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INTRODUCTION

THE WOOLMARK COMPANY

The Woolmark Company is a subsidiary of Australian Wool Innovation, a not-for-profit enterprise that conducts research, development and marketing along the worldwide supply chain for Australian wool on behalf of about 60,000 woolgrowers who help fund the company.

COMPETITION INTRODUCTION

Wool4School is an annual student design competition encouraging budding fashion designers to show the nation what they’re made of.

Open to all Australian school students from Years 7 to 12, the Wool4School Design Competition invites students to design an outfit using at least 80% wool. The outfit must contain one to four separate pieces and show the student’s creative and innovative talent.

RESOURCE INTRODUCTION

During 2019, the Wool4School Design Competition is giving students the opportunity to be innovative in designing a garment or outfit that embraces the use of technology to enhance its performance or function.

Working within the constraints and considerations found in the design brief, students can research and explore new possibilities for designed solutions, considering new textile technology and wool.

In this booklet you will find the following items:
- unit of work
- student worksheets to support each lesson
- teacher questionnaire
- student examples
- rubrics

CURRICULUM LINKS

Links to state and territory curriculums are located on the Wool4School website.
This short unit of work is focused around the design brief set by the Wool4School Design Competition, which is run by Australian Wool Innovation/The Woolmark Company. The competition has been developed in conjunction with textile and design teachers and is aimed at secondary students from Years 7 to 12. This unit of work is in line with the Australian Curriculum — Design and Technologies and links with the syllabus of each state and territory.

The Wool4School design brief is designed to be inclusive of all students. This unit of work can easily be adapted to suit your students' needs. A modified teacher booklet for teachers is available for students who have additional learning needs.

For students in Years 7 and 8, the competition requirements can be covered in 2–3 classroom lessons (100 minutes) and the competition activities can be used as an assessment task (see the marking rubric).

More time will be required for students in Years 9 to 12 to cover the additional competition specifications. If class time does not permit, you could introduce the design competition to your students and those who are keen could complete it for home learning or as a co-curricular activity.

Included in this unit of work are five lessons – these cover the requirements of the design competition up to Year 12. Also included are student worksheets and lesson ideas, if you choose to extend this design competition.

In addition to the resources included here and on the Wool4School website, interactive free resources (e.g. videos, links, posters and online publications) cover all aspects of the Australian wool industry, from farm to fashion, are available on:

- Learn About Wool website
- Learn About Wool Resource Library

**LESSON TOPICS INCLUDE:**

- **LESSON ONE:** Introduction of Wool4School design brief and creating an end-user/mood board
  - **All year levels**
  - **Years 9 to 12**

- **LESSON TWO:** Learning about wool
  - **All year levels**

- **LESSON THREE:** Fashion illustration
  - **All year levels**

- **LESSON FOUR:** Technical sketches
  - **Years 11 and 12**

- **LESSON FIVE:** Annotations and creative statement
  - **All year levels**
  - **Years 9 to 12**
Before starting the unit of work, read through and print off this document, which includes several resources and worksheets. Identify which worksheets you wish to use or adapt for your lessons.

This year’s design brief centres around students designing a garment or outfit that incorporates the use of technology. A STEM or STEAM approach can be adapted, whereby students design an ‘engineered’ garment using a range of problem-solving skills.

‘STEAM’ is an acronym for Science, Technology, Engineering, (Art) and Maths. STEAM is about taking an interdisciplinary and applied approach to the learning and teaching where all disciplines are integrated into a learning program. Wool4school works well with this approach.

SUPPORTING ONLINE RESOURCE

The Woolmark Company has developed an online Wool Appreciation Course that students can complete at their own pace. It covers everything they need to know about wool for the competition, including its properties and the journey from farm to fashion. You can direct students to complete specific modules or encourage them to complete the whole course to receive an online badge of completion. The course is more suited to students from Year 9 onwards. Teachers are also encouraged to complete the course.

The course covers 15 modules:

- What is wool?
- Introduction to wool
- Why wool?
- Wool production
- Manufacturing wool yarn
- Wool yarns
- Manufacturing wool knits
- Manufacturing woven fabric
- Dyeing
- Finishing
- Merino innovations
- Product quality during manufacture
- Maintaining product quality during use
- Quality assurance
- The Woolmark brand

To access the course:

1. Click on the link www.woolmarklearningcentre.com
2. Click on ‘Register now’ and fill in your details.
3. Click on the verification link that will be sent to your email account.
4. Log in and then click on ‘Courses – Wool Appreciation Course – module to complete’.
LESSON ONE

TOPIC: Introduce the Wool4School design brief and sourcing information

To prepare for this lesson, you will need:
• Some images of innovative garments and accessories that incorporate technology (see example case studies) to refer to during the lesson.
• Some large blank sheets of paper to use for brainstorming, ideas and sketching.

Depending on your class, you may wish to limit the choice of what students can do by specifying a particular theme or topic.

COMPETITION DESIGN BRIEF:

Technology is reshaping almost every industry, including fashion. This year we invite you to design a garment or an outfit of up to four pieces that embraces the use of technology to enhance garment performance or function. For example, wool footwear that tracks your run or a credit card chip in a jacket for ease of purchase.

With some innovative thinking, and an understanding of the importance of technology in today’s market, the possibilities are endless. The garment or outfit must be made from a minimum of 80% wool and can consist of one item or up to four items.

