

Unit overview

This unit helps students explore the journey of Australia's most iconic natural fibres — wool — from farm to fashion.

Using wool as the context, *From farm to fashion* provides an ideal opportunity for Year 1 students to investigate how everyday things can be physically changed. Students investigate how the shape of wool can be changed by felting, twisting, knitting and weaving.

Some students may have experience with wool through clothing or home furnishings such as blankets. However, many Year 1 students may not be aware sheep are the source of woollen textiles.

This unit of work aims to determine students' prior knowledge of wool and introduce them to the ways wool is processed to produce a wide variety of everyday products. These products have particular properties which are determined by how the woollen textiles they are made from is transformed from raw fleece to finished product.

Students will have the opportunity to develop skills in predicting and comparing how the shapes of objects made from different materials can be physically changed, such as, felting, twisting (spinning), knitting and weaving.

Students also will have the opportunity to manipulate objects and observe what happens.

This unit of work also starts the process of students recognising that observation is an important part of exploring and investigating things, while allowing them to share observations with others and communicate their experiences.

A class science journal is used to record the students' learning journey and provides for meaningful literacy modelling. It is used to review and organise observations and ideas and can include images and student contributions.

Hands-on experiences and sharing observations with others are a key part of creating significant, shared understandings.

Cross-curriculum priority:

Sustainability

Lessons about the interdependence of animals, plants and people.

Links with the Australian Curriculum

Note: *Although this unit of work has been developed primarily for Year 1 students exploring the properties of everyday materials, components of the unit are relevant for Foundation to Year 2 students as part of the Design and Technologies and Visual Arts curricula.*

The *From farm to fashion* unit links to all three strands of the Australian Science Curriculum: Science understanding, Science as a human endeavour and Science inquiry skills. It also links to the Australian Design and Technologies Curriculum strands: Design and Technologies knowledge and understanding, Design and Technologies processes and production skills and the Australian Visual Arts Curriculum. STEM is addressed in this unit of work through the learning areas of Science and Technologies and through general capabilities, particularly Numeracy, Information and Communication Technology (ICT) capability, and Critical and Creative Thinking.

Engineering is addressed in Design and Technologies through the content description that focuses on engineering principles and processes.

The table below outlines the sub-strands covered in this unit of work.

Strand	Sub-strand	Code	Content descriptions
Science understanding	Chemical sciences	ACSSU018	Everyday materials can be physically changed in a variety of ways
Science as a human endeavour	Nature and development of science	ACSHE021	Science involves observing, asking questions about, and describing changes in, objects and events
Science inquiry skills	Questioning and predicting	ACSIS024	Pose and respond to questions, and make predictions about familiar objects and events
	Planning and conducting	ACSIS025	Participate in guided investigations to explore and answer questions
	Processing and analysing data and information	ACSIS027	Use a range of methods to sort information, including drawings and provided tables through discussion, compare observations with predictions
	Evaluating	ACSIS213	Compare observations with those of others
	Communicating	ACSIS029	Represent and communicate observations and ideas in a variety of ways
Design and technologies	Knowledge and understanding	ACTDEK003	Explore how plants and animals are grown for food, clothing and shelter and how food is selected and prepared for healthy eating
	Knowledge and understanding	ACTDEK004	Explore the characteristics and properties of materials and components that are used to produce designed solutions
	Processes and production skills	ACTDEP007	Use materials, components, tools, equipment and techniques to safely make designed solutions
	Processes and production skills	ACTDEP006	Generate, develop and record design ideas through describing, drawing and modelling
	Processes and production skills	ACTDEP009	Sequence steps for making designed solutions and working collaboratively
Visual arts		ACAAM107	Use and experiment with different materials, techniques, technologies and processes to make artworks

Achievement standard

The sequence of the lessons in this unit of work provides opportunities to gather information about students' understanding related to the sections in bold in the achievement statement below:

Year 1 Science

By the end of Year 1, students describe objects and events that they encounter in their everyday lives, and the effects of interacting with materials and objects. They identify a range of habitats. They can describe changes to things in their local environment and suggest how science helps people care for environments.

Students make predictions and investigate everyday phenomena. They follow instructions to record and sort their observations and share their observations with others.

Foundation to Year 2 Design and Technologies

By the end of Year 2, students describe the purpose of familiar products, services and environments and how they meet the needs of users and affect others and environments. **They identify the features and uses of technologies for each of the prescribed technologies contexts.**

With guidance, students create designed solutions for each of the prescribed technologies contexts. They describe given needs or opportunities. Students create and evaluate their ideas and designed solutions based on personal preferences. They communicate design ideas for their designed products, services and environments using modelling and simple drawings. Following sequenced steps, students demonstrate safe use of tools and equipment when producing designed solutions.

Foundation to Year 2 Visual Arts

By the end of Year 2, **students describe artworks they make and view and where and why artworks are made and presented.**

Students make artworks in different forms to express their ideas, observations and imagination, using different techniques and processes.

Source: [Australian Curriculum, Assessment and Reporting Authority \[ACARA\]](#)

Background information

People have been using wool for thousands of years to make clothing and textiles, furnishings and insulation. Australia produces 90% of the world's fine apparel (next-to-skin) wool.

Wool is a natural fibre produced by sheep. As wool grows out from the sheep's skin, it forms groups of wavy fibres called staples. This natural crimp (wave) gives wool its elasticity (springiness). Wool feels soft and slightly greasy before it is washed or processed. The natural oil in wool (lanolin) coats each fibre.

Wool can keep things cool and it can keep things warm. Wool is soft, strong, lightweight, water-repellent and fire resistant. The natural properties of wool make it an ideal fibre for a wide range of everyday uses.

Wool is harvested from sheep by shearing and goes through a range of woollen or worsted processing stages to produce yarn by stretching and spinning (twisting) the clean wool ready for knitted or woven textile production. These products have particular properties which are determined by how the woollen textiles they are made from are transformed from raw fleece to finished product.

After the initial processing stages (scouring) wool also can be felted to produce textiles for clothing, furnishings and craft purposes.

Class science journal

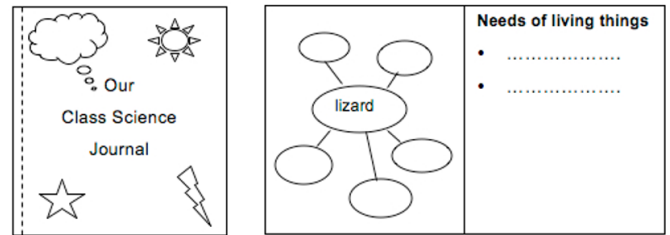
During this unit of work you are encouraged to record student observations and the results of investigations in a class science journal.

A class science journal is used for a number of purposes, including:

- to record student ideas including prior knowledge, observations and statements of learning
- to model scientific text types such as labelled diagrams, lists, drawings, simple tables and graphs, mind maps and other appropriate graphic organisers
- to list activities for group work or free-choice activities.

A class science journal can be easily made from large pieces of art or painting paper stapled on one side. Ideally it should be the size of a commercial 'big book' used for shared reading. Alternately, you could create a digital version.

Sample layout for a class science journal.



