or serge the raw edges of both 46cm sides.
3. Sew the zipper along the 46cm edges using the instructions from pages 3 and 4. You will have a tube with a zipper down the middle.
4. Turn bag wrong side out, bringing zipper to centre of bag with the upper edge matching the zipper with the handle. Pin edges together. OPEN ZIPPER part way and stitch across the top edge with a 1.5cm seam allowance. Cut off excess zipper tape and seam finish edge. See Diagram 1.
5. Close zipper at lower edge only. DO NOT CLOSE ZIPPER ALL THE WAY.
6. Refold bag in half centering the zipper along one side edge. Sew across the bottom. Cut off the excess zipper tape. See Diagram 2. Seam finish and turn right side out.

**Time to Sew! - Hook and Loop Tape**

1. Have members choose one project that includes sewing with hook and loop tape

   - Can Drink Cozy
   - Technology Case

**Can Drink Cozy**

... Make a cozy for your can drink. It will help to keep your drink cold and you will know which drink is yours

**Time Required:** 30 minutes

**Equipment/Supplies:**
- 2 pieces of Cotton fabric 13cm by 25.5cm
- 1 piece of fusible fleece 13cm by 25.5cm
- 9cm of 1.5cm wide hook and loop tape
- Thread, sewing machine, sewing tools
Let's Sew!

1. Following manufacturers instructions fuse the fleece to the wrong side of one of the cotton pieces. Pin cozy fabric pieces right sides together and raw edges together. Stitch outer edges and ends with a 6 mm seam allowance leaving an opening at one end for turning. Trim corners and trim fleece in seam allowances close to stitches. Be careful not to cut the stitches.

2. Turn right side out and press. Fold under seam allowances at opening and press.

3. Topstitch close to outer edges and again 6mm from the first stitching.

4. Cut a piece of 1.5 m hook and loop tape 9cm long. Pin hard side to wrong side (inside) and soft side to right side (outside) of cozy inside of the topstitching. Stitch hook and loop tape close to edges.

5. Wrap on a can drink and enjoy.

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**Technology Case**

... Protect your digital camera, I-pod, cell phone etc. with this easy to sew case

**Time Required:** 30 minutes

**Equipment/Supplies:**

- Cut a rectangle of medium weight fabric 3 times the height of the item and 4cm wider than the item.
- Hook and loop tape the width of your fabric
- Thread, sewing machine and sewing tools

**Let's Sew!**

1. Hem the top and bottom edge of the case by folding down 6 mm and then another 6mm to enclose the raw edge. Topstitch in place.

2. Cut hook and loop tape 2cm shorter than the width of the case. Position the soft side of the hook and loop tape on the wrong side of the top of the case. Stitch in place.

3. With right sides together fold the bottom edge towards the top the length of your item leaving space for a flap. Fold down the flap and match where the hard side of the hook and loop tape should be placed to match with the Velcro on the flap. Mark and stitch the hook and loop tape in place.

4. With right sides together refold the case matching up the hook and loop tape and sew down the sides with a 6mm seam allowance. Seam finish. Turn right side out.

5. Fold in the sides of the flap to match the seam allowance and stitch in place.
Dig it!

Have members reflect on their learning by asking them the following questions:

- What was the hardest part of sewing in a zipper? Why?
- What advice would you give someone who wanted to sew in a zipper?
- List three items you would use hook and loop tape for.

Once members have a solid foundation of basic skills and achievements, they should be ready to start working on communication skills and developing leadership roles in the community. Have members explain to you the basic sewing techniques they have learned so far. What have been the results of sewing with different types of fibres and fabrics?

Further suggestions: Have members plan and give a presentation on one of the items they have made to members of the community (friends, family members, other school children, senior citizens, etc.). The presentation should include both written (planning, speech) and oral (speaking to group) components.

What’s next?

Next up is the last builder in this project. It is time to put all of your sewing knowledge to work. Using a commercial pattern members will sew pyjama pants. Get members thinking about what they would like the pyjama pants to look like; type of fabric, pattern, sewing techniques they will use. Give an overview of how to sew with a commercial pattern to give members a better sense of what is involved and what the final product will look like. What supplies are need for the next meeting? Make a list of supplies to bring to the next meeting. Have members bring supplies to the next meeting.