SETTING THE CONTEXT:

With technology evolving and becoming more advanced in everyday life, there is a growing trend towards technology-enhanced clothing. Many young designers are designing and creating innovative garments that incorporate technology, which responds to various user-centred problems.

The 2019 Wool4School design brief asks students to use creative and critical thinking techniques to design a potential solution for a user-centred problem or need in the form of a garment or outfit that incorporates technology and uses wool as the basis for the design.

Students will research an end-user (consumer) group with a need for such a garment or outfit. They will gain inspiration from existing technological garments or accessories and will research innovative wool fabrics that would be suitable to use in such an outfit.

TO BEGIN THE LESSON:

• Provide all students with a copy of the 2019 Wool4School design brief and competition outline (either hard copy or PDF).
• Ask students to identify what the brief is asking — highlight key words and identify the constraints and considerations to ensure that all students understand the requirements of the brief.

TIP: Pinterest is a free website tool, which helps users save, sort and manage images or other media onto a ‘pinboard’. It helps store and keep all your ideas on one page.
ACTIVITY ONE: Brainstorming ideas

- Brainstorming can be done as a group or individually but it is best done as a class to get the widest variety of ideas. Start brainstorming by looking at existing garments that incorporate technology (see example case studies).
- A great idea is for students to copy and paste ideas they find on the internet into a document, or to start a Pinterest page. Students can create a Pinterest page of ideas with images of technologically enhanced garments that appeal to them.
- Looking at the ideas they have collated, students can study each image and identify the problem being solved (e.g. functional clothing for a person with a wheelchair disability; the jacket must be easy to put on and take off).
- Students can identify a problem they would like to solve through the design of a technologically enhanced outfit or garment. Encourage students to think about ‘who’ the end user would be (e.g. an athlete).
- Ask students to complete the ‘end-user’ profile, located at the end of lesson one.
- After students have identified a problem, ask them to expand their idea by determining the types of garments and accessories that would be best suited to solving the specific problem or need.

ACTIVITY TWO: Creating an end-user/mood board

This activity can either be done digitally or manually.
For this task:

- Students must find images that represent their end user (look for ideas from their ‘end-user’ profile) and chosen problem to be solved. Worksheets and examples can be found at the end of lesson one.
- Play around with the arrangement of the images before they are pasted down.
  If using Adobe Photoshop or Adobe Illustrator, play around with proportion and layering.

HINT: Encourage students to include more than just images of clothing on a page. Advise them to select a few key images of specific clothing and accessories, and build their board using other images that represent the end user, such as colours, materials and things that might be associated with the end user (e.g. their interests).

TIP: A really quick and easy way to create an end-user/mood board is using the ‘Polyvore’ app (it also works on computers) — check it out: https://www.polyvore.com/cgi/app

By the end of the lesson, students should have completed their end-user/mood board. If not, it can be set as a home learning task.

For home learning, ask students to start thinking about possible designs for their end user — sketch down some ideas and bring them to class.

*Remind your students to site references for all their sources of inspirations.

LESSON ONE CONCLUSION:

By the end of this lesson, students should have familiarised themselves with the design brief and identified an end user to design a garment or outfit for. Students in Years 9 to 12 should also have collated images that represent their end user(s) and presented it as a profile page.
STUDENT WORKSHEET: LESSON ONE

WORKSHEET ACTIVITY ONE: Creating ideas

To help get you started, study the designs of garments that incorporate technology — think about who the end user of these garments would be:

1. Nike runner embedded with an Apple iPod:

2. Jacket that syncs with your phone:
   https://atap.google.com/jacquard/

3. Solar-charged jacket:
   https://www.vollebak.com/product/solar-charged-jacket/

4. Heated vest wetsuit:

5. Biometric t-shirt that keeps tabs on the effectiveness of your workout sessions:

6. Jacket that warms your body:
   https://emelandaris.com/heating/

7. Google Glass with a screen that embeds into clothing/headwear:
   https://thecurrentdaily.com/2012/09/10/dvf-introduces-google-glass-to-nyfw-catwalk/

8. Yoga wear that incorporates technology to enhance yoga experience:
   https://www.wearablex.com/

9. Biometric band to improve emotional wellbeing:
   https://www.forbes.com/sites/vivienmedecker/2016/05/31/vinayak-kate-unsnowboth-launches-zenta-the-worlds-first-biometric-band-for-your-emotional-wellbeing/#2f92243d64b5

10. Samsung 'Human fit' suit:

11. Powered Sports Bra that tracks your heartbeat:
To help your selection of an end-user group for your technological outfit, consider the potential users below.

Think about the different needs these end users might have.

**END-USER GROUPS:**

- travellers or backpackers
- tweenagers
- children
- sporty types
- special needs and disabilities
- students
- business men or women
- tradespeople [e.g. builders, plumbers, electricians]
- homeless people
- pet owners
- chefs
- campers
- farmers
- survivalists
- other ______________________________
- ______________________________
- ______________________________
- ______________________________
- ______________________________
WORKSHEET ACTIVITY ONE: Creating an end-user profile

Identify the following aspects of your end user — the type of person you imagine would wear your technology garment or outfit (see previous page for list of possible end-user groups):

**END USER PROFILE**

<table>
<thead>
<tr>
<th>GENDER</th>
<th>Male</th>
<th>Female</th>
<th>Either</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGE GROUP</td>
<td>0-10</td>
<td>20-30</td>
<td>40-50</td>
</tr>
<tr>
<td>10-20</td>
<td>30-40</td>
<td>50+</td>
<td></td>
</tr>
<tr>
<td>LIVING SITUATION</td>
<td>At home with parents</td>
<td>Living away from home</td>
<td>Apartment/flat</td>
</tr>
<tr>
<td>(circle all applicable)</td>
<td>Single</td>
<td>Married/Couple</td>
<td>House</td>
</tr>
</tbody>
</table>

