

Design and Technology: Mr M Reid

Year 9

- **Core Technical Principles**
- **Specialist Technical Principles**
- **Designing and Making Principles**

Extended homework assignment

Name:

Group:

Instructions

A printed copy should be handed in to your teacher.

The knowledge required to complete this assignment will be supported in class.

Year 9 Design and technology homework 1

Most electronic systems have an **INPUT – PROCESS – OUTPUT** system.

For example, on your night light PCB (Printed Circuit Board)

- The **SENSOR** is the **INPUT**.
- The **TRANSISTOR** is the **PROCESS**.
- The light source (LED – Light Emitting Diode) is the **OUTPUT**.

TASK. On the table below give examples of other systems, these could be mechanical or electrical. (1 mark for each accurate response)

Component	Input, Process, Output	Application
<i>Example: Buzzer</i>	<i>Output</i>	<i>Alarm system for security in buildings, cars and safety deposit boxes.</i>

Name.....

Form.....

Total marks...../9

Year 9 Design and technology homework 2

Energy generation and storage

This question is about energy sources.

1.1) Give **two** specific examples of non-renewable energy sources. (2 marks)

- 1)
- 2)

1.2) Wind is an example of a renewable energy source. Give **two** other specific examples of renewable energy sources. (2 marks)

- 1)
- 2)

1.3) Explain **one** advantage and **one** disadvantage of using wind energy to power products. (6 marks)

Advantage.....
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Disadvantage.....
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Name.....

Form.....

Marks...../10

Year 9 Design and technology homework 3

Prototype development

1) Give two reasons why designers analyse and evaluate prototypes (4 marks)

1.

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2.

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2) State three considerations that designers should take in to account when developing prototypes of products or systems. *For example; SAFETY-this means that Quality Assurance is applied, and the product will gain positive feedback from the target market/customer ensuring more sales.* (6 marks)

1.

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2.

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3.

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Name.....

Form.....

Marks...../10