Source: [Education Services Australia \(2013\)](#)

Classroom preparation and resources

In early childhood, children learn best through play-based activities — they learn by exploring and investigating. This unit of work has been developed to be used in conjunction with the freely available online LEARN ABOUT WOOL resource library, which contains a range of relevant factsheets, images, articles and engaging short videos.

A hardcopy version of the LEARN ABOUT WOOL kit also is freely available by ordering from the LEARN ABOUT WOOL website and contains samples of wool from the raw fibre through various stages of processing to yarn and fabric samples. These samples are integral to the tactile explorations outlined in this unit of work.

Throughout this unit of work you could:

- display the *Sam the Lamb* poster showing the journey from farm to fashion.
- display the LEARN ABOUT WOOL kit fibre, yarn and fabric samples in another basket.
- allow students to explore the primary factsheets and *The Workboot Series — The Story of Wool* book (Kondinin Group)*
- encourage students to use vocabulary associated with wool production and processing found in the resources

***Note:** *The Story of Wool* is currently out of print, however many school libraries contain this useful resource.

Additional resources

In addition to the samples provided in the LEARN ABOUT WOOL kit, collect and display a basket of woollen items alongside wool fabric and yarn samples. Try to ensure a representative sample of items from each type of processing system (read the [Different types of wool fabrics](#) factsheet for some ideas) and include some wool felted products.

The activities in this unit of work require a range of equipment. Each lesson plan will identify the particular items required to successfully carry out the lesson.

Lesson	At a glance
Lesson 1: What is wool?	<ul style="list-style-type: none">• To provide a hands-on shared experience with a range of different textiles and discuss the source of the raw materials used to produce these textiles.• To explore what students already know about wool, where it comes from and how it is used in everyday products.• To draw out questions students may have about wool.
Lesson 2: From farm to fashion	<ul style="list-style-type: none">• To allow students to discover how wool is processed from the raw fibre to everyday wool items.
Lesson 3: Twisting	<ul style="list-style-type: none">• To allow students to manipulate wool by twisting (spinning) and record observations of changes made to the wool.
Lesson 4: Felting	<ul style="list-style-type: none">• To allow students to manipulate wool by agitating wool top with water and detergent (felting) and record observations of changes in the wool.
Lesson 5: Knitting	<ul style="list-style-type: none">• To allow students to investigate how wool yarn is used to create knitted textiles and discuss observations of how the wool is changed when knitted.• To encourage students to learn and develop basic knitting skills.
Lesson 6: Weaving	<ul style="list-style-type: none">• To allow students to explore how wool yarn is used to create woven textiles and observe how wool is changed when woven.• To offer students the opportunity to learn and develop basic weaving skills.
Lesson 7: Creating a woolly wonder	<ul style="list-style-type: none">• To allow students to further explore the hand knitting, weaving, felting or spinning processes to create a 'woolly wonder' of their choosing.• To consolidate understanding of the processing of wool and how it can be used in a variety of applications.

Safety in the classroom

Learning to use materials and equipment safely is central to working scientifically. It is important, to review each lesson before teaching to identify and manage safety issues specific to a group of students.

The following guidelines will help minimise risks:

- Be aware of the school's policy on safety in the classroom and for excursions.
- Carry out activities beforehand to identify potential risks.
- Caution students about potential dangers before they start any activity.
- Clean up spills immediately as slippery floors are dangerous.
- Instruct students never to taste, smell or eat anything unless they are given permission.
- Discuss and display a list of safe practices for science activities.

Pre-lesson preparation, materials and equipment

The LEARN ABOUT WOOL online resource library, combined with the suggested resources listed below will give you ample background information to carry out this lesson and answer a range of questions posed by students. [The Woolmark Learning Centre Wool Appreciation Course Modules 1–3](#) is a valuable starting point to develop a comprehensive understanding of the inherent properties of wool which allow it to be used in a diverse range of applications and the many processes that make up the global supply chain from raw fleece to manufactured wool product.

The materials provided will also support your understanding of the topic and can be used to further spark students' interest and understanding of the topic.

Useful resources:

LEARN ABOUT WOOL primary factsheets

- [What is wool?](#)
- [Sheep – the wool producers](#)
- [How wool grows](#)
- [Wool – the natural fibre](#)
- [Different types of wool fabrics](#)

LEARN ABOUT WOOL posters

- [How wool grows](#)
- [Shearing](#)
- [Parts of the fleece](#)
- [Wool processing](#)
- [From farm to fashion](#)
- [Sam the lamb poster](#)

Useful book

The Story of Wool book (Kondinin Group)

Useful links

- [The Woolmark Learning Centre Wool Appreciation Course](#)
- [Enviro-Stories Our farmers, our future](#)

Videos

- [Wool production process](#)
- [Sam the lamb –what is wool?](#)

Materials and equipment

- LEARN ABOUT WOOL kit fabric and fibre samples
- Cardboard boxes to hold objects so students cannot see them while they feel them.
- A range of everyday items made from a variety of raw materials including cotton, synthetic fibres (e.g. rayon, nylon, polyester and polar fleece), hemp, linen and wool. Try to include a range of different types of woollen fabrics with different textures (e.g. fine knitted fabric, such as T-shirts or babies clothing, heavy knitted jumpers, woven blankets and fine tailored trousers or suiting fabric and felted items— see the [Different types of wool fabrics](#) factsheet for ideas). Felted items such as decorations, felted wool dryer balls, jewellery, craft felt and wool shoes are useful examples to show students (teacher to provide).
- Class science journal
- LEARN ABOUT WOOL factsheets
 - [What is wool?](#)
 - [Wool – the natural fibre](#)
 - [Sheep – the wool producers](#)
 - [How wool grows](#)
 - [Different types of wool fabrics](#)

Lesson objective

- To capture students' interest and introduce them to the language used to describe the properties of everyday materials.
- To explore what students know about the origins of everyday fabrics they are familiar with.
- To establish with students the source of wool (sheep) and for them to recognise that raw fibres must undergo changes during processing to produce a range of everyday products.
- To introduce students to the concepts of 'natural' and 'synthetic' fibres.

Students will have the opportunity to:

- explore and make observations about a range of raw materials and end products
- discuss the different uses for fabric/textiles (e.g. clothing, bedding and furnishings)
- identify the sources of the textiles they have explored (e.g. animals, plants and petrochemicals)
- explore the differences between natural and synthetic fibres.

Lesson focus

The focus of this lesson is to spark students' interest, stimulate their curiosity, raise questions for inquiry and gain an understanding of their existing beliefs about the textiles and fibres they come into contact with every day. These existing ideas can then be taken account of in future lessons.

Setting the context

Many students will have little knowledge about, or experience with, the origin of the fibres used in everyday items of clothing and furnishings. They may not understand the difference between natural and synthetic fibres or appreciate the different processes used to produce everyday textiles.

This lesson will allow students to explore a range of textiles and identify the source of their raw materials.

Introduction

Divide the everyday items into two groups, placing some in the cardboard 'touch and feel' boxes, with the others displayed for viewing and handling. Divide students into small groups and encourage them to explore the range of items on display. Ask students to share their observations as they explore the items. Encourage them to describe the way the different fabrics feel, look and smell. After exploring the items on display, ask them to investigate the 'touch and feel' cardboard boxes and discuss their ideas as to what types of fabric the items are made from. When each group has had the opportunity to explore the items, ask students to return to their seats and share their observations as a class. Ask students if they were able to guess what the items were made from and how they drew their conclusions. Record their observations and justifications in a class science journal or on the board.