**PREFERENCES IN THE FOLLOWING (LIST THEM):**

- STYLE OF CLOTHES THEY LIKE TO WEAR
- MAGAZINES/BOOKS THEY LIKE TO READ
- PLACES THEY LIKE TO SHOP
- MUSIC THEY LIKE TO LISTEN TO
- ACTIVITIES THEY LIKE TO DO

**LIST ANY WORDS THAT WOULD DESCRIBE YOUR END USER:**

- - -
- - -
- - -

**WHAT ISSUES ARE IMPORTANT TO THIS END-USER GROUP?**

E.G. KEEPING UP WITH THE LATEST FASHION, BEING SUSTAINABLE

- - -
- - -
- - -

**WHAT TECHNOLOGICAL NEEDS WOULD APPEAL TO THIS END-USER GROUP?**

- MATERIAL TYPES
- COLOURS
- PATTERNS

**IN YOUR OWN WORDS, HOW WOULD YOU DESCRIBE THIS END-USER GROUP?**
WORKSHEET ACTIVITY TWO: Creating an end-user/mood board

Using the information identified in your end-user profile (previous page), create an end-user/mood board that reflects their style.

• Collect images from magazines or the internet that reflect the end user of your designed garment or outfit and incorporated technology.
• Experiment with the layout and proportion of the images before you commit to pasting them down.
• Include a heading and any other relevant information that also conveys the style of your chosen end user — choose an appropriate font.

Below are examples of two different end-user profiles:

KEY IMAGES HAVE BEEN SELECTED THAT REPRESENT THE END-USER PROFILE, INCLUDING THE AGE, GENDER, STYLE, COLOUR PALETTE, INTERESTS AND MATERIAL TYPE/PATTERN.

THIS END-USER PROFILE SHOWS SURVIVALISTS WHO ARE ATHLETIC AND INTO CAMPING AND NATURE.
This end-user profile shows a young, female festival-goers interested in music and retro style and prints.

End User Profile
THE FESTIVAL GOERS

Attend music festivals throughout the year such as coachella and slpendour. Gender - female and aged between 17 - 25
The style of clothes worn vary and are generally bohemian with a quirky twist.
Their outfits must be comfortable and functional whilst keeping up with the latest trends. they like the magazines frankie and peppermint.
for many people the outfits worn are just as important as the festival itself. the festivals are generally held over a number of days so more than one outfit is required.
Lesson Two

TOPIC: Learning about wool  
All year levels

The Woolmark Company’s online Wool Appreciation Course (WAC) provides all the information students need to build a solid understanding of wool, its properties and benefits, the wool supply chain and recent technological innovations in wool.

If time is limited, or the WAC is too complex for your students, you can use the resources on the Wool4School and Learn About Wool websites along with the fabric samples supplied by The Woolmark Company. Or you might have some fabric samples of your own to develop the students’ knowledge of wool.

As students will be designing a garment or outfit incorporating technology suitable for a particular end user, it is important they learn about the wool and wool innovations, with a focus on functional and performance aspects.

TO BEGIN THE LESSON:

You will need:
- A selection of wool resources to direct your students to.
- Photocopies or digital copies of the four student worksheets that accompany this lesson.

TIP: Where possible, try to complete the online WAC before teaching the students about wool — it will not only give you a thorough understanding of wool, but you can also select which sections you want your students to know about.

ACTIVITY ONE: Brief overview of wool

- Use these resources to provide an overview of wool, with a particular focus on wool:
  - This is wool (video)
  - Wool – the natural fibre (fact sheet)
  - Wool — the fibre (fact sheet)
  - Sheep breeds (fact sheet) Emphasise to students that different breeds of sheep produce different types of wool. Merino sheep (which make up nearly three-quarters of the Australian sheep flock) produce a fine fibre that is soft next to the skin.
  - If time is limited, encourage students to explore the resources (fact sheets, posters and videos) on the Learn About Wool website under the Years 9 and 10 Wool — the sustainable fibre resource package.
  - Students can also explore the Woolmark website to see why Merino wool is such a versatile fibre for fashion: www.woolmark.com/education/fibre/benefits-of-wool/

ACTIVITY TWO: Benefits of wool — properties and characteristics

Explain to the students what is meant by ‘properties’ when talking about a material.

HINT: Properties refers to a material’s natural behaviours. For example, wool’s natural behavior (property) is to be crease-resistant. Materials are often specifically chosen for different products based on their properties.

- Show students this video: The Innovator https://www.youtube.com/watch?v=ZtHZyJTvHc
- Ask students to complete the benefits of wool activity in the students’ worksheet.
  Students can also refer to https://www.woolmark.com/education/fibre/benefits-of-wool/
ACTIVITY THREE: Knitted and woven fabrics

In addition to learning about the properties of wool, students need to understand the difference between woven and knitted fabrics.

- Ask students to look at and feel the knitted and woven fabric samples provided in the resources kit.
- Ask students about the differences between the fabrics (look and feel).
- Ask students to consider what type of garments would be made using knitted or woven fabrics and the reasons why they are used.
- Ask students to complete the knit and woven fabrics worksheet, located after lesson two.

