



Government of **Western Australia**  
School Curriculum and Standards Authority

## SAMPLE ASSESSMENT TASKS

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**MATERIALS DESIGN AND TECHNOLOGY**  
**PRELIMINARY UNIT 3 AND UNIT 4**

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## Sample assessment task

### Materials Design and Technology – Preliminary

#### Task 1 – Unit 3

##### **Conditions**

Period allowed in class for completion of the task: end of Week 2

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##### **Design fundamentals and skills**

Introduction to using design fundamentals and factors affecting design

- application of design fundamentals and factors affecting design when choosing products, within a chosen context – metal, textiles or wood
- assemble a range of actual products or images, within the chosen context such as:
  - metals – kitchen utensils, workshop tools
  - textiles – clothing, household items
  - wood – furniture, household items
- these products should cover a wide variety of materials:
  - metals – types of steel, aluminium, brass, copper, tin, stainless steel
  - textiles – cotton, denim, linen, wool, silk, synthetics
  - wood – softwoods, hardwoods, different types of manufactured boards
- explore different products that appear similar, but essentially are made from different materials, i.e. they may be a different colour, texture or density
- discuss the differences in the materials, and talk about reasons for differences in materials in one product over another.

For this task, you will need to:

- ask your parents if you can bring two things from home to school for a short period of time
- assemble these actual products into a class collection. If possible, include similar objects or images of products made from different materials or combinations of materials
- explore the different products, and label them with their correct names
- identify and name the material the products are made from
- in groups, explore the class collection of products to identify differences in materials and uses of these products
- discuss reasons for specific materials for specific products and product uses.

Your progress in this task will be documented in the following ways:

- teacher observation of your participation in providing products or images of products
- your completed student booklet in which you explore different products, and give them names
- your completed student booklet in which you identify and name the materials the products are made from
- teacher observation of you participating in discussion of aesthetic differences, likes and preferences for different products.

## Task 1- Completion checklist

Unit outcome: Identify and name materials and their basic properties and uses

Description of evidence to be collected by teacher	Date evidence collected	Level of support comments
Teacher observation of student participating in providing products or images of products		
Student booklet in which student explores different products, and gives them names		
Student booklet in which student identifies and names the material the products are made from		
Teacher observation of student participating in discussion of aesthetic differences, likes and preferences for different products		

## Sample assessment task

### Materials Design and Technology – Preliminary

#### Task 2 – Unit 3

##### Conditions

Period allowed in class for completion of the task: end of Week 3

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##### Design fundamentals and skills

A simple design process based on aesthetics and appearance of materials

Using available samples of products or images of products, students explore the fundamentals of design by viewing, discussing and describing each selected product in the collection, focusing on:

- function: different ways the materials have been crafted for a specific use
- aesthetics:
  - differences in shapes and sizes
  - variations in the appearance of materials
  - variations and differences in colours of materials
  - variations in surfaces by touch and feel
  - variations in decoration of products
  - other observations about characteristics and aesthetics that make for an appealing product
- safety: factors such as sharp edges, weight, colour or size
- cost: materials influencing cost of product.

For this task, you will need to:

Use the assembled products or collected images to:

- explore in groups or in pairs the fundamentals of design:
  - viewing, discussing and describing, and distinguishing between the characteristics of the products and their function
  - aesthetic properties and appearance, especially colour
  - issues of safety
  - cost of each selected product in the collection
- compare design characteristics of the materials and products to how the product is used. Does the material suit the function?

Your progress in this task will be documented in the following ways:

- your completed student booklet in which you participate in distinguishing between materials using colour, aesthetic properties and appearance
- your completed student booklet in which you participate in discussion of differences in product: function, aesthetic properties and appearance, especially colour, issues of safety, and cost of each selected product in the collection
- your completed student booklet in which you participate in comparison of design characteristics of the materials and products to how the product is used and whether the material suits the function.

