

## • Design and Technology: Year 4

### National Curriculum Links:

- 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.

### Sequence of lessons:

<u>Autumn</u>	<u>Spring</u>	<u>Summer</u>
<u>Digital World: Mindful Moments Timer</u>	<u>Structures: Helmets</u>	<u>Cooking &amp; Nutrition: Adapting Recipe</u>
To evaluate existing products	To explore shell structures and design my own	To evaluate existing biscuit products
To develop design criteria	To make the shell of a helmet	To prepare and cook a dish
To program and control a product	To assess how a helmet structure needs to be strengthened	To select ingredients and follow a budget
To develop and communicate ideas	To strengthen the helmet shell structure	To take inspiration from existing products
To develop ideas through computer-aided design	To evaluate the effectiveness of strengthening the helmet	To make and test a prototype biscuit
To consider feedback and evaluate		To evaluate a final product

### Key vocabulary:

Battery, Bulb, Buzzer, Cell, Component, Conductor, Copper, Design criteria, Electrical item, Electricity, Electronic item, Function, Insulator, Series circuit, Switch, Test, Torch, Wire	Aesthetic, Assemble, Book sleeve, Design criteria, Evaluation, Fabric, Fastening, Mock-up, Net, Running-stitch, Stencil, Target audience, Target customer, Template	Adapt, Addition, Budget, Buttery, Combine, Comment, Construct, Cream, Crunchy, Cuboid, Fold, Hygiene, Layout, Market research, Modify, Multiplication, Opinion, Pounds, Sieve, Sift, Target audience, Texture, Unique, Wooden spoon
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