A set of videos for students to watch is on the Wool4School website under the heading 'wool processing'. These videos show the process that wool goes through, from the raw fibre to clothing.

ACTIVITY FOUR: Wool innovations

This activity gives students a greater understanding of and appreciation for the versatility of wool, allowing them to better select and match appropriate fabrics for their garment or outfit. Since students are designing a garment or outfit that embraces the use of technology, they need to consider both the functional and aesthetic (visual) qualities of the materials incorporated in their design.

The Woolmark Company has developed various innovations for both woven and knitted wool fabrics.

Students can learn more about these innovations by exploring the following links and completing the wool innovations worksheet, located after lesson two.

Website links:
- www.woolmark.com/inspiration/textile-innovations/
- www.woolmark.com/innovation/developments/

**HINT:** Suggested wool innovations to explore:
- Neulana Protect
- Vintage Merino
- UV control Merino
- 3D Merino
- Merina Fresh
EXTENSION ACTIVITY: Testing the properties of wool fabrics
(most tests will require one lesson to complete from start to finish, including the conclusion)

The Wool4school website includes several physical tests that can be carried out using the fabric samples provided to help demonstrate the following properties of wool:

- drape
- wrinkle resistance and recovery
- flammability
- comfort/softness
- machine washability.

Find out how to carry out each test go to the teacher dropbox:
https://www.dropbox.com/sh/kdwozlx3bt2tfs/AADxndz8D9AjscShvDPWyIbBa?dl=0

If class time permits (or perhaps at a later stage), carry out one or more of these tests as a class activity.

LESSON TWO CONCLUSION:

By the end of this lesson, students should be familiar with wool and its properties and characteristics, as well as a few wool innovations. They should be able to identify the difference between a knit and woven fabric, and know how the Woolmark logo is applied to garments and products.
WORKSHEET ACTIVITY TWO: Benefits of wool (properties and characteristics)

Properties and characteristics refer to how a material looks, feels and behaves. By investigating a materials’ characteristics and properties, we can select the most suitable material for the purpose.

So, let’s find out about the benefits of wool.

ACTIVITY:

• Click on the link below to find out why wool is so wonderful: https://www.woolmark.com/education/fibre/benefits-of-wool/ Scroll to watch the video – ‘The innovator’.

• Click on the link below to find out why wool is especially suitable for sportswear and performance wear: www.woolmark.com/inspiration/activewear/ (watch the video in the link).

• Read through the benefits of wool [https://www.woolmark.com/education/fibre/benefits-of-wool/] and identify which benefits are especially appropriate for the technological garment or outfit you intend to design for your end user.

• Fill in the table below (this will help you to make annotations for your fashion illustration):

<table>
<thead>
<tr>
<th>WOOL PROPERTY</th>
<th>WHY/HOW THIS MAKES WOOL SUITABLE FOR A GARMENT OR OUTFIT FOR YOUR CHosen END USER TO INTERGRATE WITH TECHNOLOGY</th>
</tr>
</thead>
<tbody>
<tr>
<td>BREATHABLE</td>
<td>The outfit is intended to be worn in hot weather, so it is important that the material is breathable so that the end user does not feel sweaty or clammy</td>
</tr>
<tr>
<td>BIODEGRADABLE</td>
<td></td>
</tr>
<tr>
<td>RENEWABLE</td>
<td></td>
</tr>
<tr>
<td>SOFT</td>
<td></td>
</tr>
<tr>
<td>ELASTIC</td>
<td></td>
</tr>
<tr>
<td>MACHINE</td>
<td></td>
</tr>
<tr>
<td>WASHABLE</td>
<td></td>
</tr>
<tr>
<td>STAIN RESISTANT</td>
<td></td>
</tr>
<tr>
<td>ANTI-WRINKLE</td>
<td></td>
</tr>
<tr>
<td>ODOUR RESISTANT</td>
<td></td>
</tr>
<tr>
<td>UV RESISTANT</td>
<td></td>
</tr>
<tr>
<td>FIRE RESISTANT</td>
<td></td>
</tr>
</tbody>
</table>
## WORKSHEET ACTIVITY THREE: Assessing knit and woven fabrics

Click on the following link and watch the short videos to find out about the process wool goes through from fibre to fashion.

In a few short sentences, explain the difference between knit and woven fabrics.

**ACTIVITY:**

Look at the wool fabric samples provided [one knit and one woven] and fill in the following tables. Please see fact sheet for more information:


<table>
<thead>
<tr>
<th>Knit</th>
<th>Woven</th>
<th>How can you tell?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Which of the two fabrics is stretchy?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Which of the two fabrics feels the smoothest?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Which of the two fabrics feels the softest?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Knit</th>
<th>Woven</th>
<th>How can you tell?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Which fabric would be most suitable for a jacket?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Which fabric would be most suitable for a dress?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Which fabric would be most suitable for a t-shirt?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
WORKSHEET ACTIVITY FOUR: Wool innovations

To learn more about The Woolmark Company’s innovations in wool, you will need to work through Module 11 of the Wool Appreciation Course on the Woolmark Learning Centre. https://www.woolmarklearningcentre.com/

**HINT:** Wool innovations are new wool materials that have been developed through research and development to further enhance or build in new properties and characteristics into the fibre.

Think about which innovations might be suitable for your end user. You can also see link https://www.woolmark.com/innovation/developments/ - scroll down to see more.