## Task 2– Completion checklist

Unit outcome: Discuss design choices and factors affecting design choices

Description of evidence to be collected by teacher	Date evidence collected	Level of support comments
Student booklet in which the student participates in distinguishing between materials using colour, aesthetic properties and appearance		
Student booklet in which the student participates in discussion of differences in product: function, aesthetic properties and appearance, especially colour, issues of safety, and cost of each selected product in the collection		
Student booklet in which the student participates in comparison of design characteristics of the materials and products to how the product is used and whether the material suits the function		

## Sample assessment task

### Materials Design and Technology – Preliminary

#### Task 3 – Unit 3

##### **Conditions**

Period allowed in class for completion of the task: completed end of Weeks 6/7

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##### **Design fundamentals and skills, and Use of technology – skills and techniques**

Methods of communicating design ideas. Students will look at the design process to develop a new product.

Use of simple drawings and annotation techniques to make choices about the development of a new product:

- differences in shapes and sizes
- variations of ideas
- variations and differences in colours
- variations in decoration of possible products
- individual characteristics and aesthetics that make for an appealing product.

For this task, you will need to:

- use the assembled images or actual products of the class collection to choose a simple product
- use simple drawing and annotation techniques to develop your ideas of a product, or use pre-prepared drawings of designs and make changes you think are suitable for a product
- focus on drawing:
  - individual characteristics and aesthetics that make for an appealing product
  - differences in shapes and sizes and measurements
  - variations:
    - of ideas
    - in annotations or notes
    - in differences in choice of colours
    - of decoration of possible products.

Your progress in this task will be documented in the following ways:

- the two or three dimensional drawings you provide to develop into a possible product
- your annotations on your drawings to describe the parts and measurements of the drawn product
- your discussions with your teacher, in which you show on your drawings how changes can be made through your design choices.

### Task 3– Completion checklist

Unit outcome: Apply design fundamentals and skills to develop a product

Description of evidence to be collected by teacher	Date evidence collected	Level of support comments
Provide two or three dimensional drawings to develop into a possible product		
Student annotations on their drawings to describe the parts and measurements of the drawn product		
Discussion with teacher, in which the student shows on the drawings how changes can be made through design choices		



## Sample assessment task

### Materials Design and Technology – Preliminary

#### Task 4 – Unit 3

##### **Conditions**

Period allowed in class for completion of the task: end of Week 15

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##### **Use of technology – skills and techniques as per context**

For this task, the class will look at:

- production process and ways of manufacturing the product
- use of simple tools and process techniques to manufacture a designed product.

For this task, you will need to:

- use the developed drawings, or pre-designed drawings to assemble a product
- work with simple tools, equipment and materials, with assistance from your teacher, to:
  - use teacher-directed production plans and processes when applicable
  - use correctly personal protective equipment (PPE) where applicable
  - apply appropriate safety behaviour when using tools
  - name and use basic equipment as appropriate to context
  - manipulate materials
    - mark out parts/shapes
    - cut out and/or shape parts/shapes
    - join or assemble
    - finishing
  - communicate and describe in simple terms the production process
  - demonstrate workshop clean-up procedures.

Your progress in this task will be documented in the following ways:

- teacher observation notes about your use of personal protective equipment (PPE) where applicable and application of appropriate safety behaviour when using tools
- teacher observation notes about your naming and use of basic equipment as appropriate to context to manipulate materials to manufacture the product
- teacher observation notes of your communicating and describing in simple terms the production process
- teacher observation notes of your demonstrating workshop clean-up procedures.

## Task 4– Completion checklist

Unit outcomes:

### 1. Develop and practice safe production skills

Description of evidence to be collected by teacher	Date evidence collected	Level of support comments
Teacher observation notes of student naming basic equipment as appropriate to context to manipulate materials to manufacture the product		
Teacher observation notes of student communicating and describing in simple terms the production process		

### 2. Apply production skills to make a product

Description of evidence to be collected by teacher	Date evidence collected	Level of support comments
Teacher observation notes of student use of personal protective equipment (PPE) where applicable, and application of appropriate safety behaviour when using tools		
Teacher observation notes of student using basic equipment as appropriate to context to manipulate materials to manufacture the product		
Teacher observation notes of student demonstrating workshop clean-up procedures		