Leaders Notes
In the Member Manual

Skill Builder 5: Fasten It Up

Needles Says....

In the "uhh" days people wore clothing wrapped around their bodies like a toga or in place like during the Renaissance with a series of slashes in the fabric with ties. Luckily, today things are much simpler - buttons, zippers or hook and loop tape are the way to go!

SKILLS CHECKLIST

• Understand the different types of fasteners
• Show creativity through fabric choices and use of embellishment

Dream it!

Sewing on Buttons

Buttons should be sewn through two layers of fabric. Use as strong a thread as possible without looking too course for the item. Use double thread.

How to sew a two-hole button and thread shank:
1. Secure the thread on the wrong side of the fabric using two small stitches on top of the other or a knot and bring the needle up through one hole in the button.
2. Take the needle down through the opposite hole to the wrong side of the fabric.
3. To give space under the button for fastening there must be a stem of thread to act as a shank. The thicker the fabric, the longer the stem or shank must be.
4. To make the thread shank, place a pin or toothpick on the right side of the button under the thread between the two holes and sew as before.
5. When the button is securely fastened, remove the pin and hold the button away from the shank.
6. Bring the needle through to the back of the button and fabric.
7. Wrap the thread around the shank two to three times.
8. Carry the needle through to the wrong side of the fabric and secure by making two small stitches one on top of the other.

How to sew a four-hole button - in an X or in parallel lines.
1. Follow steps 1 through 8 above, including making a thread shank, if necessary.
2. For an X, sew as above for one line, then the opposite way. This makes a neat finish.
3. For parallel lines, sew one side and then the other, making the switch on the underside of the fabric.

How to sew a shank button:
1. Since there is already a shank on a shank button, a thread shank is not necessary. Secure the thread and bring the needle up through the fabric, through the hole in the shank and down through the fabric on the opposite side of the shank to the wrong side of the fabric. Continue 5 or 6 times until the button is secure.
2. Carry the needle through to the wrong side of the fabric and fasten by making two small stitches one on top of the other.

Important Words

Look out for these important words in this builder:
Fastening, Shank, Zipper Foot

Exposed Zipper Application

There are many ways to put in a zipper. The easiest is the exposed application.

1. Place zipper face down on the right side of the fabric edge. The zipper should be slightly longer than the fabric is wide. Centre the zipper on the fabric aligning the edge of the zipper tape with the raw edge of the fabric. Using the zipper foot stitch in place.
2. Bring the other sides raw edge to the other side of the zipper tape. The right side of the zipper should be touching the right side of the fabric. Sew the zipper to the fabric again aligning the zipper tape with the raw edge of the fabric. Make sure to line up the side seams of both pieces of fabric.
3. Open up two pieces and lie flat. It is optional to topstitch along the edge of the fabric.
4. Sew across the zipper teeth to make the zipper the same length as the piece of fabric. Cut off the extra zipper tape.
5. Continue to sew your item.

Fun Facts!

Buttons date back to the Bronze age when cavemen carved them from bone and horn and they were considered a status symbol. Only later did they become a functional closure, wrapped with suede and leather loops.

Greeks and Romans used buttons as toga fasteners and later used them with slashes forming the first known button holes.

Needles’ Fun Facts!

In 1891 Whitcomb L. Judson invented the “clasp locker”. Later in 1913 Gideon Sunback improved on it and called it a “separable fastener”. The B.F. Goodrich Co. used the separable fastener in some rubber boots and came up with the name “zipper” because the Zipper boots fastened with zinc slides.

Boots and tobacco pouches were the two main uses of the zipper in its early years. Not until 1934 was it used for clothing construction.
In the Member Manual

Hook and Loop Tape

Hook and loop tape is a versatile fastener. It is an easy substitute for buttons or snaps. It is composed of two tape strips, one with looped surface (fuzzy) and the other with a hooked surface (rough). When pressed together the surfaces grip and remain locked until they are pulled apart. When the two sides are pressed together, the hooks catch in the loops and hold the pieces together. When the layers are separated, the strips make a characteristic "ripping" sound.