Body of lesson

1. Explain to students that different textiles (fabrics) are made from different 'raw materials', which have been processed to produce yarn and then fabric. Ask students if they are familiar with words such as cotton, wool, polar fleece, polyester, nylon, hemp, linen etc. Explain to students that the raw materials used to produce our clothes and furnishings can be either natural (from plants and animals) or synthetic (man-made). To reinforce this concept, read to students the LEARN ABOUT WOOL factsheet [What is wool?](#) Ask students if they have any clothes made from wool.
2. Read to students the LEARN ABOUT WOOL factsheet [Wool – the natural fibre](#). Help students to read the labels on the items they have been exploring and sort them into groups: for example, natural fibres, synthetic fibres and possibly a blend of natural and synthetic. Taking the pile of natural fibres, work with students to sort this group of items into plant and animal fibres.
3. Explain to students that during this unit of work you are going to investigate the properties of one of Australia's most important natural fibres — wool. Reinforce that wool comes from sheep. You could read to students the information on the LEARN ABOUT WOOL factsheets

[Sheep – the wool producers](#), [How wool grows](#) and [Different types of wool fabrics](#). In particular, students may be interested in the *Did you know?* facts about wool on each factsheet. If you have time, students could watch the videos [Sam the lamb – what is wool?](#) and [Wool production process](#) to further enhance their understanding.

4. Identify the wool items in the collection of objects the students have been exploring and review the descriptions of these items from the class journal. Encourage the students to note differences in the feel of the objects, observing features such as yarn thickness and how the yarn is made into fabric. Ask the students, now they know the items are made from the same raw material, why do they all feel so different?
5. Return to the 'touch and feel' boxes and ask students if they can guess which items were made from wool. Identify the wool items in the collection of objects the students have been exploring and ask them how they know they are made from wool. Review their descriptions of these items, asking when they might wear or use these items and why.

Conclusion

- Reinforce that during this unit of work you are going to investigate how wool is transformed from the raw fleece on a sheep into a range of products used every day. Depending on the process used, the end woollen product can feel and perform very differently.
- Explain that during the next few lessons you will be investigating further how wool is harvested from sheep and made into a wide range of everyday products.

Extension activity

Students might like to explore the range of stories written by other school children on the [Enviro-Stories Our Farmers](#), our future website to find out how wool and cotton is being produced on farms across Australia. They may also choose to look through *The story of wool* (Kondinin Group) to further their understanding of the importance of wool.

Links to the Australian Curriculum:

- Science involves observing, asking questions about, and describing changes in, objects and events ([ACSHE021](#))
- Pose and respond to questions, and make predictions about familiar objects and events ([ACSI024](#))
- Participate in guided investigations to explore and answer questions ([ACSI025](#))
- Compare observations with those of others ([ACSI213](#))

Pre-lesson preparation, materials and equipment

The LEARN ABOUT WOOL online resource library, combined with the suggested resources listed below will give you ample background information to carry out this lesson and answer a range of questions posed by students.

Useful resources:

LEARN ABOUT WOOL primary factsheets

- [From farm to fashion](#)
- [Shearing](#)
- [Different breeds of sheep](#)

LEARN ABOUT WOOL kit posters

- [Wool processing](#)
- [From farm to fashion](#)

Videos

- [Lost and found: The journey from farm to fashion](#)
- [Shearing](#)

Useful books

- *Click go the shears*, illustrated by Charlotte Lance
- *Weaving the rainbow*, written by George Lyon, illustrated by Stephanie Anderson

Useful link

- [Enviro-stories Our farmers, our future library – Fluffy's getting shorn](#)

Materials and equipment

- LEARN ABOUT WOOL kit fibre, yarn and fabric samples
- Class science journal
- LEARN ABOUT WOOL factsheets
 - [From farm to fashion](#)
 - [Shearing](#)
 - [Different breeds of sheep](#)
- LEARN ABOUT WOOL kit posters
 - [Wool processing](#)
 - [From farm to fashion](#)
- Student worksheet *From farm to fashion*
- Videos
 - [Lost and found: The journey from farm to fashion](#)
 - [Shearing](#)
- Book
 - *Click go the shears*, illustrated by Charlotte Lance

Lesson objective

To allow students to discover how wool is processed from the raw fibre to everyday woollen items.

Students will have the opportunity to:

- investigate the ways wool is processed
- use a range of methods to sort information.

Lesson focus

The focus of this lesson is to take students on the journey from farm to fashion by detailing each stage of the journey wool takes from the sheep to the manufactured garment or wool product.

Setting the context

Depending on the length and fibre diameter (fineness) of a wool fleece, it can be processed into yarn through either the woollen or worsted processing system. These woollen and worsted yarns can be knitted or woven to produce a range of fabrics with varying characteristics and end uses.

Woollen processing produces bulky yarns, which can be woven to produce heavy-weight fabrics or knitted to produce cosy jumpers, socks and beanies.

Woollen-spun woven fabrics are generally thick and heavy. They are ideal for warm winter jackets and coats. These fabrics are generally wind-proof and can repel light rain, so are good to wear when playing outside during winter.

Woollen-spun knitted fabrics are generally heavier and bulkier than worsted-spun knitted fabrics. They make great soft, warm jumpers, scarves, beanies, socks and cardigans.

Worsted processing produces fine yarns, which can be woven to produce smooth, light-weight fabrics. These fabrics are used for clothes such as business suits, trousers and skirts. Fine worsted-spun yarns produce super-soft knitted fabrics that feel great next to your skin. These fabrics are incredibly versatile — they are used for baby clothes, underwear, t-shirts and sportswear, leggings, dresses and other lightweight knitwear.

Worsted-spun woven fabrics are ideal to wear in warm weather or inside, where they keep you cool and comfortable.

Worsted-spun knitted fabrics are ideal for wearing everyday — they are soft and comfortable and great for travelling as they are soft, cool, comfortable, lightweight and don't need ironing.

In addition to these processing routes, wool can be 'felted' — a technique used for many years and by many early cultures.

Felted fabrics are formed directly from loose wool fibre without the intermediate stages of yarn formation, knitting or weaving. Felting methods are also used to make low-value wool products, such as insulation tiles and filling for cold weather clothing and bedding, such as quilts.

More background information on wool and wool processing can be found in the LEARN ABOUT WOOL online resource library or the [Woolmark Learning Centre Wool Appreciation Course](#).

Introduction

Explain to students that during this lesson they will be following the journey of wool from farm to fashion. To introduce this journey, show students the short video [Lost and found: The journey from farm to fashion](#). Discuss with students the processes covered, identifying the common stages as depicted in the poster [Wool processing](#). Show the video again, asking students to try and link what they are seeing in the video with the names of the processes identified on the poster. Were there any differences? Discuss.

