



Sample assessment task	
Year level	8
Learning area	Technologies
Subject	Design and Technologies: Materials and technologies specialisations
Title of task	Body buddies
Task details	
Description of task	Students will investigate ethical materials, design, produce and evaluate hot/cold pack.
Type of assessment	Formative and summative
Purpose of assessment	To provide students with the opportunity to investigate and use ethical materials to design and produce a hot/cold pack, and to apply sewing techniques for knitted fabrics and craft items
Assessment strategy	Written work, observations and practical work sample
Evidence to be collected	Task booklet, anecdotal notes and textile product: Body Buddy
Suggested time	4–5 x 1 hour lessons
Content description	
Content from the Western Australian Curriculum	<p>Knowledge and understanding</p> <p>Materials and technologies specialisations The process for the selection and combination of materials, systems, components, tools and equipment</p> <p>Technologies and society Social, ethical and sustainability considerations, in the development of technologies and designed solutions, to meet community needs for economic, environmental and social sustainability Development of products, services and environments through the creativity, innovation and enterprise of individuals and groups</p> <p>Creating solutions by</p> <p>Investigating and defining Investigate a given need or opportunity for a specific purpose Consider components/resources to develop solutions, identifying constraints</p> <p>Designing Design, develop, evaluate and communicate alternative solutions, using appropriate technical terms and technology Produce a simple plan designed to solve a problem, using a sequence of steps</p> <p>Producing and implementing Design, develop, evaluate and communicate alternative solutions, using appropriate technical terms and technology Produce a simple plan designed to solve a problem, using a sequence of steps</p> <p>Evaluating Develop contextual criteria independently to assess design processes and solutions</p>

Task preparation	
Prior learning	<p>Students will be familiar with the use of sewing machines and equipment and have practised the following techniques: stretch knit stitch, sewing and clipping curves and ladder stitch.</p> <p>Alternatively, this could be used as a formative learning task prior to undertaking a larger product, such as a hooded jumper.</p>
Assessment differentiation	<p>Teachers should differentiate their teaching and assessment to meet the specific learning needs of their students, based on their level of readiness to learn and their need to be challenged.</p> <p>Where appropriate, teachers may either scaffold or extend the scope of the assessment tasks.</p>
Assessment task	
Assessment conditions	<p>Students are to work individually to complete task booklet: material analysis, factors affecting design, success criteria, designing, planning, product production and evaluation.</p>
Resources	<ul style="list-style-type: none"> • Task booklet: Body Buddy • PowerPoint, notes, samples of materials and/or products • Sewing machines and equipment • Students' worked samples of techniques • Suitable materials e.g. new/recycled knit fabrics, plants material for dying, fillings • Equipment for dying e.g. tongs, gloves, sinks • Computer access <p>Books: Flint, I. (2008.) <i>Eco colour: botanical dyes for beautiful textiles</i>. Murdoch Books. Millers Point, Australia.</p> <p>Websites: www.o2wear.com/bamboo-fibre http://www.indiaflint.com/page9.htm spiritfiredesigns.com/blog/item/colour-change-with-eucalyptus www.genesiscreations.com.au/</p>

Instructions for teacher

Lesson 1:

1. **Investigate** sustainable knitted fabrics and dyes

Discuss the social, ethical and environmental advantages and disadvantages of using sustainable materials

Possible options may include:

- polar fleece (recycled polyester)
- bamboo fleecy (reduced water and pesticides use)
- second-hand garments such as socks (re-used fabrics)
- natural dyes such as eucalypt, onion skins, non-toxic berries etc.
- non-toxic and minimal waste colouring such as Liquid Radiance by Genesis Creations®.

Fabrics will need to be dyed at the earliest opportunity. Alternatively, body buddies may be dyed prior to filling.

2. **Define** the needs of the consumers and the constraints. This could be completed for homework if time is short.

Discuss the factors affecting the design of the body buddy, and the constraints and considerations of the brief.

Brainstorm suitable project ideas with consideration of difficulty of construction techniques.

PPT/Pinterest, samples or other stimuli may be provided.

3. **Identify** three criteria for the success of the product. This could be completed for homework if time is short.

Students select three success criteria based on their investigations. These will be used to evaluate the success of their product and process.

Lesson 2

1. **Design** a suitable hot/cold pack

Students generate annotated line drawings of two design ideas, including views, measurements, materials and design details. They select the most suitable design to make. This could be completed for homework if time is short.

2. **Produce** a hot/cold pack using appropriate construction techniques

Students identify the required equipment and steps to make their product. This could be completed for homework if time is short.

Lessons 3–4

Students continue to produce their Body Buddy.

Anecdotal notes of independence need to be recorded for marking purposes.

6. **Evaluate** the success of your body buddy based on your chosen criteria.

Students answer the guiding questions to evaluate the success of their Body Buddy. This could be completed for homework if time is short.



YEAR 9
TEXTILES TECHNOLOGY
BODY BUDDY

STUDENT NAME: _____

Design Brief

The customers of a local souvenir shop are increasingly aware of the ethical impact of the products they purchase and use. The shop needs you to re-design hot/cold packs using safe and sustainable materials, using unique Australian animals as inspiration.