<table>
<thead>
<tr>
<th>INNOVATION</th>
<th>IS IT WOVEN OR KNIT</th>
<th>WHAT ARE ITS FEATURES?</th>
<th>WHICH GARMENT/ACCESSORY WOULD YOU USE THIS INNOVATION IN?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neulana Protect</td>
<td>Woven</td>
<td>Shower resistant, Wind resistant, Wrinkle recovery, Machine washable</td>
<td>Outer wear such as spray jackets and sportswear, also outdoor gear such as tents etc.</td>
</tr>
<tr>
<td>3D Merino</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vintage Merino</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UV Control Merino</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moisture management Merino</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cool Wool</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Merino Fresh</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
WORKSHEET ACTIVITY FIVE: The Woolmark Logo

Fill in the information below about what each logo means. Refer to pages 3 and 4 from the information PDF ‘The Meaning Behind the Logo’.

What is the Woolmark logo?
_________________________________________________________________________________________________
_________________________________________________________________________________________________
_________________________________________________________________________________________________

What do each of these symbols represent?

1. PURE NEW WOOL

2. WOOL RICH BLEND

3. WOOL BLEND PERFORMANCE

How does a garment receive a Woolmark certification?
_________________________________________________________________________________________________
_________________________________________________________________________________________________

Do you know of any fashion labels or designers who carry the Woolmark logo? List them.
_________________________________________________________________________________________________
_________________________________________________________________________________________________
LESSON THREE

TOPIC: Designing, fashion illustration and final presentation  
All year levels

By this stage, students will have some possible design ideas from lesson one that they can refine into a fashion illustration. Please see the template provided in the worksheets after lesson three and examples from past designs on the Wool4School website to help students understand how to present their fashion illustration.

TO BEGIN THE LESSON:

You will need:

- Photocopies of a fashion template for the students to use.
- Some drawing materials, which might include pencils, Copic markers, watercolours, fineliners, tracing paper and good quality paper.
- Some fashion illustration examples for students to look at.

ACTIVITY ONE: Designing — thumbnail sketches

- Ask students to start sketching ideas using inspiration from their end-user/mood boards. Encourage students to be as innovative as possible with their ideas. You may wish to introduce students to the ‘SCAMPER’ model to help them develop their ideas further. Please see student worksheet after lesson three.

HINT: SCAMPER is a useful creative thinking technique that can help you design creative and innovative solutions using textile technology. Sometimes you can get stuck on one idea and find it difficult to expand on or improve your design. You can use SCAMPER to help you ‘think outside the square’ and come up with something totally original. Encourage students to seek feedback from their peers and teacher to help refine their designs.

ACTIVITY TWO: Fashion illustration

- Ask students to draw their final design onto a figure. While it is preferable for students to have their own style, they can use a fashion template to assist with the design process.
- Free printable templates are available from:
  - https://www.designersnexus.com/

HINT: When tracing, ask students to draw the clothing on the figure first, and then draw the figure around that.

Designs can be hand or digitally drawn and must be in colour. The design must be annotated to indicate and explain the technology aspects of the garment or outfit. If the student’s design has detail on the back, they will need to draw a back view.

Students need to think about the final presentation. Some tips to improve presentation include:

- anchor figures on the page [e.g. with a frame, or shadow] — avoid ‘floating’ figures
- fashion figure[s] can look more interesting when they are positioned off centre
- text — using the same font from the end-user/mood board helps the overall package of your presentation.

Study the fashion illustration examples on the Wool4School website, as well as the student handouts for ideas.

LESSON THREE CONCLUSION:

By end of this lesson, students should have designed a garment or outfit that is creative and innovative and meets the requirements of the design brief — it should respond to the needs of their chosen end-user(s) and be presented as a coloured fashion illustration.
**STUDENT WORKSHEET: LESSON THREE**

**WORKSHEET ACTIVITY ONE: SCAMPER**

As you start the design process, try writing SCAMPER down the side of your page to help you come up with as many options as possible. Below is an explanation of each letter in the acronym and its definition.

<table>
<thead>
<tr>
<th>SCAMPER STANDS FOR</th>
<th>POSSIBLE DESIGN CHANGES/IMPROVEMENTS: Can you think of some more?</th>
</tr>
</thead>
</table>
| SUBSTITUTE          | • Can you substitute one design feature for another? e.g. round neck instead of V-neck.  
|                    | • Can you substitute one colour for another colour? e.g. hot pink instead of red.  
|                    | • Can you substitute one fabric choice for another fabric choice? e.g. knit jersey instead of plain woven. |
| COMBINE            | • Can you combine two ideas into one? e.g. take two design ideas from different garments and use them in one look.  
|                    | • Can you combine two looks into one? e.g., take the best features from two of your designs and incorporate them in one look. |
| ADAPT              | • Can you adapt your design to suit a different function?  
|                    | • Can you adapt your design to suit a different client? e.g. be unisex – suits both male and female. |
| MODIFY             | • Can you modify your design so it is easier to construct? e.g. simplify the design.  
|                    | • Can you modify your design so it is more comfortable? e.g. modify the design lines so they sit more comfortably on the body. |
| PUT                | • Can you attach something on your design feature? e.g. put a frill on the neckline. |
| ELIMINATE          | • Can you eliminate or remove a design feature? e.g., remove a frill. |
| REVERSE            | • Can you reverse the position of your design features? e.g. put pocket on opposite side. |

**ACTIVITY:**

As you begin your designing, try writing SCAMPER down the side of your page to help you come up with as many options as possible.