Hook and loop tape comes in sew-on strips as well as pre-cut disks in a variety of colours. Purchase according to use. To apply follow these instructions.

Place each part at least 6 mm from the garment edge. The loop part goes on the over lap (top) the hook on the under lap (bottom). To attach by machine stitch edge stitch the squares and strips, stitch dots with a triangle.

Needles’ Fun Facts!

Velcro was invented by Swiss engineer George de Mestral in 1941. He was inspired by burr seeds form the Burdock plant. He discovered how to duplicate the hooks and loops of the burr to catch animal hair.

Originally people refused to take the idea seriously. Velcro got its first break when it was used in the in the aerospace industry to help astronauts to maneuver in and out of bulky space suits. The next major use was by skiers and scuba divers. Today it is used everywhere!

Do it!

Repair It!

... Knowing how to sew on a button is very useful.

What will you need:
Thread, hand sewing needle, pin, scissors

1. Look through your closet - or ask other family members for clothes that are missing a button.
2. Follow the instructions in this builder and sew the buttons back onto the garments.
3. Take pride in a job well done!

Time to Sew!

With the next three sewing projects you will learn to sew buttons, apply a zipper and use hook and loop tape. Your leader will guide you through the instructions for the project choices below.

1. Choose one project to practice sewing on buttons.
   - Bookmark
   - Water Bottle Carrier

2. Choose one project to practice applying an exposed zipper.
   - Beach Towel Pocket
   - Triangle Bag

3. Choose one project that includes hook and loop tape.
   - Can Drink Cozy
   - Technology Case

Dig It!

Think about this builder and the activities you did...

Review the Skills Checklist on page 18. What skills have you developed? Do you need more practice?

Record it...
Discuss what you have learned with your leader so that the information can be recorded on your Portfolio Page.

Apply it...
How would you explain how to sew a button, apply a zipper and use hook and loop tape to someone?

What's next?

So far you have learned about fibres and fabrics, how to use the sewing machine and basic sewing techniques. You are now ready to sew your first clothing item! Using a commercial pattern you will sew pyjama pants. Think about what the pyjama pants will look like; the type of fabric, pattern, sewing techniques you will use. Make a list of supplies to bring to the next meeting.

Sew Much Fun

Watch a video on how zippers are made at http://www.youtube.com/watch?v=MxX2oAGZ04
Watch a video on how buttons are made at http://www.youtube.com/watch?v=fpUo5Mu5yY&feature=related
Dream it!

Now that members have developed certain basic skills in this project, it is time to build on that knowledge and apply it to everyday life. In this lesson, the focus will be on real-world experiences. Members will learn how to read and use a commercial pattern to sew a garment. By planning and creating their own pyjama pants, members will start to learn important job-readiness skills such as innovation, creativity, and problem solving.

Suggestions for real world experiences:
- Arrange a tour of a fabric shop to purchase a pattern and supplies to sew their pyjama pants.
- Have someone give a talk to members on the advantages/disadvantages of sewing vs. buying.

After the visit or guest speaker, have members reflect on their experience and what they learned. This could be presented orally through discussion, visually, or written in a chart or notes.

Background for Leaders

Choose a pattern

Because many patterns have several garments included in one envelope, sometimes buying a pattern is a fairly inexpensive way to get patterns for many different garments for you to sew.

Have members think about:
- their personal likes and dislikes,
- their sewing level,
- how much time they have to finish their projects and,
- their budget.

Fabric decisions

For this project members will be working with WOVEN fabrics. While you are at the fabric store, look at the wide variety of fabrics you can choose from.

The back of the pattern envelope has suggestions for the type of fabric you should use for the design. It is under a section called "Fabrics". Look at the store’s selection for these fabrics. There will be several fabrics listed. Examples are: broadcloth, cotton and cotton blends, lightweight denim, or lightweight flannel.