Design, produce and evaluate a soft, novelty toy from a knitted fabric that may be used as either a hot pack (in the microwave) or cold pack (in the freezer.) As much as possible, you must use sustainable materials.

Time for this task: 4-5 lessons

What you need to do

1. **Investigate** sustainable fabrics and dyes
2. **Define** the needs of the consumers and constraints
3. **Identify** three criteria for the success of the product
4. **Design** a suitable hot/cold pack
5. **Produce** a hot/cold pack using appropriate construction techniques
6. **Evaluate** the success of your product based on your chosen criteria

Throughout the manufacturing process, you will also be required to:

- follow safe work practices when using tools and equipment
- follow instructions to construct the hot/cold pack
- use correct stitch settings and construction techniques.



E. Morrow, Penrhos College, 2014

1. **Investigate** sustainable fabrics and dyes

List the advantages and disadvantages of **two** possible fabric and dye options.

Fabric choice 1	
Advantages	Disadvantages
Fabric choice 2	
Advantages	Disadvantages

Select a fabric for your body buddy: _____

Explain why is this the best choice? _____

Dye choice 1	
Advantages	Disadvantages
Dye choice 2	
Advantages	Disadvantages

Select a dye for your body buddy: _____

Explain why is this the best choice? _____

2. **Define** the needs of the consumers and the constraints

<p>Function</p> <ul style="list-style-type: none"> • Describe how your body buddy will need to work. • Explain why it will need to work this way. 	<ul style="list-style-type: none"> • •
<p>Aesthetic</p> <ul style="list-style-type: none"> • Describe how your body buddy will need to look. • Explain why it will need to look this way. 	<ul style="list-style-type: none"> • •
<p>Time</p> <ul style="list-style-type: none"> • Identify any time constraints you may have. 	<ul style="list-style-type: none"> •
<p>Cost</p> <ul style="list-style-type: none"> • Explain any cost constraints you need to consider. 	<ul style="list-style-type: none"> •
<p>Skills</p> <ul style="list-style-type: none"> • Identify the skills you already have. • Identify any skills you may need to develop. 	<ul style="list-style-type: none"> • •
<p>Safety</p> <ul style="list-style-type: none"> • Describe any safety considerations of the product. • Describe any safety considerations of the process. 	<ul style="list-style-type: none"> • •

3. **Identify three** criteria for the success of the product

I know my product or process will be successful if I achieve the following:

1 st
2 nd
3 rd

4. **Design** a suitable hot/cold pack

Draw the front and back of **two** possible designs. **Note** materials, measurements, and design details.

Design 1	Design 2
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Select the best design for your body buddy: _____

Explain why is this the best choice? _____

Follow your design drawings and steps to produce a high-quality body buddy suitable for sale.
Make any necessary changes to solve problems as you go.

6. **Evaluate** the success of your body buddy based on your chosen criteria

Did you achieve your first success criteria? Why or why not? Explain in detail.
Did you achieve your second success criteria? Why or why not? Explain in detail.
Did you achieve your third success criteria? Why or why not? Explain in detail.
If you were to make this body buddy again, what could or would you change to improve it? Describe in detail.
What could or would you change about the process to improve it? Describe in detail.

WHY BAMBOO?

“Bamboo plants are eco-friendly in several ways. Bamboo grows without any irrigation, unlike crops such as cotton which require huge amounts of water. In addition, bamboo doesn’t contribute to water or soil contamination as it is grown without artificial fertilisers and pesticides. When compared to traditional fibres, bamboo clothing has a very small environmental footprint. As such, it has gained significant popularity as a green fibre.”

Bamboo is also soft, strong, breathable, absorbent, biodegradable and gentle on sensitive skin.

But ... what about the pandas? Want to know more? Go to www.o2wear.com/bamboo-fibre



WHY NATURAL DYES?



Natural dyes have been used to colour textiles for thousands of years. Most require the use of toxic chemicals, or mordants, to help the colour ‘bond’ with the fibres. Australian Eucalyptus trees don’t need mordants and can be used to produce colourfast dyes that don’t easily wash out or fade. Best of all, the leaves and bark of the trees that fall to the ground can provide the best colours.

Are you ‘grossed out’ at the thought of dyeing your clothes in bark and leaves? In 2007, India Flint used natural Australian dyes to create the costumes for The West Australian Ballet Perth Festival. It’s good enough for WA’s top ballerinas.

<http://www.indiaflint.com/page9.htm>

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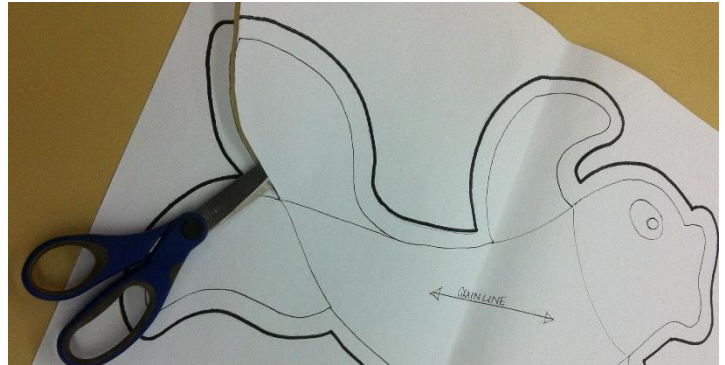
So ... what colours can be created using natural dyes?

