

# Learning Journey 12-13 Design Technology

## Careers Links

**Year 12:** Cognitive thinking, problem-solving critical thinking, expert and creative solutions, use systems and technology. Communicating, working collaboratively, negotiating and influencing, self-presentation

**Year 13:** Self-management, adaptability and resilience, self-monitoring and development, learn independently, research actively and methodically, analytical and problem-solving skills.

## Designing and Making Principles

Design methods and processes.  
Design theory.  
How technology and cultural changes can impact on the work of designers  
Design processes  
Critical analysis and evaluation.  
Selecting appropriate tools, equipment and processes.  
Accuracy in design and manufacture.  
Responsible design.  
Design for manufacture and project management.  
National and international standards in product design.

## Revision

Technical Principles  
Designing and Making Principles

## Exams

Product Design Paper 1 (Technical Principles)  
Product Design Paper 2 (Design and Making Principles)

## Read like a designer...

**Year 12: *Mortal Engines* Philip Reeve**  
***How to Fail at Almost Everything and Still Win Big* - Scott Adams**  
***How Do Wings Work?* Holger Babinsky**

**Year 13: *Cats' Paws and Catapults: Mechanical Worlds of Nature and People* Steven Vogel**  
***Structures – or Why Things Don't Fall Down* J.E. Gordon**  
***The Design of Everyday Things* Don Norman**

## Orientation from GCSE to A level

Materials and their applications.

## Technical Principles

Materials and their applications.  
Performance characteristics of materials.  
Enhancement of materials.  
Forming, redistribution and additional processes.  
The use of finishes.  
Modern industrial and commercial practice.  
Digital design and manufacture.  
The requirements for product design and development.  
Health and safety.  
Protecting designs and intellectual property.  
Design for manufacturing, maintenance, repair and disposal.  
Feasibility studies.  
Enterprise and marketing in the development of products.  
Design communication.

## NEA

A – Identifying and investigating design possibilities.  
B – Producing a design brief and specification.  
C – Development of design proposals.  
D – Development of design prototypes.  
E – Analysing and evaluating.

**On to university, apprenticeship or employment...**