Ask questions about the fabrics - Is the colour good for the use? Is the fabric weight good, not too heavy or too light? Is the fabric suited to members sewing ability? Is the fabric on grain?

What's my size?

Once the pattern design is decided, you’ll need to know the size and figure type before a pattern is purchased.
Pattern size

To choose the pattern size that will fit you well, you'll need to record your own body measurements. Take these measurements wearing the undergarments you use everyday.

Take your body measurements

Stand normally and look straight ahead while being measured. Tie a string snugly around the waist to locate the natural waistline. If the waist is hard to find, bend sideways – the crease formed is at the natural waistline.

Help members measure the body at the points listed on the following chart. Measure by holding the tape measure comfortably snug but not tight. Remember, members are growing and changing all the time, so always check your measurements before you decide on a pattern size!

To select your pattern size for a top, select the pattern size by the chest measurement.

For skirts or pull-on shorts or pants, select the pattern size by the waist and hip measurements. If your hips measure larger than the hip measurement that goes with your waist measurement on the chart, choose the pattern size that fits your hips and adjust the waistline to fit. If you fall between sizes, buy the smaller one.

Figure Type:

Patterns are made to fit several different body types known as figure types. Most of the girls taking this unit will probably fall into the Young Junior/Teen, Junior Petite, or Girls categories. The boys will fall into the Boys or Teen/Boys sizes.

Your figure type is based on two measurements – your height and your back waist length. Help your member choose the correct figure type and pattern size.

Tell members to take this page with them when they go pattern shopping.

My Body Measurements

<table>
<thead>
<tr>
<th>Measurements taken, Body point:</th>
<th>Where to measure</th>
<th>Your measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chest</td>
<td>Around the fullest part of the chest</td>
<td>cm</td>
</tr>
<tr>
<td>Waist</td>
<td>Use string or elastic to locate smallest midriff dimension</td>
<td>cm</td>
</tr>
<tr>
<td>Hips</td>
<td>At fullest point of the hips usually 18 cm below waistline for girls or 15 cm below waistline for boys</td>
<td>cm</td>
</tr>
<tr>
<td>Back waist length</td>
<td>From the prominent bone at the base of the back neck to the waistline.</td>
<td>cm</td>
</tr>
<tr>
<td>Height</td>
<td>Stand straight, without shoes, against a wall.</td>
<td>cm</td>
</tr>
</tbody>
</table>

Check the back of the pattern envelope and record:

Size for tops: Size for bottoms: Figure type:
Reading the Pattern Envelope

The pattern envelope has all the information you need to make your fabric & notion shopping list. The back of the envelope describes the following points about the garment:

- a brief description of the garment, including design and construction details
- line drawings of back views of the style variations of the pattern. These show design lines, which help indicate how difficult the style is to make
- the amount of fabric to purchase for your size
- notions that are required

The pattern envelope contains an instruction sheet & tissue pattern pieces. The instruction sheet includes a cutting guide and a sewing guide. The cutting guide provides the following:

- a diagram of all the pattern pieces
- the name of each pattern piece and different views
- suggested cutting layouts.

The cutting guide also shows the recommended way to fold your fabric and place the pattern pieces. The layout you use depends on the view you are making, the pattern size and fabric width. Circle your cutting layout and follow it carefully.

The sewing guide includes step-by-step directions for constructing the garment.

The Tissue Pattern

If you've never used a pattern before, the arrows, dots and other markings may seem meaningless. However, they are important symbols needed to successfully sew your garment. Become familiar with these markings and how they are used.

The same markings will apply to all patterns. You must know these markings before you cut out your pattern, even though you may not have all of them on your pattern. Have members complete the ‘know your markings exercise’, found in the member manual.

Pattern Layout and Marking

A section of the instruction sheet is devoted to cutting layouts. These layouts show you how to place the pattern on the fabric so the straight of grain of the fabric is in the correct position for every piece.
Pinning on the Straight of Grain – Be sure pattern pieces are placed exactly on the fabric’s grain line. Using a tape measure, measure from the grain line to the fabric edge to make sure you have the pattern piece on the grain. All points along the grain line should be the same distance from the fabric edge.