<http://spiritfiredesigns.com/blog/item/colour-change-with-eucalyptus>

Creating a two-dimensional textile product

Production steps

1. Draw a paper pattern to size.
2. Include a 1cm seam allowance.
3. Mark a 5cm gap in the centre of the straightest part of the pattern.
4. Cut out pattern using paper scissors.
5. Pin to both layers of fabric.
6. Cut out fabric using fabric scissors.
7. Pin both layers of fabric together before sewing.
8. Start and finish sewing either side of the gap.
9. Clip the curved seam allowances.
10. Turn inside out.
11. Half fill with wheat, rice or lupin seed.
12. Ladder stitch the opening closed.
13. Add any simple embellishments.



E. Morrow, Penrhos College, 2015

ACKNOWLEDGEMENTS

Panda graphic: Adam_lowe. (2010). *Panda with bamboo leaves*. Retrieved May, 2017, from <https://openclipart.org/detail/48919/panda-with-bamboo-leaves>

Koala graphic: *Koala cliparts*. (n.d.). Retrieved May, 2017, from <http://clipart-library.com/clipart/384257.htm>

Sample marking key	
Description	Marks
Knowledge and understanding: Social, ethical and sustainability considerations that impact on designed solutions. Development of products, services and environments, with consideration of economic, environmental and social sustainability	
Independently identifies a broad range of advantages and disadvantages of fabrics and dyes. Justifies choice based on investigation and considering the constraints of the brief.	11–18
Identifies one advantage and disadvantage of fabrics and dyes. Explains choice based on investigation.	5–10
With assistance, identifies one advantage or disadvantage of fabrics and dyes. With assistance, selects a fabric and dye.	0–4
Subtotal	18
Description	Marks
Materials and technologies specialisations: Characteristics and properties of materials, systems, components, tools and equipment used to create designed solutions. Technologies can be combined and used to create designed solutions	
Independently selects and uses appropriate materials, equipment and processes to produce a textile solution.	7–10
Selects and uses appropriate materials, equipment and processes to produce a textile solution.	4–6
With assistance, selects and uses appropriate materials, equipment and processes to produce a textile solution.	0–3
Subtotal	10
Description	Marks
Investigating and Defining: Investigate a selection of components/ resources to develop solution ideas, identifying and considering constraints Investigate and define the needs of a stakeholder, to create a brief, for a solution	
Independently identifies, describes and explains in detail all of the needs of the consumer, considering all the constraints of the brief.	7–10
Identifies and describes the needs of the consumer, considering most constraints of the brief.	4–6
With assistance, identifies some of the needs of the consumer, considering one or two constraints of the brief.	0–3
Subtotal	10
Description	Marks
Designing: Design solutions assessing alternative designs against given criteria, using appropriate technical terms and technology Apply design thinking, creativity and enterprise skills	
Independently generates two possible design choices, including all annotations, including back and front views, materials, measurements and design details. Explains choice based on criteria.	7–10
Generates two possible design choices, including some annotations: back and front views, materials, measurements and/or design details. Explains choice.	4–6

With assistance, generates one or two possible design choices, back and front views. With assistance, selects a design.	0–3
Subtotal	10
Description	Marks
Producing and Implementing: Safely select, implement and test appropriate technologies and processes, to make solutions	
Independently identifies all equipment required and plans production steps. Independently follows design drawing and steps. Independently uses correct techniques and problem solving to produce a high-quality body buddy suitable for sale.	12–15
Identifies some equipment required and plans some production steps. Follows design drawing and steps. Use some correct techniques and problem solving to produce a body buddy suitable for use.	11–8
With assistance, identifies some equipment required and plans some production steps. With assistance, follows design drawing and steps, using some correct techniques to produce a body buddy.	0–7
Subtotal	15
Description	Marks
Evaluating: Evaluate design processes and solutions against student developed criteria	
Critically evaluates success criteria and changes to product and processes. Provides reasons for all and detailed descriptions or explanation.	7–10
Evaluates success criteria and changes to product and processes. Provides some reasons and descriptions or explanation.	4–6
With assistance, evaluates success criteria and/or changes to product and processes. Provides limited reasons and descriptions or explanation.	0–5
Subtotal	10
Total	73

Teacher checklist

Teacher checklist for student

- *Did the student* independently or with assistance
 - investigate materials?
 - select and use appropriate materials, equipment and processes?
 - investigate the needs of the consumer?
 - generate two possible design choices?
 - follow design drawing and steps?
 - use correct techniques?
 - problem solve to produce the product?

Student Name			Comments
	YES	NO	