Body of lesson

1. Review the class science journal and discuss the observations students have made so far about wool garments and where wool comes from.
2. Reflecting on the videos, reinforce that wool goes through a number of physical changes from the raw fleece to the end product including shearing, processing, fabric production, garment design and manufacture.
3. Read with students the LEARN ABOUT WOOL factsheet [Shearing](#) and discuss the activities carried out in the shearing shed. Watch the LEARN ABOUT WOOL [shearing](#) video as a support to the factsheet. Read [Click Go the Shears](#), illustrated by Charlotte Lance with students and write down some of the words and phrases in the class science journal they may be unfamiliar with, such as: *ringer*, *bare-bellied Joe*, *wide is his blow*. Explain that shearing technology (and language) has changed since the poem was written. Students also might like to visit the Enviro-Stories website and read [Fluffy's Getting Shorn](#).
4. Allow students to explore the fibre, yarn and fabric samples in the hard copy LEARN ABOUT WOOL kit. Focusing on the raw fibre — ask students to describe the differences between each sample. Encourage students to think about the way the greasy (raw) wool feels and smells, compared with the wool top. Allow students to try and stretch

the greasy wool fibres to feel how strong they are and encourage them to feel the wavy crimp. Focusing on the woollen and worsted yarn samples, encourage students to describe the differences between the two yarns, in particular the thickness of each sample. Focusing on the two fabric samples — worsted-spun fine-knit rib and woollen-spun plain-knit ask students which yarn they think was used to produce which fabric. Using the LEARN ABOUT WOOL factsheet [Different breeds of sheep](#) explain to students that different types of sheep produce different types of wool. Explain that the different types of wool are used in different types of yarn and different types of fabrics. Reflect on the differences between the worsted and woollen yarns and fabrics they have just explored. Explain that the different types of wool are processed in slightly different ways called 'woollen' and 'worsted' processed. Explain that the broader (thicker) wool usually goes through the 'woollen' process and is used in thicker, heavier textiles and finer (thinner) wool is used in the 'worsted' processing system and is used to produce lighter, finer fabrics. Refer back to the LEARN ABOUT WOOL factsheet *Different breeds of sheep* and point to the Merino sheep on the front of the factsheet as you explain that Merino sheep produce the finest wool in the world and Australia produces the most Merino wool in the world.

5. Explore the range of wool processing posters supplied in the LEARN ABOUT WOOL kit and work with students to match the fibre, yarn and fabrics samples with the stages covered in the posters. Refer students to the LEARN ABOUT WOOL [Wool – from farm to fashion](#) factsheet for more information on the different wool processing routes.
6. Ask students to complete the worksheet *From farm to fashion* using the poster [Wool processing](#) to assist them with identification of each stage. Students will need to cut out the cartoons of each stage and glue them in the correct order on another piece of paper. The correct order is:

- 1) Growing
- 2) Shearing
- 3) Baling and transport
- 4) Washing
- 5) Carding

- 6) Combing
- 7) Dyeing
- 8) Spinning
- 9) Weaving or knitting
- 10) Final garment

Conclusion

Re-group with the students and discuss the worksheet with them. Explain that during the next few lessons students will be further investigating the way raw wool is processed to impart desirable properties to woollen products. These properties influence the way we use wool by changing its shape and form when undergoing a variety of processes such as spinning, felting, knitting and weaving.

Extension activity

If you are in a rural area, investigate whether you can take your class to visit a farm during shearing to allow students experience this stage firsthand, or ask a wool producer to visit the classroom and describe the processes of wool growing and shearing.

Students might also like to make their own picture book showing the journey from farm to fashion, using their completed worksheet to help them.

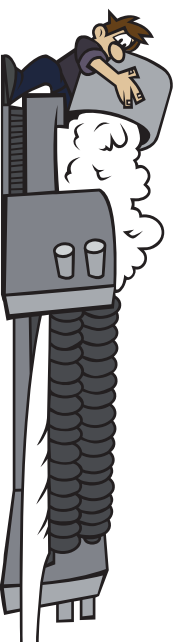
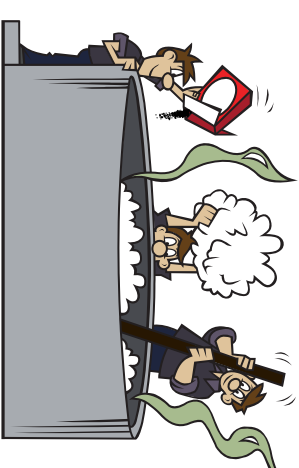
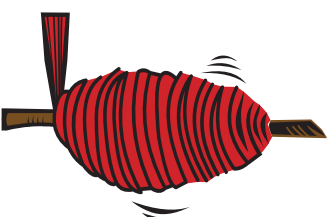
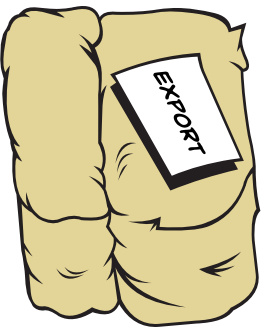
Links to the Australian Curriculum:

- Everyday materials can be physically changed in a variety of ways ([ACSSU018](#))
- Pose and respond to questions, and make predictions about familiar objects and events ([ACSI024](#))
- Participate in guided investigations to explore and answer questions ([ACSI025](#))
- Use a range of methods to sort information, including drawings and provided tables through discussion, compare observations with predictions ([ACSI027](#))
- Compare observations with those of others ([ACSI213](#))
- Represent and communicate observations and ideas in a variety of ways ([ACSI029](#))

WOOL PROCESSING

Instructions

- Cut out the 10 pictures of each stage of wool processing from the sheep (1) to the finished garment (10).
- Using the LEARN ABOUT WOOL poster to help you, put the pictures in the correct order.
- Check with another student before gluing the pictures on another piece of paper in the correct order.
- Number the pictures accordingly.



Pre-lesson preparation, materials and equipment

The LEARN ABOUT WOOL online resource library, combined with the suggested resources listed below will give you ample background information to carry out this lesson and answer a range of questions posed by students. [The Woolmark Learning Centre Wool Appreciation Course Module 5](#) is a useful resource which provides more detailed background information on how wool is spun into yarn.

Useful resources:

LEARN ABOUT WOOL factsheets

- [From farm to fashion](#)
- [Inside a wool fibre](#)

LEARN ABOUT WOOL poster

- [Structure of a wool fibre](#)

Useful link

- [Wool fibre animation Discovering wool](#)

Useful book

- *The story of wool* (Kondinin Group)

Videos

- [Wool fibre animation Discovering wool](#)
- [How to spin yarn using a drop spindle](#)
- [How to use a spinning wheel](#)
- [AWI spinning video](#)

Materials and equipment

- Sufficient quantity of wool top for class
- Scissors
- LEARN ABOUT WOOL kit fibre, yarn and fabric samples
- Class science journal
- *The story of wool* book (Kondinin Group)
- LEARN ABOUT WOOL factsheets
 - [From farm to fashion](#)
 - [Inside a wool fibre](#)
- LEARN ABOUT WOOL poster
 - [Structure of a wool fibre](#)
- Video
 - [Wool fibre animation Discovering wool](#)

Lesson objective

To allow students to manipulate wool by spinning and record the process through which they physically changed the raw wool sample into yarn.

Students will have the opportunity to:

- manipulate wool using twisting
- discuss their observations as a whole class to identify similarities and differences in their investigations
- share their work with others.

Lesson focus

The focus of this lesson is to allow students to explore the way wool can be physically changed by twisting and used to create everyday products.