Making Accurate Fabric Folds - Be sure “on-the-fold” lines are indeed on a fold and the fold is exactly on the grain. The fold must be parallel to the fabric edge. A tape measure can help you make accurate folds.

Marking the Fabric - Transferring pattern markings to your fabric is an important step. It must be done before unpinning the pattern because you cannot get accurate markings after you start sewing. There are several good marking methods. These include chalk and pins, tracing paper and wheel, “wipe away with water” marking pens and tailors tacks.

When marking fabric remember not all methods will work on all fabrics;
• Test a “wipe away with water” pen on your fabric by first making a small mark then seeing if it comes out easily.
• Test carbon paper on a fabric scrap to make sure it will not show through to the right side.
• Markings have to last only until the garment is finished.

Important Words
Help members define the following words and look for members using this vocabulary in their discussions. A few strategies you can use include;
• Teach synonyms by providing a synonym members know.
• Also, teach antonyms. Not all words have antonyms, but thinking about opposites requires the members to evaluate the critical attributes of the words in question.
• Provide non-examples. Similar to using antonyms, providing non-examples requires students to evaluate a word’s attributes. Invite students to explain why it is not an example.

<table>
<thead>
<tr>
<th>Notions</th>
<th>Items other than fabric required to complete a project. Examples: thread, buttons, elastic, zippers, hook and loop tape etc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Layout</td>
<td>A diagram which tells you how to place pattern pieces on the fabric before you cut them out.</td>
</tr>
<tr>
<td>Grain line</td>
<td>An arrow on the pattern piece which tells you to place the pattern piece the same direction as the straight grain of the fabric.</td>
</tr>
<tr>
<td>Markings</td>
<td>Symbols on pattern pieces such as dots, notches, etc. which tell you how to match seams and where to place things like zippers and buttons.</td>
</tr>
<tr>
<td>All Sizes</td>
<td>Patterns that include all sizes on one tissue pattern piece</td>
</tr>
</tbody>
</table>

Age Considerations: 8 and up

Thinking Ahead

What will you discuss with members? Gather observations and think of examples that will help support your discussion.

Preparing for Success

Linking back to the Skills Checklist, help members identify how they will know they have been successful in learning from this builder. Discuss what success in these activities might look like, sound like, or feel like.
Activating Strategies

- Before members begin to sew their pyjama pants they must do some planning. They need to choose a pattern, select appropriate fabric, learn how to read a pattern and identify sewing techniques they will use in order to complete the pants. Help members make realistic and practical choices given the materials, their skill level, and time they have.

Field Trip

Time Required: 1 hour

Equipment/Supplies: Tape measure, My Body Measurements chart, money to purchase supplies

Instructions

1. Help members take their measurements so they know what size pattern they will need.
2. Go to a fabric store and help members to select an appropriate pattern and fabric.
3. Discuss with members the outside of the pattern envelope. Such things as notions, suitable fabrics, amount of fabric to purchase, size, etc.
4. Keep the receipt for the Garment Cost Sheet activity.
5. While in the store look at the variety of fabrics - identify what they are made of, their weave & how to care for them.
6. Ask a store staff to talk about the pros and cons of sewing vs. buying garments

Sewing Pyjama Pants

Time Required: 2 hours

Equipment/Supplies: Commercial Pyjama Pant Pattern, fabric, thread, elastic, sewing machine, iron, sewing tools

Let’s Sew!

1. Label the Know Your Pattern Markings Exercise
2. Follow the instructions in the commercial pattern to cut out and sew the pyjama pants.
3. Take a photo of the member modeling the finished project. Have fun with different poses.

