**Sample Assessment Outline**

Materials Design and Technology

Preliminary Unit 3 and Unit 4

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# Sample assessment outline

# Materials Design and Technology – Preliminary

## Unit 3

| **Assessment task** | | **Notional  due date** | **Unit outcome:**  identify and name materials and their  basic properties  and uses | | **Unit outcome:**  discuss design choices  and factors affecting design choices | **Unit outcome:**  apply design  fundamentals and skills  to develop a product | | **Unit outcome:**  develop and practise  safe production skills to make a product | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Task 1: Introduction to design fundamentals**  Introduction and application of design fundamentals and factors affecting design through selected products and materials  Comparing products, their uses, and understanding the nature and properties of materials of different products | Week 2 | | | **✓** | **✓** | **✓** |  | |
| **Task 2: Material properties for different product uses**  Identify the different properties or characteristics of materials, and explore why these materials are chosen for each product’s function | Week 3 | | | **✓** | **✓** |  | **✓** | |
| **Task 3: Developing and communicating design ideas**  Students use simple drawing and annotation techniques to develop a product, while making changes through design choices | Week 7 | | | **✓** | **✓** | **✓** |  | |
| **Task 4: Manufacture the product**  Practical skills and techniques are used in the manipulation of materials to produce the product, as applicable to context  Safety: correct use of personal protective equipment (PPE) where applicable  Production management as directed by the teacher | Week 15 | | | **✓** |  | **✓** | **✓** | |
| **Task 5: Presentation of completed product**  Evaluate completed product against initial design  Present completed product | Week 16 | | |  | **✓** |  | **✓** | |

| **SAMPLE PLANNING CHECKLIST  Materials Design and Technology**  **Preliminary Unit 3**  (✓ = Unit content covered) | **Task 1**  Introduction to design fundamentals | **Task 2**  Materials, differences and uses | **Task 3**  Developing and communicating ideas | **Task 4**  Manufacture the product | **Task 5**  Presentation of product |
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| --- | --- | --- | --- | --- | --- | --- |
| **Design fundamentals and skills** | | | | | | |
| Discuss:   * needs and wants * existing products * design fundamentals * aesthetics, function, safety, cost * factors affecting design   Devise:   * using communication techniques * sketches of personal product ideas, with development of images to a final solution * presentation of design choices and final design   Use guided and/or highly scaffolded design plans as the idea/plan for an eventual product  Evaluate when discussing and devising design ideas | **✓** | |  | **✓** |  | **✓** |
| Evaluate finished product against initial design |  | |  |  |  | **✓** |
| **Nature and properties of materials** | | | | | | |
| Identify by appearance, and name materials within the chosen context | | **✓** | **✓** |  |  |  |
| Identify basic aesthetic properties or characteristics | | **✓** | **✓** |  |  |  |
| **Materials in context** | | | | | | |
| Identify basic uses for materials within the chosen context | | **** | **✓** | **✓** |  |  |
| **Use of technology – design skills and techniques** | | | | | | |
| Develop basic graphic skills with simple annotation chosen from, but not limited to, the following:   * coloured images cut and pasted * 2D pencil sketches, pictorial drawings, colour or rendered drawings * desktop publishing, ICT drawing   Use appropriate terminology and conventions  Name and use basic equipment, as appropriate to context | | **✓** |  | **✓** |  | **✓** |
| **Use of technology – skills and techniques – safety – production management** | | | | | | |
| Use appropriate terminology and conventions  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 * finish product   **Safety**  Correct use of personal protective equipment (PPE) where applicable | |  |  | **✓** | **✓** |  |
| **Production management**  Use teacher directed design, production plans and processes  With supervision, use tools and machines safely  Communicate and describe the production process in simple terms  Manage processes to finish a product  Demonstrate workshop clean-up procedures | |  |  |  | **✓** | **✓** |

# Sample assessment outline

# Materials Design and Technology – Preliminary

## Unit 4

| **Assessment task** | **Notional  due date** | | **Unit outcome:**  identify and name different materials and their different basic properties  and uses | | **Unit outcome:**  discuss design choices  and factors affecting design choices | **Unit outcome:**  apply design  fundamentals and skills  to develop a product | **Unit outcome:**  develop and practise  safe production skills to make a product |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Task 6: Nature and properties of materials**  Identify and name the materials by their appearance  Look at a range of different common materials and identify some of the differences of the materials’ properties | Week 2 | **✓** | | **✓** | | **✓** |  |
| **Task 7: Design fundamentals and skills**  Explore existing products, within context based on needs and wants. Personal likes and preferences based on design fundamentals and factors affecting design | Week 3 | **✓** | | **✓** | |  | **✓** |
| **Task 8: Methods of communicating design ideas**  Students use simple drawing and annotation techniques to develop a product, making changes by design choices within the design process, to develop an individual design solution | Week 7 | **✓** | | **✓** | | **✓** |  |
| **Task 9: Manufacture the product**  Manipulation of materials to produce the product, as applicable to context  Safety: correct use of personal protective equipment (PPE) where applicable  Production management as directed by teacher | Week 15 | **✓** | |  | | **✓** | **✓** |
| **Task 10: Presentation of completed product**  Students present the finished product, and discuss the likes and uses of the product | Week 16 |  | | **✓** | |  | **✓** |

| **SAMPLE PLANNING CHECKLIST  Materials Design and Technology**  **Preliminary Unit 4**  (✓ = Unit content covered) | **Task 6**  Nature and properties  of materials | **Task 7**  Design fundamentalsand skills | **Task 8**  Communicate design ideas | **Task 9**  Manufacture the product | **Task 10**  Presentation of product |
| --- | --- | --- | --- | --- | --- |

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| --- | --- | --- | --- | --- | --- |
| **Design fundamentals and skills** | | | | | |
| Discuss:   * design needs and wants – existing products – design fundamentals – factors affecting design | **✓** | **✓** | **✓** |  | **✓** |
| Devise:   * using communication techniques * sketches of personal product ideas with development of images to a final solution * design choices based on design fundamentals * presentation of final design   Use guided and/or highly scaffolded design plans as the idea/choice/plan for an eventual product  Evaluate when discussing and devising design ideas | **✓** | **✓** |  |  |  |
| **Nature and properties of materials** | | | | | |
| Identify, by appearance and name, within the chosen context:   * metals – ferrous, non-ferrous * textiles – natural fibres, manufactured fibres * wood – softwoods, hardwoods, and different manufactured boards | **✓** |  |  |  |  |
| Identify basic aesthetic properties or characteristics, such as:   * colour – appearance – patterned, plain * texture – soft, hard, smooth, rough – density – heavy, light | **✓** | **✓** | **✓** |  |  |
| **Materials in context** | | | | | |
| Identify, within a chosen context, common materials and describe their uses  Name some products or objects made from common materials | **✓** | **✓** |  |  |  |
| **Use of technology – design skills and techniques** | | | | | |
| Use a guided design method to develop own solution  Develop graphic skills, such as desktop publishing and/or hand sketching with simple annotation |  | **✓** | **✓** |  | **✓** |
| **Use of technology – skills and techniques – safety – production management** | | | | | |
| Use tools and basic machinery  Manipulate materials by cutting, shaping, joining and finishing  Use appropriate correct basic terminology and conventions  **Safety**  Correct use of personal protective equipment (PPE) where applicable |  |  | **✓** | **✓** |  |
| **Production management**  Use simple tools and machines  Use teacher-directed design, production plans and processes  Communicate and describe the production process |  |  |  | **✓** | **✓** |
| **Design fundamentals and skills**  Evaluate finished product against initial design | **✓** |  |  |  | **✓** |