

## Topic

Programming and Electronics:

### **Programming Adventures**

#### Learning Objectives

- To program and control floor robots
- To generate and develop ideas through discussion
- To research a range of materials
- To plan an adventure map
- To use appropriate materials based on research

#### Knowledge We Will Acquire

- Understanding what floor robots are and how they are programmed and controlled.
- Knowing and understanding how a floor robot moves
- That mechanical and electrical systems have an input, process and output
- How to program a computer to monitor changes in the environment and control our products
- Understanding the functional properties and aesthetic qualities of different materials and components
- Technical vocabulary relating to programming and electronics

#### Skills We Will Acquire

- Programming, monitoring and controlling floor robots
- Exploring how robots move on different materials
- Discussing the best use of different materials as obstacles
- Using a wide range of tools, materials and components
- Using appropriate joining methods



**Holy Family Halewood**  
Year 5 and 6 Design Technology



#### Key Vocabulary

**Robot**- a machine designed to carry out one or more tasks

**Bee-Bot**- a small, robust robot designed to for children

**Input**- signals received by a computer

**Output**- signals sent from a computer

**Signal**- an electrical or electromagnetic current that is used for carrying data

**Data**- information processed or stored by a computer

**Programme**- sequences of instructions for a computer

**Programming**- the process of writing computer programs

**Route**- the way from one place to another

**Background**- the scenery that is behind a main figure or object

**Obstacles**- something that blocks your way

**Material**- the matter (stuff) from which a thing is or can be made

**Properties**- a character or quality that something has such as colour, height, weight

**Join**- link or connect two or more things together

#### **Floor Robots**



#### **Control Signs**