Compare It

Time Required: 20 minutes

Equipment/Supplies: Garment Cost Sheet, pencil, receipts from the pyjama project, and a flyer, catalogue or trip to store to find the price of 3 different pyjama pants

Instructions

1. Fill in the Garment Cost Sheet using the receipts from purchasing the supplies for the pyjama pants
2. List the cost of 3 different purchased pyjama pants of similar quality.
3. Discuss the pros and cons of sewing vs. buying Pyjama pants. Record in the chart provided.
# Garment Cost Sheet

Garment Constructed: ____________________________

Date: _________________________________________

<table>
<thead>
<tr>
<th>ITEM</th>
<th>COST</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pattern (company and number)</td>
<td></td>
</tr>
<tr>
<td>Fabric(s) - (type and amount)</td>
<td></td>
</tr>
<tr>
<td>Notions—thread, elastic, button etc</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
</tr>
</tbody>
</table>

**TOTAL COST OF SEWING GARMENT**  ____________________________

<table>
<thead>
<tr>
<th>Cost of Similar Commercially Made Pyjama Pants</th>
</tr>
</thead>
<tbody>
<tr>
<td>From</td>
</tr>
<tr>
<td>-------</td>
</tr>
<tr>
<td>1.</td>
</tr>
<tr>
<td>2.</td>
</tr>
<tr>
<td>3.</td>
</tr>
</tbody>
</table>

**Sewing vs. Buying**

**Pros:** _________________________________________________________

_________________________________________________________________

_________________________________________________________________

**Cons:** _________________________________________________________

_________________________________________________________________

_________________________________________________________________
Ask members the following questions:
- What skills did you demonstrate to make this project a success?
- Can you list 3 things that are important to remember when cutting out a pattern?
- If you were to sew pyjama pants again, would you do anything different? If yes, what?

What’s next?

At this point members have completed all the learning activities established for this project. This final section is a chance for leaders to evaluate the learning of the members, and a chance for the members to present their findings to their peers, and parents.
In the Member Manual

**Skill Builder 6: Patterns**

**Needles Says….**
Now the fun begins! It is time to put your new sewing skills to work. Everyone likes to relax in cozy pajama (P.J.) pants. So get creative and select a pattern you like, some cool fabric and start sewing!

**SKILLS CHECKLIST**
- Use a commercial pattern
- Demonstrate your new sewing skills
- Compare the costs of sewing vs. buying a garment

**Dream it!**

**What’s my size?**
Once your pattern design is decided, you’ll need to know your size and figure type before a pattern is purchased. For P.J. pants select a pattern size according to the waist and hip measurements. Take your body measurements and fill in the chart below. Take this page when you go shopping.

**Important Words**
Look out for these important words in this builder: Notions, Layout, Grain Line, Markings, All Sizes

<table>
<thead>
<tr>
<th>My Body Measurements</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Measurements taken:</strong></td>
</tr>
<tr>
<td><strong>Body point:</strong></td>
</tr>
<tr>
<td>Chest</td>
</tr>
<tr>
<td>Waist</td>
</tr>
<tr>
<td>Hips</td>
</tr>
<tr>
<td>Back waist length</td>
</tr>
<tr>
<td>Height</td>
</tr>
</tbody>
</table>

Check the back of the pattern envelope and record:

| Size for tops: | Size for bottoms: | Figure type: |

---

**Do it!**

**Field Trip**

**What you will need:** Tape measure, My Body Measurements chart, money to purchase supplies

1. Take your body measurements chart with you to the store so you can select the correct size of P.J. pants pattern.
2. Select a fabric and notions required based on the recommendations on the back of the pattern envelope.
3. Listen to your leader explain what to look for on the outside of the pattern envelope.
4. Keep the receipt for the Garment Cost Sheet activity.
5. While in the store look at the variety of fabrics and identify what they are made of, their weave and how to care for them.
6. Ask a sales clerk to talk with you about the pros and cons of sewing vs. buying garments.

**Needles’ Fun Facts!**
Joan O’Malley was born in Dauphin, Manitoba, in 1964, she was the first seamstress to sew the first red and white maple leaf Canadian flag.

**Sewing Pyjama Pants**

**What you will need:** commercial P.J. pant pattern, fabric, thread, elastic, sewing machine, iron

1. Label the Know Your Pattern Markings diagram below.
2. Follow the instructions in the commercial pattern to cut out and sew the pyjama pants.
3. Have your leader take some pictures of you modeling your project. Have fun with different poses!

