

## DT Progression at Emerson Valley School

### National Curriculum Key stage 2

Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home, school, leisure, culture, enterprise, industry and the wider environment]. When designing and making, pupils should be taught to:

#### Design

- use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups
- generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design

#### Make

- select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately
- select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities

#### Evaluate

- investigate and analyse a range of existing products
- evaluate their ideas and products against their own design criteria and consider the views of others to improve their work
- understand how key events and individuals in design and technology have helped shape the world

#### Technical knowledge

- apply their understanding of how to strengthen, stiffen and reinforce more complex structures
- understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]
- understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]
- apply their understanding of computing to program, monitor and control their products.

	Year 3	Year 4	Year 5	Year 6
Design	I design a product and make sure that it looks attractive. I select the most appropriate tools and techniques for a given task.	I produce a plan and explain it. I persevere and adapt my work when my original ideas do not work.	I come up with a range of ideas after collecting information from different sources. I produce a detailed, step-by-step plan. I suggest alternative plans; outlining the positive features and draw backs. I explain how a product will appeal to a specific audience.	I use market research to inform my plans and ideas. I follow and refine my plans. I justify my plans in a convincing way. I show that I consider culture and society in my plans and designs. I work within a budget.
Make	I follow a step-by-step plan, choosing the right equipment and materials. I choose a material for both its suitability and its appearance. I work accurately to measure, make cuts and make holes. I describe how food ingredients come together.	I present a product in an interesting way. I measure accurately.	I use a range of tools and equipment competently. I make a prototype before making a final version.	
Evaluate	I prove that my design meets some set criteria.	I use ideas from other people when I am designing. I evaluate and suggest improvements for my designs. I evaluate products for both their purpose and appearance. I explain how I have improved my original design	I evaluate appearance and function against original criteria.	I evaluate my product against clear criteria I show that I can test and evaluate my products.
Technical Knowledge	I make a product which uses both electrical and mechanical components.	I know how to be both hygienic and safe when using food.	I show that I can be both hygienic and safe in the kitchen	I explain how products should be stored and give reasons