<table>
<thead>
<tr>
<th>Design Ideas</th>
<th>Substitute</th>
<th>Combine</th>
<th>Adapt</th>
<th>Modify</th>
<th>Put</th>
<th>Eliminate</th>
<th>Reverse</th>
</tr>
</thead>
</table>

wool4school.com | wool4school@wool.com
WORKSHEET ACTIVITY TWO: Design options (print on A3 paper)

As you start designing, draw many options before you choose the best one.

Technological outfit to be designed for: _____________ (end-user group)

Draw at least four different options and ask your friends which one they like best:
WORKSHEET ACTIVITY TWO: Fashion illustration

Your design option is to be presented as a fashion illustration. While it is better if you can draw your design in your own style, you can use a fashion template to help you.

Please explore the examples on Wool4School website from 2018’s Wool4School competition for ideas.

If you would like to download additional fashion templates, you can go to these websites:
- http://www.designersnexus.com/

Female Template
HINT: When tracing, draw the clothing on the figure first, and then draw the figure around that.

Male Template
The Skirt was inspired by a utilitarian look, it influenced the choice of colour, fabric and structure. Practicality, versatility and multifunctional is what she wears.

The Turtleneck was inspired by a need to have a foundation piece that's simple and functional. The "It-girl" can wear it to complement other multifunctional items.

Multifunctional clothing should serve a purpose for the need as well as the individuality of the person wearing it.
TOPIC: Technical sketches

By this stage, students should have completed their fashion illustration. The next step is the technical sketch, which can be done on a computer using Adobe Illustrator or by hand.

TO BEGIN THE LESSON:

Decide if students will be completing their technical sketches by hand or using a computer or mobile device.

If students are completing the technical sketch by hand, to prepare for the lesson, have some technical sketch templates photocopied for the students to use, as well as the following materials: French curves, rulers, fine grey lead pencils, fineliners, and tracing or lithographic paper.

TIP: If using a mobile device, download the ‘Fashion design flat sketch’ app and practice making technical sketches first so that you can then show your students.

ACTIVITY ONE: Creating a technical sketch

• Creating a technical sketch and working drawing of their design will provide an opportunity for students to demonstrate their knowledge of the ‘working’ or ‘functional’ aspects of the garment or outfit. This will also highlight any details not clearly seen in their fashion illustration.

• The technical sketch is critical in showing the functionality of the garment or outfit.

• The technical sketch worksheet provides a template and instructions on how to create a technical sketch.

• Explain to students how technical sketches are used in industry [sometimes called ‘trade sketches’]. These sketches are usually accompanied by fabric swatches and a specification sheet outlining technical details, such as measurements and stitch length. This information is passed onto machinists who make the garments.

• Ensure students’ technical sketches contain the following features:
  - all seam lines (these are drawn as solid lines)
  - darts
  - identification of type of hem (e.g. machine stitched, rolled, invisible)
  - any visible top stitching (these are drawn as broken dashed lines)
  - fastenings and closures (e.g. zips, buttons)
  - construction details (e.g. gathering, pockets)
  - any other decorative feature[s]
  - front and back view

• Ensure students indicate materials and where they are used (these can be annotated). Please see the student examples after student worksheets: lesson four. More examples of technical sketches and working drawings can be found at: www.designersnexus.com/

LESSON FOUR CONCLUSION:

By the end of this lesson, students should have completed a technical sketch [fashion flat] of their design. It should show the front and back view of garment[s] drawn to scale and any exploded views of details if necessary. It should not be drawn on a figure.
WORKSHEET ACTIVITY ONE: Technical sketches

Technical sketches: sometimes called working drawings are drawn outlines of the garments – they are not shown on a figure. They are not ‘fashion’ drawings and they need to be drawn to scale – you will see in the template below the figures are in proportion (not elongated like a fashion template).

Use the template below to help draw your technical sketches of your clothing designs to scale – you can use drawing software such as Adobe Illustrator or you can draw your designs using rulers and french curves with tracing paper on top.

Include all design lines and stitching details. A front and back view of the garment needs to be shown.

Tip: If using a mobile device you can download the ‘Fashion design flat sketch’ app to complete this task.
Template and further information on technical sketches found at:
www.designersnexus.com/fashion-design-portfolio/fashion-design-croquis-template/fashion-templates/

* Technical sketches are only required for Years 11 and 12 students. While they are not required for Year 9 and 10 students, they can be completed to provide further information about the garment or outfit.

**TIP:** If using a mobile device you can download the 'fashion design flat sketch' app to complete this task.
Student Worksheets: Lesson Four

Student past example, 2018.
Lesson Five

TOPIC: Annotations and creative statement

Students must have completed their fashion illustration to complete this task. Annotations need only be brief, as further information and detail is provided in the creative statement. Students are not expected to know 'how' or 'if' the technology works — they only need to identify what the technology is meant to do. They can be as imaginative as they like.

TO BEGIN THE LESSON:

You will need:
- To familiarise yourself with the descriptions of the annotations required for the fashion illustration and the creative statement criteria (explanations for both activities are provided below).
- To prepare a checklist for students so they know that they have covered everything.

ACTIVITY ONE: Annotations

Students must include the following annotations on their fashion illustration (see sample on student worksheet):

- Identify the ‘end user’ — the type, age and gender of the person who would wear this garment or outfit.
- Reference the technology included in the garment or outfit and what problem is being solved.
- Identify each of the garment or outfit pieces (up to four pieces).
- Explain the key features (both performance and aesthetic features).
- Identify the wool fabrics (knit or woven) and wool innovations (e.g. Neulana Protect).
- Identify which Woolmark logo would be applied to each garment (Pure New Wool, Wool Rich Blend or Wool Blend Performance).

