



Design and Technology Learning Journey

Learners Learning Journey in D&T will gain the knowledge, understanding and skills needed to engage in an iterative process of designing and making.

They will work in a range of domestic and local contexts and industrial contexts to:

- **develop and communicate design ideas** using annotated sketches, detailed plans, 3-D and mathematical modelling, oral and digital presentations and computer-based tools
- select from and use specialist tools, techniques, processes, equipment and machinery precisely, including computer-aided manufacture
- select from and use a wider, more complex range of materials, components and ingredients, taking into account their properties
- **Test, evaluate and refine** their ideas and products against a specification, taking into account the views of intended users and other interested groups
- understand developments in design and technology, its impact on individuals, society and the environment, and the responsibilities of designers, engineers and technologists.
- understand and use the properties of materials and the performance of **structural elements** to achieve functioning solutions
- understand how more advanced **mechanical systems** used in their products enable changes in movement and force

Year 12,13

Intent

Learners need to be:
 Adapt an **experimental** approach (innovation and enterprise)
 Develop **intellectual curiosity** about the design and manufacture of products
Work collaboratively
 Gain an insight into **relevant industries**
 Develop the capacity to think **creatively and critically**
 Develop **knowledge and experience** of :
 -real world contexts
 -an understanding of materials, components and processes
 -draw on and apply a range of skills and knowledge from other subject areas.
Make informed design decisions
 Be able to work **safely and skillfully**
 Have a critical understanding of the **wider influences**

Year 10, 11

Intent

Learners will be able to:
 Understand that all design and technological activity takes place within **contexts**
 Develop **realistic designs** through exploration and consideration of users' needs, wants and values
 Use an **imagination and experimentation design approach**.
 Develop the skills to **critique and refine** their own ideas
Communicate their design ideas and decisions using different techniques
 Develop a **broad knowledge** of materials, components and technologies and practical skills
 Be **ambitious and open to explore** an
 Take **design risks** with an **iterative design** approach
 Consider the costs, **commercial viability and marketing** of products
 Demonstrate **safe working** practices
 Use key **design and technology terminology**

Year 7,8, 9

Intent

Use **research and exploration** to solve their own design problems
Develop specifications to inform the design process
 Use a variety of approaches, to **generate creative ideas** and avoid **design fixation**
Develop and communicate design ideas using annotated sketches/ detailed plans
 Select from and use of **specialist tools, techniques, processes, equipment and machinery**.
 Analyse the **work of past and present**
 Investigate **new and emerging technologies**
 To **test, evaluate** and refine their ideas
 Understand **developments in D&T**
 Understand and use the properties of **materials, electronic and mechanical systems**.

Year 3, 4, 5 and 6

Intent

To **research and develop** a design criteria
 To design innovative, functional and appealing products
 To **generate, develop, model and communicate ideas** through a range of approaches inc.CAD.
 Select and use a **range of tools and equipment**
 Select from and use a **range of materials and components**, including construction materials, textiles and ingredients,
Investigate and analyse a range of existing products.
Evaluate products against their own design criteria and consider the views of others to improve work.

Year 1 & 2

Intent

Design purposeful, functional, appealing products.
Generate, develop, model and communicate their ideas through using a range of techniques.

Select from a **range of tools, materials and equipment** to perform practical tasks.
Explore and evaluate a range of existing products.

EYFS

Intent

Safely use and **explore** a variety of materials, tools and techniques, **experimenting** with colour, design, texture, form and function.