**Label the arrows indicating the pattern markings.**

- cutting and stitching lines
- seam line direction
- straight grain of fabric
- placing of fold marking
- name of pattern piece
- cutting direction arrows
- dart line
- alterations lines
- numbers indication which notches to match first.
In the Member Manual

Compare It

What you will need: Garment Cost Sheet, pencil, receipts from your pyjama supplies purchase, prices of pyjama pants (store flyer, catalogue, trip to a store)

1. Fill in the Garment Cost Sheet using the receipts from purchasing the supplies for your pyjama pants
2. List the cost of 3 different purchased pyjama pants of similar quality.
3. With your leaders, discuss the pros and cons of sewing vs. buying Pyjama pants. Record below.

Garment Cost Sheet

Garment Constructed: ______________________________________________________________________

<table>
<thead>
<tr>
<th>ITEM</th>
<th>COST</th>
</tr>
</thead>
<tbody>
<tr>
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<td>Notions—thread, elastic, button etc</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
</tr>
</tbody>
</table>

TOTAL COST OF SEWING GARMENT

Cost of Similar Commercially Made Pyjama Pants

<table>
<thead>
<tr>
<th>Store</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
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<tr>
<td>2.</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td></td>
</tr>
</tbody>
</table>

Sewing vs. Buying

Pros: _________________________________________________________________________________

Cons: _________________________________________________________________________________

Dig it!

Share your experiences with friends and family

I want to tell you about the field trip:

_____________________________________________________________________________________

I want to explain three things to remember when cutting out a pattern:

_____________________________________________________________________________________

Picture this…(Insert a photo of yourself modeling your pyjama pants.)

In this picture I want you to notice:

_____________________________________________________________________________________

What’s next?

Next it’s time to think about and plan for the Showcase Challenge. How will you share your new skills? My Portfolio Page is where you can make sure your Exploring Fibre and Fabrics Project Skills Chart is complete.
Showcase Challenge

Have members use their Member Manual to help them in organizing what they learned. The form of this showcase can vary according to the wishes of the leaders and member’s ability. Information could be presented in many forms, some of which are: posters, pamphlets, written reports, speeches, computer presentations, displays, etc. Suggestions are listed on the Showcase Challenge page at the back of the Member Manual. The best results are almost always obtained when members are allowed to present their information in the style of their choice.
Portfolio Page

Once members have completed all the builders they will have a lot of information recorded in their manuals. These are products of their learning. As a final project activity, members and leaders will pull together all this learning in completing the Portfolio Page in the Member Manual. There is a skills chart that lists the skills members are expected to complete by the end of the project. Leaders must indicate how they know the member was successful at a particular skill. Leaders will find evidence if they think about what they have observed members doing, what discussions they have had with members, and what members have produced. If leaders think that members need to go back and improve on any skill, this chart helps them clarify what needs to be done.

My 4-H Portfolio Page

Name: __________________ Date: __________ Year in 4-H: ______
Club: _______________ Hours Spent on 4-H: ______
(Project and Other 4-H Activities)

Exploring Fibres and Fabrics Project Skills Chart
To be completed by the leader and the member based on observations and conversations throughout the project.

<table>
<thead>
<tr>
<th>Skill Builder</th>
<th>Members will be able to…</th>
<th>We know this because…</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Each Skill Builder had a Skills Checklist which identified the skill you will learn.</td>
<td>Identify activities completed and record observations and information from discussions about activities.</td>
</tr>
</tbody>
</table>
| 1             | • Identify basic sewing tools  
• Identify the parts of a sewing machine  
• Stitch with a sewing machine | |
| 2             | • Thread a sewing machine, backstitch, seam finish and press seams  
• Identify a serger and how to use it (optional)  
• Sew your first project | |
| 3             | • Discover different fibres and fabrics  
• Identify woven and non-woven fabrics  
• Understand fabric terms  
• Sew a casing | |
| 4             | • Discover how knit fabrics are made  
• Identify career opportunities and community service ideas  
• Sew with knit fabrics | |
| 5             | • Use different types of fasteners  
• Demonstrate creativity | |
| 6             | • Use a commercial pattern  
• Demonstrate your sewing skills  
• Make cost comparisons | |

Additional Comments/Activities:

Leader Point of Praise!