Setting the context

Spinning is the process that twists the wool fibres together to produce a strong yarn ready for knitting or weaving. There are two main types of yarn:

- Woollen-spun yarns are hairy and contain more short fibres and tend to be used for jumpers and blankets.
- Worsted-spun yarns use longer fibres to produce smoother yarns, which are used in products like suits and next-to-skin knitwear.

By investigating the structure of the wool fibre using digital resources, students will develop an understanding of the how the wool fibre can be processed into yarn. They will learn how to undertake these processes by hand and participate in activities allowing them to create their own yarn samples.

Students can then create their own yarn with a partner. They can then compare their creations with those in the LEARN ABOUT WOOL kit. Each student can record the stages of their creative process in an accordion book to complete this lesson.

More background information on wool processing can be found in the LEARN ABOUT WOOL online resource library or the [Woolmark Learning Centre Wool Appreciation Course](#).

Introduction

Using the class journal, reflect with students what they now know about wool — where it comes from and how it is processed into yarn and fabric.

Explain to students that during this lesson they will have the opportunity to create their own wool yarn using their hands.

Body of lesson

1. Show students the wool fibre animation: [Discovering wool](#). Point out the key features of the structure of the wool fibre, taking particular note of the scales on the surface of each fibre. Reinforce this feature by referring students to the LEARN ABOUT WOOL poster [Structure of a wool fibre](#) and the factsheet [Inside a wool fibre](#). Explain that the scales (also known as cuticle cells) are important for protection, felting behaviour and handle (feel) of wool products. The shape of the surface scales varies with the type of animal. The number of layers of scales on the surface of the fibre also varies with the type of animal, with sheep having ~2-3 layers, while human hair can have up to 10 layers. The scales overlap and are layered in a single direction. This arrangement gives animal fibres their unusual frictional properties. Explain to the students that they are able to feel the scales on the surface of their own hair by taking one or two strands of hair from their head and stroking the hair up and down with their fingers. They should be able to feel the resistance is greater when the fibre is stroked towards its base (their scalp), than when the fibre is stroked towards its tip. This characteristic of the wool fibre means that when wool is wet and agitated, the scales contribute to the friction between the fibres, resulting in entanglement of the fibres and is seen as a thickening or matting of the woollen fabric. This change is permanent and cannot be reversed.
2. Explain to students that they will be using wool top for this practical activity. Ask students if they can recall which part of the wool processing journey top is produced. If necessary, reinforce the stage at which wool top is produced by replaying the *Wool processing* video, stopping after the top-making stage. Wool top is produced from raw fleece (also known as greasy wool) shorn from the sheep which is then washed (scoured) to remove contaminants. This wool is then carded, gilled and combed, resulting in a collection of aligned fibres, without twist, ready for spinning. The structure of the wool fibre with the presence of surface scales is also a feature of the spinning process. The friction between the fibres keeping them together as they are twisted increases the strength of the yarn and allows it to withstand the strains of subsequent processing such as weaving and knitting.
3. Allow students to watch the instructional videos on hand spinning listed at the beginning of this lesson. Divide the students into pairs and distribute a small amount of wool top and scissors to each pair.
4. Students can work with a partner and see if they can draw out a small piece of wool top and twist it without breaking

it, with the partner holding one end and twisting at the same time. As they undertake the activity, encourage them to think about how the wool is being changed from wool top to yarn. What are some of the actions they are taking which are changing the shape of the wool top?

5. Students could have a class competition to see which pair can create the longest piece of 'spun' yarn. Alternatively, they could see which pair's yarn is the strongest (greatest tensile strength) by attaching weights to the end of the yarn and determining the breakpoint.
6. Show students the [AWI spinning video](#) and discuss the differences between the method they used to create their yarn and how yarn is manufactured on an industrial scale. Compare this with the methods shown in the hand-spinning videos (spindle and spinning wheel techniques). Record their observations in a class science journal or on the board, under the heading *Spinning- differences and similarities*.

Conclusion

Encourage students to compare their spun products to the spun yarn samples from the LEARN ABOUT WOOL kit. Ask them to identify the similarities and differences between their creations and those commercially manufactured. These can be recorded in the class science journal or on the board.

Extension activity

If you can access a spinning wheel or spindle, demonstrate the process of hand spinning to the class. A community member, skilled in woollen crafts such as spinning, can be invited into the classroom to share their work.

Students can revisit *The story of wool* (Kondinin group) for more examples of the spinning process.

Links to the Australian Curriculum:

- Everyday materials can be physically changed in a variety of ways ([ACSSU018](#))
- Science involves observing, asking questions about, and describing changes in, objects and events ([ACSHE021](#))
- Participate in guided investigations to explore and answer questions ([ACSI025](#))
- Represent and communicate observations and ideas in a variety of ways ([ACSI029](#))
- Use materials, components, tools, equipment and techniques to safely make designed solutions ([ACTDEP007](#))
- Explore the characteristics and properties of materials and components that are used to produce designed solutions ([ACTDEK004](#))

Pre-lesson preparation, materials and equipment

The LEARN ABOUT WOOL online resource library, combined with the suggested resources listed below will give you ample background information to carry out this lesson and answer a range of questions posed by students.

Useful resources:

LEARN ABOUT WOOL primary factsheets

- [From farm to fashion](#)
- [Inside a wool fibre](#)

LEARN ABOUT WOOL poster

- [Structure of a wool fibre](#)

Useful links

- [Easy ways to make felted balls](#)
- [Pinterest felted objects](#)
- [Wool fibre animation Discovering wool](#)

Useful book

- *The story of wool* (Kondinin Group)

Videos

- [Wool fibre animation Discovering wool](#)
- [How to make wet-felted balls](#)

Materials and equipment

- Sufficient quantity of wool top for class
- Bottle of dishwashing liquid
- Small containers for hot and cold water
- Scissors
- LEARN ABOUT WOOL kit fibre, yarn and fabric samples
- Class science journal
- Paper for accordion book
- The story of wool book (Kondinin Group)
- A selection of felted items such as craft felt, decorations, felt jewellery, wool shoes, bags, clothing or hats
- LEARN ABOUT WOOL factsheets
 - [From farm to fashion](#)
 - [Inside a wool fibre](#)
- LEARN ABOUT WOOL poster
 - [Structure of a wool fibre](#)
- Video
 - [Wool fibre animation Discovering wool](#)

Lesson objective

To allow students to manipulate wool by hand felting and record the process by which they physically changed the raw wool sample.

Students will have the opportunity to:

- manipulate wool using a hand-felted technique
- share their work with others.

Lesson focus

The focus of this lesson is to allow students to explore the way wool can be physically changed by hand felting and the implications of the outcomes of these changes for its end use.

Setting the context

Felting is a technique used to produce wool products and textiles from wool that has not yet been processed into yarn, which capitalises on the natural structure of the wool fibre. Each fibre is surrounded by microscopic, overlapping scales (cuticle cells), which allow individual fibres to move more easily against each other in one direction than the other when agitated. When wet, the scales of the wool fibres swell and lift. When agitated (e.g. during washing or rubbing) the adjacent fibres move relative to each other and the scale edges 'lift' inhibiting the return of the fibres to their original position adjacent to other fibres and causing the fibres to 'felt'.

