

# HOLLAND PARK SCHOOL 2022 to 2023

---

## SUBJECT CURRICULUM | DESIGN AND TECHNOLOGY

---

### SUBJECT LEADER

MS TAMSIN BOULCHER ([tamsin.boulcher@hollandparkschool.co.uk](mailto:tamsin.boulcher@hollandparkschool.co.uk))

### CURRICULUM INTENT STATEMENT

Design and Technology is an **inspiring, rigorous and practical subject**. Using creativity and imagination, students design and make prototypes that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values.

They acquire a broad range of subject knowledge and draw on cross curricular disciplines such as **mathematics, science, engineering and computing**. Students learn how to take risks, becoming resourceful, innovative, enterprising and capable global citizens. Through the evaluation of past and present design and technology, they develop a critical understanding of its impact on daily life and the wider world. High-quality design and technology education makes an essential contribution to the creativity, culture, wealth and well-being of our students.

### KS3 OVERVIEW

The curriculum is designed so that students design, make and then evaluate. When designing, students use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at individuals or groups. They also generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional diagrams, prototypes, pattern pieces and computer-aided design. When making, students select from and use a wide range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing) accurately. When evaluating, students investigate and analyse a range of existing products and evaluate their ideas and products against their own design criteria and consider the views of others to improve their work, understanding how key events and individuals in design and technology have helped shape the world. Students apply their understanding of how to strengthen, stiffen and reinforce more complex structures through technical knowledge.

**Year 7 Curriculum aim** - Students will explore and experiment with a range of different materials, techniques and processes.

**Key Knowledge and End Points for Academic Year:** Students will have the ability and creativity to identify and solve problems using a variety of design strategies to communicate their ideas and thoughts.

**Year 8 Curriculum aim** - To give students an understanding on the importance of accuracy and practice to create outcomes valued by them, whilst taking inspiration from each other.

**Key Knowledge and End Points for Academic Year:** The use of a broad range of knowledge, skills, and understanding prompting engagement in a wide variety of activities. Students design and make products that solve real and relevant problems within a variety of contexts.

**Year 9 Curriculum aim** -Pupils will be studying some CORE aspects of the specification through practical and theory to gain a broad knowledge of all the key materials within DT

**Key Knowledge and End Points for Academic Year:** Each project allows students to learn through experience. Pupils will understand the environmental impact of design and different design processes. Gaining knowledge and inspiration from the work of others - a key aspect towards both theory and the NEA in years 10 and 11

## KS4 OVERVIEW

GCSE Design and Technology will prepare students to participate confidently and successfully in an increasingly technological world. Students will gain awareness and learn from wider influences on Design and Technology including historical, social, cultural, environmental and economic factors. Students will get the opportunity to work creatively when designing and making and apply technical and practical expertise.

The GCSE allows students to study core technical and designing and making principles, including a broad range of design processes, materials techniques and equipment. They will also have the opportunity to study specialist technical principles in greater depth.

### Core technical principles

In order to make effective design choices students will need a breadth of core technical knowledge and understanding that consists of:

- new and emerging technologies
- energy generation and storage
- developments in new materials
- systems approach to designing
- mechanical devices
- materials and their working properties.

### Specialist technical principles

In addition to the core technical principles, all students should develop an in-depth knowledge and understanding of the following specialist technical principles:

- selection of materials or components
- forces and stresses
- ecological and social footprint
- sources and origins
- using and working with materials
- stock forms, types and sizes
- scales of production
- specialist techniques and processes
- surface treatments and finishes.

Our specialist technical principle is:

- timber based materials

### **Designing and making principles**

Students should know and understand that all design and technology activities take place within a wide range of contexts. They should also understand how the prototypes they develop must satisfy wants or needs and be fit for their intended use. For example, the home, school, work or leisure.

They will need to demonstrate and apply knowledge and understanding of designing and making principles in relation to the following areas:

- investigation, primary and secondary data
- environmental, social and economic challenge
- the work of others
- design strategies
- communication of design ideas
- prototype development
- selection of materials and components
- tolerances
- material management
- specialist tools and equipment
- specialist techniques and processes