



## West Park School

### Design and Technology

### Mock Examination 2023

In readiness for your mock examination in Design and Technology you must **LEARN** and **REVISE** the following content and skills:

Use your Booklets - Core Booklet and your Specialist Knowledge booklet as well as the revision cards you have made. You can also use the revision guide to help you prepare for this examination.

#### Advice:

- Use the number of marks linked to each question to guide not only how long you spend on a question but also the number of points you need to include in your answer.
- There will be some questions that include a product or a process example from all of the specialism areas. For these questions, you need to identify the product or process that allows you to answer the question to the best of your ability from your knowledge and revision.
- You must bring the following equipment to your Design and Technology examination: normal writing and drawing instruments; a calculator; a protractor.

#### **Sustainability –**

- Renewable energy sources – advantages and disadvantages
- Planned obsolescence
- Fairtrade
- Ecological issues when designing and manufacturing products

#### **Material areas –**

- Properties of materials
- Composite materials – examples of
- Electronic systems – inputs, outputs and sensors
- Smart materials – properties and applications
- Plastics – thermoforming and thermosetting + examples of each
- Primary sources, stock form, material suitability and manufacturing methods:
  - Plastic
  - Cardboard
  - Stainless Steel
  - Plywood
  - Fabric

#### **Designers –**

- Designers → how they have influenced their area of design – reference examples of their work, style + philosophy. Create at least 2 case studies on two different designers
- Examples of and how their work can influence the design of products

#### **Use of computers to support design –**

- CAD, CAM, CNC, FMS and JIT

### **Maths skills –**

How to calculate:

- Area
- Percentages
- Scale ratios
- Trigonometry – application of
- Gear rotation
- Costing
- Tessellation
- Graphs – bar charts and labelling axis
- Tolerances
  - How to calculate
  - How they are used in product manufacture

### **Modelling –**

- How do you prototype?
- Understand the following examples:
  - Card
  - Styrofoam
  - CAD
  - Toile
  - Breadboard

### **Specification writing –**

Specification point and justification [why?]:

- Materials
- Cost
- Function
- Aesthetics
- Reliability
- Target Audience
- Ergonomics
- Safety

### **Data –**

Types of data used when investigating and research products + examples:

- Primary
- Secondary