Although felting can be used to create a fabric in its own right, knitted and woven wool fabric can also 'felt' under certain conditions (e.g. high levels of agitation when wet). Felting under such conditions is not always a desired effect, so it is important to launder wool garments according to label care instructions.

Felting of wool fabric increases its thickness, making it warmer, with better wind resistance. Felting also changes the appearance of a fabric, giving it a fuzzy surface, which can also make the fabric feel softer.

In woven fabrics, felting also changes the geometry of the surface by completely obscuring the weave and making the surface of the fabric flatter. An example is billiard table cloth. Felted fabrics can also be used for clothing and interior textiles.

By investigating the structure of the wool fibre using digital resources, students will develop an understanding of how the wool fibre can be processed into yarn and felt. They will learn how to undertake these processes by hand and participate in activities allowing them to create their own felted designs.

Each student can record the stages of their creative process in an accordion book to complete this lesson.

More background information on wool processing can be found in the LEARN ABOUT WOOL online resource library or the [Woolmark Learning Centre Wool Appreciation Course](#).

Introduction

Using the class journal, reflect with students what they now know about wool — where it comes from and how it is processed into yarn and fabric. Revisit the structure of the wool fibre and discuss the presence of scales on the surface of each fibre. Indicate that this is an important feature to keep in mind when carrying out the activities during this lesson.

Show students a selection of felted items (teacher to provide) such as craft felt, decorations, felt jewellery, wool shoes, bags, clothing or hats. Ask the students to describe how they look and feel. What similarities and differences can they identify when comparing these items to the fabric samples from the LEARN ABOUT WOOL kit? Explain to students that in this lesson they will have the opportunity to create their own wool felt from wool top.

Body of lesson

1. Show students the wool fibre animation again: [Discovering wool](#). Revisit the key features of the structure of the wool fibre, pointing out the scales on the surface of each fibre. Reinforce this feature by referring students to the LEARN ABOUT WOOL poster [Structure of a wool fibre](#) and the factsheet [Inside a wool fibre](#). Remind students that the scales (also known as cuticle cells) are important for protection, felting behaviour and handle (feel) of wool products. The scales overlap and are layered in a single direction which gives animal fibres their unusual frictional properties. This characteristic of the wool fibre means that when wool is wet and agitated, the scales contribute to the friction between the fibres, resulting in entanglement of the fibres and is seen as a thickening or matting of the woollen fabric. This change, known as felting, is permanent and cannot be reversed.
2. Explain to students that they will be using wool top again for this practical activity. Ask students if they can recall which part of the wool processing journey top is produced. Wool top is produced from raw fleece (also known as greasy wool) shorn from the sheep which is then washed (scoured) to remove contaminants. This wool is then carded, gilled and combed, resulting in a collection of aligned fibres, without twist, ready for spinning.
3. Ask students to carefully watch the instructional video [How to make wet-felted balls](#) listed at the beginning of this lesson.
4. Divide the students into pairs and distribute a small amount of wool top, scissors, two small containers for

warm and cold water and a small amount of dishwashing liquid to each group.

5. Allow the students to manipulate the top into balls by taking a small handful of top, cutting it into small pieces and fluffing up each piece, as shown in the video. Place a drop of dishwashing liquid in the centre of the top and then immerse it in alternate containers of warm and cold water, gently rolling the wool into a ball with each immersion. Indicate to students that the wool does not have to be squeezed hard after each immersion and rolling the felt ball gently will give the best results.
6. As they undertake the activity, encourage them to think about how the wool is being changed from wool top to felt. What are some of the actions they are taking which are changing the shape of the wool top? How is the structure of the wool fibre causing entanglement of the fibres? Remind the students of the scales on the surface of the wool fibres.
7. Record the felt-making process in an accordion book showing each stage of the processes clearly. Encourage students to label illustrations where possible.

Conclusion

Encourage students to compare their felted balls to the felted items displayed. Ask them to identify the similarities and differences between their creations and those commercially manufactured. Encourage them to think about how a garment made from felted wool might perform differently to garments made of woven or knitted fabrics. These can be recorded in the class science journal or on the board.

Extension activity

Using Pinterest for inspiration, encourage students to select their own woollen craft designs to create and share with the class. These can be displayed in the classroom or taken home. Some example search terms include *fuzzy yarn sheep*, *needle felted design* and *felted wool dryer balls*.

Links to the Australian Curriculum:

- Everyday materials can be physically changed in a variety of ways ([ACSSU018](#))
- Science involves observing, asking questions about, and describing changes in, objects and events ([ACSHE021](#))
- Participate in guided investigations to explore and answer questions ([ACSI025](#))
- Represent and communicate observations and ideas in a variety of ways ([ACSI029](#))
- Use materials, components, tools, equipment and techniques to safely make designed solutions ([ACTDEP007](#))
- Explore the characteristics and properties of materials and components that are used to produce designed solutions ([ACTDEK004](#))

Pre-lesson preparation, materials and equipment

The LEARN ABOUT WOOL online resource library, combined with the suggested resources listed below will give you ample background information to carry out this lesson and answer a range of questions posed by students. [The Woolmark Learning Centre Wool Appreciation Course Module 7 Wool knits](#) will provide you with more detail on the knitting process.

Useful resources:

LEARN ABOUT WOOL factsheet

- [Different types of wool fabrics](#)

Videos

- [Finger knitting lesson no.1 Knitting with one finger](#)
- [Recycled craft: how to make a French knitting machine](#)
- [Extreme knitting Little Dandelion](#)

Materials and equipment

- LEARN ABOUT WOOL kit fibre, yarn and fabric samples
- Sufficient yarn samples for class
- Scissors
- Cardboard rolls
- Masking tape
- Wooden popsicle sticks (4 per student)

Lesson objective

To allow students to manipulate wool using a simple knitting technique and to record the process through which they produced their wool product.

Students will have the opportunity to:

- explore the process of knitting
- discuss their observations as a whole class to identify similarities and differences in their investigations
- share their work with others.

Lesson focus

The focus of this lesson is to allow students to explore the ways wool can be physically changed by knitting and the implications for its end use.

Setting the context

Knitting is the process where the yarn is formed into a loop, by a needle, through which another loop of yarn is threaded. As this is repeated, row by row, the loops are locked together. Each row is known as a course. This is known as 'weft knitting' because the yarn is being fed from the side of the fabric, rather like a weft yarn in weaving. Knitting is a fabric-forming technology that has been used for thousands of years. It can be used to create fabrics, which are then cut to create garments, or to create garments directly.

Knitting can be carried out with simple technology (i.e. hand knitting needles or fingers) or sophisticated computer-controlled knitting machines. The different machines use hooked needles, which can be arranged in a circle or in a straight line. The loops can be formed one by one or in batches, depending on the machine type.

Woollen-spun knitted fabrics are generally heavier and bulkier than worsted-spun knitted fabrics. They make great soft, warm jumpers, scarves, beanies, socks and cardigans. Worsted-spun knitted fabrics are ideal for wearing everyday — they are soft and comfortable and great for travelling as they are soft, cool, comfortable, lightweight and don't need ironing.

For many years, yarn was processed domestically by hand and made into clothes through the processes of hand knitting. In this lesson, students will be encouraged to learn to knit using a French knitting machine, which they will make.

