

Year 6 – Term 6

Looking to the future, how important are legacies from the past?
DESIGN TECHNOLOGY



Essential Prior Learning:

Block language, such as that used in Scratch and J2code, gives a computer instruction for something to happen.

A series circuit is a single pathway through which electricity can flow; it consists of wires, batteries (cells) and one or more components such as bulbs, buzzers, a switch.

Devices can be connected to computers.

Products have intended users so need to suit their needs.

Progression in Skill:

Generate innovative ideas, drawing on research. Accurately assemble, join and combine materials and components.

Formulate step-by-step plans as a guide to making. Evaluate their final products against their original design specification.

Know how more complex electrical circuits and components can be used to create functional products.

Know how to program a computer to monitor changes in the environment and control their products.

Long-term Memory Knowledge:

Computers can be used to control electrical devices. What is inputted into the computer will affect the output that can be seen in the circuit.

A short circuit causes damage to the components and possible fire; it can be prevented by taking care when connecting different components and checking things that are electrical conductors are not inadvertently touching.

Key Vocabulary

Crumble	an easy-to-use programmable controller that connects to a computer using a USB
light emitting diode (LED)	an output device that glows when electricity passes through it
open switch	the switch is in a position so electricity cannot pass through it
closed switch	the switch is in a position so electricity can pass through it
output devices	components that produce an outcome, e.g., bulbs and buzzers
input devices	components that are used to control an electrical circuit, e.g., switches and sensors

Progression in Resources:

Crumble kit: controller, crocodile leads, sparkles, switch, light sensor, buzzer, USB cable, battery box

Relevance

Now	Children start to see how reliant we are on computers for many of the devices we depend on to work effectively; they understand the need for care when giving an input so that the desired output is achieved.
Future	Children can program their electrical devices with confidence and recognise what needs to change about the input to get the desired output.
Aspiration	Children pursue a career in computer programming or develop a love of Design and Technology; they look for ways to use computers and technology to enhance their lives and those of others.

National Curriculum Links:

Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design.

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 their ideas and products against their own design criteria and consider the views of others to improve their work.

Apply their knowledge of computing to program, monitor and control their products.

Understand and use electrical systems in their products (for example, series circuits incorporating switches, bulbs, buzzers and motors).