I am most impressed by…

I acknowledge that the member has completed the 4-H project requirements.

Leader’s Signature: ____________________________
In the Member Manual

Above and Beyond!
In addition to project skills, 4-H also increases skills in meeting management, communications, leadership, community involvement through participation in club, area, or provincial 4-H events or activities. List below any activities you participated in this year in 4-H. (Some examples include Executive Positions Held, Workshops, Communication, Community Service, Rally, Bonspriels, Conferences, Judging, Camps, Trips, Awards, Representation to Area or Provincial Councils, etc)

<table>
<thead>
<tr>
<th>Activity 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activity 2</td>
</tr>
<tr>
<td>Activity 3</td>
</tr>
<tr>
<td>Activity 4</td>
</tr>
<tr>
<td>Activity 5</td>
</tr>
<tr>
<td>Activity 6</td>
</tr>
</tbody>
</table>

**Feel Free to add additional pages that include awards, certificates, new clippings, photos or other items that describe your 4-H involvement.**

Member Point of Pride!

What I learned...

What I need to improve on...

What I want others to notice...

Member’s Signature: __________________________

Point of Praise! Another’s perspective on your achievements in 4-H.
(community professionals, MAFRI staff, 4-H club head leaders, 4-H Ambassadors, friends of 4-H)

I am most impressed by...

I believe that you have learned...

In the future I encourage you to...

Signature: __________________________
4-H Achievement

4-H Achievement is... a 4-H club celebration when members have completed their projects. Achievements are planned by the club to give recognition to members and leaders for their accomplishments in their 4-H projects and club activities.

A 4-H Achievement can take many different formats: from choosing a theme, to member project displays, to members using their new skills for the event (entertainment, food, decorating, photographer, etc.), to members presenting their project to the whole group, the options are endless and open to the creativity of the members and leaders in each club!

Clubs may also plan their Achievement to promote 4-H to the community or to recognize sponsors and others who have helped the club.

Members and leaders - be sure to check your project books for the project completion requirements, so you will be ready for your club’s Achievement celebration!

If you have any questions, comments or suggestions for this or other 4-H projects contact:

Manitoba 4-H Projects
Manitoba Agriculture Food and Rural Initiatives
1129 Queens Avenue
Brandon, MB R7A 1L9

Email: 4h@gov.mb.ca

Phone: 204-726-6613
Fax: 204-726-6260

This manual is for educational use only and is not intended as professional advice.

For more information about 4-H and the many 4-H opportunities available please visit

http://www.gov.mb.ca/agriculture/4-h/
**What is 4-H?**

4-H is an international youth organization involving more than 7 million members in 80 countries around the world.

In Canada, 4-H began in 1913 in Roland, Manitoba as a community-based organization dedicated to growth and development of rural youth. Today’s 4-H program reaches both farm and non-farm youth across Canada. The motto of “Learn to Do by Doing” is embodied in the program, as 4-H focuses on skill development as well as personal development of life skills such as communications, leadership and citizenship.

**4-H Motto**

“Learn To Do by Doing”

**4-H Pledge**

I pledge,
My HEAD to clearer thinking,
My HEART to greater loyalty,
My HANDS to greater service,
My HEALTH to better living,
For my club, my community, and my country.

**4-H Quality Equation Principles**

**Quality People**
- Promote responsibility, respect, trust, honesty, fairness, sportsmanship, citizenship, teamwork and caring.

**Quality Experiences**
- Provide members with personal development and skill development experiences.

**Quality Projects**
- Promote and value quality effort.
- Promote high quality, safe food production within industry standards.

Manitoba 4-H project material is developed by Manitoba Agriculture, Food and Rural Initiatives (MAFRI)