## Sample assessment task

### Materials Design and Technology – Preliminary

#### Task 6 – Unit 4

##### **Conditions**

Period allowed in class for completion of the task: end of Week 2

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##### **Nature and properties of materials that affect design**

For this task, the class will explore:

- the nature and properties of a wide range of materials and factors affecting design when choosing products within a chosen context – metal, textiles or wood
- the appearance and name of materials used in each product, within the chosen context:
  - metals: ferrous, non-ferrous
  - textiles: natural fibres, manufactured fibres
  - wood: softwoods, hardwoods, and different manufactured boards
- different products and appropriate terminology such as:
  - colour
  - appearance: patterned, plain
  - texture: soft, hard, smooth, rough
  - density: heavy, light
- reasons for differences in materials in one product over another.

For this task, you will need to:

- ask your parents if you can bring two things from home to school for a short period of time
- assemble these actual products into a class collection. If possible, include similar objects or images made from different materials or combinations of materials
- explore the different products and label them with their correct names
- identify and name the material the products are made from
- explore in group the class collection of objects to identify the materials' differences and uses of these products
- discuss reasons for specific materials for specific products and product uses.

Your progress in this task will be documented in the following ways:

- teacher observation of your participation in providing products or images of products
- your completed student booklet in which you explore different products, and give them names
- your completed student booklet in which you identify the material the products are made from
- teacher observation of your participation in discussion of aesthetic differences, likes and preferences for different products.

## Task 6– Completion checklist

Unit outcome: Identify and name different materials and their different basic properties and uses

Description of evidence to be collected by teacher	Date evidence collected	Level of support comments
Teacher observation of student participating in providing products or images of products		
Student booklet in which the student explores different products, and gives them names		
Student booklet in which the student identifies the material the products are made from		
Teacher observation of student participating in discussion of aesthetic differences, likes and preferences for different products		

## Sample assessment task

### Materials Design and Technology – Preliminary

#### Task 7 – Unit 4

##### Conditions

Period allowed in class for completion of the task: end of Week 3

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##### Design fundamentals and skills

Using a simple design process based on aesthetics and appearance of materials

In this task, the class will explore:

- the fundamentals of design focusing on:
  - aesthetics:
    - differences in shapes and sizes
    - variations in the appearance of materials
    - variations and differences in colours of materials
    - variations in surfaces by touch and feel
    - variations in decoration of products
    - other observations about characteristics and aesthetics that make for an appealing product
  - function: different ways the materials have been crafted for a specific use
  - safety: factors such as sharp edges, weight, colour or size
  - cost: materials influencing cost of product
  - social requirements
  - environmental requirements.

For this task, you will need to:

- use the assembled products or images of products to explore in groups or pairs the fundamentals of design by:
  - viewing, discussing and describing, and distinguishing between the characteristics of the products
  - function, aesthetic properties and appearance, especially colour
  - issues of safety
  - cost of each selected product in the collection
- compare and discuss design characteristics of the products to how each product is used: do the design features influence product function and your preference for any product?

Your progress in this task will be documented in the following ways:

- your completed student booklet in which you describe materials using colour, aesthetic properties and appearance
- your completed student booklet in which you explore differences in products: function, aesthetic properties and appearance, especially colour, issues of safety, and cost of each selected product in the collection
- your completed student booklet in which you compare design characteristics of the materials and products to how the product is used
- your completed student booklet in which you express preferences using appropriate terminology describing design influences on product aesthetics and function.

## Task 7 – Completion checklist

Unit outcome: Discuss design choices and factors affecting design choices

Description of evidence to be collected by teacher	Date evidence collected	Level of support comments
Student booklet in which the student describes materials using colour, aesthetic properties and appearance		
Student booklet in which the student explores differences in products: function, aesthetic properties and appearance, especially colour, issues of safety, and cost of each selected product in the collection		
Student booklet in which the student compares design characteristics of the materials and products to how the product is used		
Student booklet in which the student expresses preferences using appropriate terminology describing design influences on product aesthetics and function		