Please see example layout in worksheet.

- Support for students referring to wool fabrics can be found in the Wool4School innovation pack or the fact sheets on the Learn About Wool website: www.learnaboutwool.com/wp-content/uploads/sites/11/Secondary_Different-Types-of-Wool-Fabrics.pdf

Annotation explanation:
- Identify the ‘end user’ (including the type, age and gender of person who would wear this garment or outfit).
- Identify the incorporated technology and the problem being solved (you do not need to know ‘how’ the technology works, just state what it should do).
- Identify each of the garments (up to four pieces) that make up the outfit.
- Explain the key features of the garment or outfit (both performance and aesthetic features):
  - Functional features refer to how the garment works — closures (how you get in and out of the outfit) such as zips and buttons, ergonomic considerations (comfort and ease) and also functional features, such as pockets.
  - Aesthetic features refer to the visual aspects of the design — any decorative detailing, such as embroidery, beading, design lines, patterns, colour, prints, shapes and textures.
- Identify if woven or knitted fabrics are to be used in the outfit; include comments about the properties of wool to help explain why wool is a good choice (e.g. The jacket is tailored so a material that is crease resistant, such as wool, makes it an ideal choice).
- Identify the appropriate Woolmark logo for each garment:
  - 100% wool content — the Pure New Wool logo can be applied
  - 50–99% wool content — the Wool Rich Blend logo can be applied
  - 30–49% wool content — the Wool Blend Performance logo can be applied.

*It might be beneficial for students in Years 7 and 8 to write a full sentence because they don’t write a creative statement.*
ACTIVITY TWO: Creative statement  

In addition to annotating their fashion illustration, students in Years 9 to 12 must write a creative statement. Clarify the creative statement criteria and ensure students understand what each criterion means. Please refer students to the creative statement handout for completion.

Creative statement criteria:

- Write no more than 500 words (about six or seven paragraphs).
- Show a sound understanding of wool and its natural attributes [including environmentally sustainable features], as well as how it has been used in the design.
- Include an explanation of their design concept and description of the garment[s] or outfit design.
- Include an explanation of the technology in the garment or outfit and how it addresses a problem for a specific end user.
- Give justification of the wool materials and innovations identified for the design [these need to relate to the properties of the materials].
- Provide an explanation of what the relevant Woolmark logo means and how it can apply to the designed outfit.

Use any remaining class time to improve the presentation of students’ work.

LESSON FIVE CONCLUSION:

By the end of this lesson, all students should have annotated their coloured fashion illustration identifying end user[s], how technology is incorporated, features and what wool materials have been used. Years 9 to 12 students are to have written a supporting creative statement of no more than 500 words that addresses the set criteria.
WORKSHEET ACTIVITY ONE: Annotations

Present your fashion illustration on one (1) page only and include the following annotations:
- identify the ‘end user’ (including the type, age and gender of person who would wear this garment or outfit)
- identify the incorporated technology and the problem being solved
- identify each of the garments (up to four pieces) that make up the outfit
- explain the key features of the garment or outfit (both performance and aesthetic features)
- identify the wool fabrics and wool innovations (knit or woven)
- identify which Woolmark logo would be applied to each garment
(Pure New Wool, Wool Rich Blend or Wool Blend Performance)

Below is an example layout you may wish to use.

End-user group: **FEMALES INTO YOGA**

TECHNOLOGICAL OUTFIT MADE UP OF:

- Singlet top
- Leggings

**WOOLMARK LOGO:**

**FEATURE:**

**WOOL MARK INNOVATION CHOSEN FOR THE TOP:**

**TOP INCORPORATES TECHNOLOGY OF:**

**WOOL MARK INNOVATION CHOSEN FOR THE LEGGINGS:**
WORKSHEET ACTIVITY TWO: Creative statement

The creative statement is your opportunity to demonstrate your understanding of materials and design. Your responses should be as detailed as possible. Answer the following:

<table>
<thead>
<tr>
<th>DESIGNER NAME:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SCHOOL NAME:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>YEAR OF SCHOOLING:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>NAME OF THE DESIGN (end-user title):</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CHOSEN END USER GROUP:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CREATIVE STATEMENT (no more than 500 words):</th>
</tr>
</thead>
<tbody>
<tr>
<td>An explanation of your design concept and description of the garment(s) design.</td>
</tr>
<tr>
<td>An explanation of how the design incorporates technology and how it addresses a problem for a specific end user.</td>
</tr>
<tr>
<td>Justification of the wool materials and innovations identified for the design (these need to relate to the properties of the materials).</td>
</tr>
<tr>
<td>An explanation of what the Woolmark logo means and how it can apply to their designed outfit.</td>
</tr>
</tbody>
</table>
Studen past example 2018.

Aileen Angela Aliwijoyo

NAME OF DESIGN
I have decided to name my design the multifunction Jacket since it is what it is. I am really simple to remember but still quite long.

CREATIVE STATION
I had chosen to create a multifunctional piece that would originally be a jacket that transformed into a lightweight carry on bag. It's an orange-yellow jacket with zippers coming from the bottom back of the garment (located below the hip) all the way to the top of the garment (located behind the neck) and around the brim of the pockets and arms. The piece is formal but casual and can be worn throughout winter.