Introduction

Reflect on the techniques for changing the shape of wool, as covered in the previous lessons. Ask students to recall each of the processes used to create yarn (spinning) and non-woven fabric (felt). Ask if they can explain the features of each of these products and how they differ from the raw wool.

Introduce the lesson by asking students if they know how to knit. Are any students wearing knitted garments? Encourage them to take a close look at the fabric of these garments. Revisit the LEARN ABOUT WOOL kit samples and highlight differences between the knitted fabrics. Can they describe what they look like and how they think they were made? How are they similar/different to both the garments worn by students and each other?

Explain that in this lesson they are going to investigate a method of changing wool yarn into fabric by knitting. Students will have the opportunity to create their own knitted article by making a simple knitting machine for the purpose, using the instructional video to guide them through the process.

Body of lesson

1. Show students the instructional video [Recycled craft: how to make a French knitting machine](#).
2. Distribute a cardboard roll, about 2 metres of yarn and four popsicle sticks to each student and show them the video again.
3. Allow students sufficient time to make their own knitting machine using the materials provided. Encourage students to assist one another with the construction of their knitting machines.
4. When all students have completed constructing the knitting machine, take them through the procedure of getting started with the yarn on the machine by attaching the yarn and beginning the process of looping the yarn around the popsicle sticks, as shown in the video. Ensure all students are comfortable with the process.
5. Allow students time to master the knitting technique to produce a length of knitting. Encourage students who have grasped the technique quickly to assist those who are taking a little longer.
6. Regroup as a class and discuss the outcomes of this activity. How is this knitting result similar to knitted fabric samples (worsted-spun fine-knit rib and woollen-spun plain-knit) in the LEARN ABOUT WOOL kit? How is it different? What are the similarities and differences

between knitting commercially and knitting using their own knitting machine? Encourage them to look closely at the yarn used to knit the kit samples. How is this different to the yarn they spun themselves? Look at the *Different types of wool fabrics* factsheet. Can they identify what sort of fabrics are knitted? Comments and observations can be recorded in the class science journal under the heading *Knitted products*.

7. Display student's creations in the classroom.

Conclusion

Encourage students to identify some of the features and properties of knitted wool products (e.g. warm, bulky, soft, cosy, fuzzy, smooth) and how these influences the way we use wool in a range of everyday products. Discuss how can we change wool's shape and form when undergoing a variety of processes such as knitting. Allow students time to reflect on their learning and understanding of the properties of processed wool and how these can be incorporated into the clothes they wear.

Extension activity

Students can prepare a visual representation (road map) of the process of turning wool from a Merino sheep to a pair of woollen socks, identifying each of the key stages of the process 'from sheep to socks', starting with a sheep in the paddock.

Alternately, a community member, skilled in woollen crafts such as knitting can be invited into the classroom to share their work. Students may also like to try finger knitting using the following instructional video [Finger knitting lesson no.1 Knitting with one finger](#) as a guide. An example of over-sized handknitting can be seen in [Extreme knitting Little Dandelion](#).

Links to the Australian Curriculum:

- Everyday materials can be physically changed in a variety of ways ([ACSSU018](#))
- Science involves observing, asking questions about, and describing changes in, objects and events ([ACSHE021](#))
- Participate in guided investigations to explore and answer questions ([ACSI025](#))
- Represent and communicate observations and ideas in a variety of ways ([ACSI029](#))
- Use materials, components, tools, equipment and techniques to safely make designed solutions ([ACTDEP007](#))
- Explore the characteristics and properties of materials and components that are used to produce designed solutions ([ACTDEK004](#))
- Use and experiment with different materials, techniques, technologies and processes to make artworks ([ACAVAM107](#))

Pre-lesson preparation, materials and equipment

The LEARN ABOUT WOOL online resource library, combined with the suggested resources listed below will give you ample background information to carry out this lesson and answer a range of questions posed by students. The [Woolmark Learning Centre Wool Appreciation Course Module 8 Manufacturing woven fabric](#) provides more detailed information on the weaving process.

It is not necessary to watch the entire *How to weave with wool* video with the class due to time constraints but viewing the video before delivering this lesson will identify key elements of instruction and student inspiration.

Useful resources:

LEARN ABOUT WOOL factsheet

- [Different types of wool fabrics](#)

Videos

- [AWI weaving tutorial— How to weave with wool \(Natalie Miller\)](#)
- [Weaving on a cardboard loom \(Part 1\)](#)
- [Primary weaving](#)

Useful books

- *Charlie needs a cloak*, written by Tomie DePaola
- *The weaver's surprise*, written by Tom Knisely, illustrated by Megan Lloyd

Materials and equipment

- LEARN ABOUT WOOL kit fibre, yarn and fabric samples
- Sufficient yarn samples for class (including student-made yarn from Lesson 3)
- Stiff cardboard (weaving loom)
- Scissors
- Masking tape
- Warp yarn for weaving loom
- Rulers
- Pencils

Lesson objective

To allow students to manipulate wool using the weaving process and to record the procedures followed to produce their woollen product.

Students will have the opportunity to:

- explore the process of weaving
- discuss their observations as a whole class to identify similarities and differences in their investigations
- share their work with others.

Lesson focus

The focus of this lesson is to allow students to explore the ways wool can be physically changed by weaving and the implications for its end use.

Setting the context

Weaving is the process of interlacing warp and weft yarns in a weaving machine, or loom. It is used extensively to manufacture fabrics used to create apparel and interior textiles. Weaving can use simple frames to hold the threads or complex weaving machines under computer control. Woven fabrics are constructed using a set of warp yarns, which run down the length of the fabric and weft yarns, which run along the width of the fabric. There are many different weave types, or weaving patterns, which can give woven wool fabrics different characteristics and features such as wear performance, cost, handle (feel) and aesthetics (look).

Woollen-spun woven fabrics are generally thick and heavy. They are ideal for warm winter jackets and coats. These fabrics are generally wind-proof and can repel light rain, so are good to wear when playing outside during winter. Worsted-spun woven fabrics are ideal to wear in warm weather or inside, where they keep you cool and comfortable.

For many years, yarn was processed domestically by hand and made into clothes through the process of weaving. Students will have the opportunity to make a simple weaving loom and weave a piece of fabric using a simple, easy-to-follow technique.

Introduction

In the previous lesson students explored how to change yarn into a knitted item. Introduce the lesson by explaining they will be looking at another process used to change wool yarn into wool fabric. This process is known as weaving. Revisit the LEARN ABOUT WOOL kit samples and highlight differences between the

woven fabrics. How are they similar/different to each other?

Ask students if they are wearing any woven garments. Encourage them to take a close look at the fabric of these garments. Can they describe what they look like and how they think they were made? How are they similar/different to the woven fabric samples from the kit?

Explain that in this lesson they are going to investigate weaving as a method of changing wool yarn into fabric. They will have the opportunity to create their own woven articles by making a simple loom for the purpose, using the instructional videos to guide them through the process.