This multifunction design is created using melton wool which is a type of wool coating that is thickly woven then felted. This woolen fabric has thermal properties as it is wool which is ideal when ensuring warmth, and consist of a mild stretch. It has a soft texture while it is quite thick, ensuring that the wearer is comfortable when wearing the design as a jacket, and sturdy as a bag. This benefits travellers in an emergency of a bag, especially when overseas, it provides easy travelling.

INFORMATION
School name: Santa Sabina college
Year of schooling: Year 9

END USER
- Young Female Adult
- Ages 18-20
- Style: Bold, Formal
- Winter
Your entry will be judged on the following criteria. Before uploading your entry, make sure you have covered all criteria.

**SUBMISSION OF WORK:**

Competition entry must be submitted electronically. If work was done in a hard copy folio, please scan work and compile as an e-folio. Please ensure the document is in the correct order and saved under the student’s name. Ideally, each entry should be submitted as one document — not multiple documents.

* Don’t forget to fill in the teacher questionnaire on the next page to be eligible for a prize.

<table>
<thead>
<tr>
<th>YEARS 7 AND 8 JUDGING CRITERIA</th>
<th>YEARS 9 AND 10 JUDGING CRITERIA</th>
<th>YEARS 11 AND 12 JUDGING CRITERIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Innovative and creative design that incorporates technology</td>
<td>Innovative and creative design that incorporates technology</td>
<td>Innovative and creative design that incorporates technology</td>
</tr>
<tr>
<td>2 Garment or outfit that conveys the needs of the end user with appropriate use of technology</td>
<td>Garment or outfit that conveys the needs of the end user with appropriate use of technology</td>
<td>Garment or outfit that conveys the needs of the end user with appropriate use of technology</td>
</tr>
<tr>
<td>3 Design suitability</td>
<td>Clear link between end-user/mood board (visual end-user group) and design</td>
<td>Clear link between end-user/mood board (visual end-user group) and design</td>
</tr>
<tr>
<td>4 Fashion illustration — drawing style and clarity of drawing</td>
<td>Design suitability</td>
<td>Design suitability</td>
</tr>
<tr>
<td>5 Suitability of wool materials selected for design(s) including wool innovations</td>
<td>Fashion illustration — drawing style and clarity of drawing</td>
<td>Fashion illustration — drawing style and clarity of drawing</td>
</tr>
<tr>
<td>6 Demonstrated understanding of the appropriate use of wool materials</td>
<td>Suitability of wool materials selected for design(s) including wool innovations</td>
<td>Suitability of wool materials selected for design(s) including wool innovations</td>
</tr>
<tr>
<td>7 Clear annotations to show technological features of the garment or outfit, and reference to a Woolmark logo</td>
<td>Demonstrated understanding of the appropriate use of wool materials</td>
<td>Demonstrated understanding of the appropriate use of wool materials</td>
</tr>
<tr>
<td>8 Overall visual presentation</td>
<td>Clear annotations to show technological features of the garment or outfit, and reference to a Woolmark logo</td>
<td>Clear annotations to show technological features of the garment or outfit, and reference to a Woolmark logo</td>
</tr>
<tr>
<td>9 Justified responses in creative statement</td>
<td>Quality and accuracy of technical sketch</td>
<td>Justified responses in creative statement</td>
</tr>
<tr>
<td>10 Overall visual presentation</td>
<td></td>
<td>Justified responses in creative statement</td>
</tr>
<tr>
<td>11</td>
<td>Overall visual presentation</td>
<td></td>
</tr>
</tbody>
</table>
2019 WOOL4SCHOOL TEACHER PRIZE

To be eligible for the Wool4School teacher prize, complete the questionnaire below and let us know about how this competition was incorporated into your teaching program.

TEACHER NAME:

NUMBER OF YEARS TEACHING:

SCHOOL NAME:

IS YOUR SCHOOL (PLEASE TICK):

☐ INDEPENDANT
☐ GOVERNMENT

IS YOUR SCHOOL (PLEASE TICK):

☐ METRO
☐ REGIONAL

SIZE OF SCHOOL (PLEASE TICK):

☐ <500
☐ 500-1000
☐ >1000
TEACHER QUESTIONS

1. **How did you implement the 2019 Wool4School Design Competition in the classroom?**
   
   What did you do? Did you adapt resources or the lessons and activities to accommodate the needs of the students? Please provide/attach an example(s).

2. **Tell us how you introduced the 2019 Wool4School design brief and taught your students about wool and wool innovations.**
   
   Did you use the resources and website links provided, or did you develop or access other resources? Please provide evidence of how you engaged your students in learning about wool.

3. **How has the 2019 Wool4School Design Competition helped to improve the Design and Technology student outcomes in your classroom?**
   
   Please give a specific example (e.g. engaged a disengaged student).

4. **What did you learn from participating in the 2019 Wool4School Design Competition? For example, has it improved your understanding of wool or assisted you in the teaching of Design and Technology?**

5. **Please add any other information regarding your participation in this competition that supports your entry.**
   
   * Where possible, please provide student sample work or teacher resources. Photos can also be included to support your entry.

The teacher questionnaire will be judged on:

- evidence of student submissions in the classroom (i.e. student knowledge and understanding of wool is adequate)
- evidence of implementation of the units of work in the classroom (i.e. classroom displays, additional resources created)
- evidence of students’ understanding and learning about wool
- quality and quantity of student entries (i.e. student entries meeting all set criteria)
- reflective and thoughtful teacher responses.