Body of lesson

1. Show students the first three minutes of the instructional video [How to weave with wool \(Natalie Miller\)](#)
2. Distribute the stiff cardboard squares and show students the videos [Weaving on a cardboard loom](#) and [Primary weaving](#) Explain how to cut a series of evenly spaced notches along the top and bottom edges, using a ruler, pencil and scissors. Show them how to add the warp yarn top to bottom, using the video as a guide. Using alternate coloured yarns for the warp and numbering them, as shown in [Primary weaving](#) may assist some students with following instructions.
3. Show students various highlights of the *How to weave with wool* video, explaining some of the different types of weaving effects which can be applied. Students can then select yarn samples to begin weaving. Explain that these samples are called the weft yarns. Students may wish to include the yarn they produced in Lesson 3: Twisting, in the weft.
4. Allow students time to master the technique and produce a piece of weaving. Encourage students to assist one another with their work.
5. Regroup as a class and discuss the outcomes of this activity. How is this weaving result similar to woven fabrics in the LEARN ABOUT WOOL kit? How is it different? What are the similarities and differences between weaving commercially and weaving using their own weaving loom? Look at the *Different types of wool fabrics* factsheet. Can they identify what sort of fabrics are woven? Comments and observations can be recorded in the class science journal under the heading *Woven products*.
6. Display student's creations in the classroom, either as a framed piece still on the cardboard loom or cut off and attached to a hanger, as seen in [Primary weaving](#)

Conclusion

Encourage students to explain some of the properties and features of woven wool products (e.g. warm, bulky, soft, cosy, fuzzy, smooth) and how these properties influence the way we use wool in a range of everyday products. Discuss how can we change wool's shape and form when undergoing a variety of processes such as weaving. Allow students time to reflect on their learning and understanding of the properties of processed wool and how these can be incorporated into the clothes they wear.

Extension activity

A community member, skilled in woollen crafts such as weaving can be invited into the classroom to share their work. Students may also like to try circular weaving using the following instructional video [Circle weaving with children](#) using paper plates, scissors, a pencil and yarn.

Links to the Australian Curriculum:

- Everyday materials can be physically changed in a variety of ways ([ACSSU018](#))
- Science involves observing, asking questions about, and describing changes in, objects and events ([ACSHE021](#))
- Participate in guided investigations to explore and answer questions ([ACSI025](#))
- Represent and communicate observations and ideas in a variety of ways ([ACSI029](#))
- Use materials, components, tools, equipment and techniques to safely make designed solutions ([ACTDEP007](#))
- Explore the characteristics and properties of materials and components that are used to produce designed solutions ([ACTDEK004](#))
- Use and experiment with different materials, techniques, technologies and processes to make artworks ([ACAVAM107](#))

Pre-lesson preparation, materials and equipment

The LEARN ABOUT WOOL online resource library, combined with the suggested resources listed below will give you ample background information to carry out this lesson and answer a range of questions posed by students.

Useful resources:

LEARN ABOUT WOOL factsheet

- [Different types of wool fabrics](#)

Videos

- [Wool processing](#)
- [Lost and found: the journey from farm to fashion](#)
- [The innovator](#)

Useful links

- [The Woolmark Learning Centre Wool Appreciation Course](#)
- [Lots of lovely things for kids to make with wool](#)

Useful book

- *Stitch and string lab for kids: 46 creative projects to sew, embroider, weave, wrap and tie*, written by Cassie Stephens

Materials and equipment

- LEARN ABOUT WOOL kit fibre, yarn and fabric samples
- Sufficient yarn samples for class
- Scissors
- Cardboard rolls
- Masking tape
- Wooden popsicle sticks (4 per student)
- Cardboard
- Wool top
- Small containers for water
- Dishwashing detergent
- Coloured pencils
- Paper for accordion book

Lesson objective

To allow students to

- consolidate their learning and understanding of wool processing
- to develop their understanding of the link between the features of wool products and the processes of how they were made
- further explore wool processing techniques
- to refine their wool manipulation skills.

Students will have the opportunity to:

- refine and extend their wool manipulation skills by further investigating their chosen method to create a 'woolly wonder'
- share their work with others.

Lesson focus

This lesson forms the basis of a culminating performance for this unit of work and allows students to further develop their wool manipulation skills using their preferred technique(s). It also encourages students to identify the properties of wool garments, depending on the production process they have undergone. Each student can record the stages of their creative process in an accordion book to complete this lesson.

Setting the context

Students will now have an appreciation of the different processes used to produce everyday textiles. This lesson will allow students to further explore techniques they have learned by creating a 'woolly wonder' item by using one or more of the techniques studied (spinning, felting, knitting or weaving) and sharing their creation with the class.

Introduction

Introduce the lesson by asking the students to identify the different ways raw wool can be changed into a processed wool article. What are some of the key features of each of the processes studied in this unit? Correct any misconceptions before you explain that in this lesson students will be given the opportunity to further develop their skills in one or more of their preferred wool processing techniques (spinning, felting, knitting and weaving) covered in this unit to produce a 'woolly wonder' which can be used as a decoration for their bedroom OR as a toy for their pet.

This process will be recorded in an accordion book.

Body of lesson

1. Using their chosen process, ask students to draw a labelled diagram of what they would like to create and which technique(s) they will be using to create it on the front page of their accordion book.
2. Assign materials to each student, as required.
3. Allow sufficient time to complete construction of the woolly wonder.
4. Ask students to document the process of the construction as a set of sequenced steps in the accordion book.
5. Display student's creations with their accordion book in the classroom.
6. Discuss the range of creations with the class and the challenges they faced as they completed their construction. If time permits, students can present their woolly wonder to the class and explain the process(es) they used to create it, using their accordion book as a prompt.

Conclusion

Show students the video [The innovator](#). As they watch it, encourage them to think about the different types of clothing shown in each scene. Can they identify which garment is knitted, woven or felted based on the activity being undertaken when the garment is being worn? Ask them to think about how each garment has been produced and how this has influenced the function of the garment (e.g. a knitted garment can be used for sports activities because it is stretchy and comfortable, a felted garment can be worn in cold weather due to its ability to insulate the wearer).

Encourage students to explain some of the properties of felted, woven and knitted wool products seen in the video and how these properties influence the way we use wool in a range of everyday products. Discuss how we can change wool's shape and form when undergoing a variety of processes such as spinning, felting, knitting and weaving. Allow students time to reflect on their learning and understanding of the properties of processed wool and how these can be incorporated into the clothes they wear.

Extension activity

There are many online wool craft activities suitable for Year 1 students which can be easily accessed. An example is [Lots of lovely things for kids to make with wool](#). Pinterest is another source of extension activities for students who are keen to explore other methods of wool manipulation and processing, if time permits.

Links to the Australian Curriculum:

- Everyday materials can be physically changed in a variety of ways ([ACSSU018](#))
- Science involves observing, asking questions about, and describing changes in, objects and events ([ACSHE021](#))
- Participate in guided investigations to explore and answer questions ([ACSI025](#))
- Represent and communicate observations and ideas in a variety of ways ([ACSI029](#))
- Use materials, components, tools, equipment and techniques to safely make designed solutions ([ACTDEP007](#))
- Explore the characteristics and properties of materials and components that are used to produce designed solutions ([ACTDEK004](#))
- Generate, develop and record design ideas through describing, drawing and modelling ([ACTDEP006](#))
- Sequence steps for making designed solutions and working collaboratively ([ACTDEP009](#))
- Use and experiment with different materials, techniques, technologies and processes to make artworks ([ACAVAM107](#))