Moor First School

Garnet

Summer 2

# Moor First Computing Knowledge Organiser

NCCE – Moving a Robot

**Subject Specific Concepts**

- Computer Science
- Information and Communication

## Overview

**Moving a Robot**

- Programming is when we make a set of instructions for computers to follow.

-Robots are one type of machine that can follow programs. Floor robots include Bee-bots and Blue-bots.

-Floor robots have buttons which help us to direct them. We can use algorithms (a set of guidelines to perform a task) to program floor robots along routes.

## Buttons and Programs

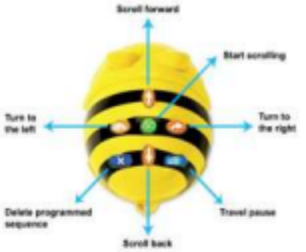
-**Buttons**: Bee-bots have buttons on the top. They each make the Beebot do something different (see picture).

-The arrows move the Bee-bot in different directions.

-The GO button makes the Bee-bot start its program. (on some models, it also pauses the Beebot in-program).

-**Programs:** A program is a series of instructions. We can program the Bee-bot by pressing the direction buttons (in order) that we want it to move in, followed by GO.

-The X button makes the Bee-bot delete the program and make a new program. Switching the Bee-bot off and on again also deletes the program.




## Robots and Floor Robots

-**Robots:** Robots are machines that we can program to do human jobs.

-Robots help us to do things, for example to help us clean, mow and learn!

-Robots in factories make things, and in hospitals they help make us better.

-**Bee-bots**: Bee-bots are a type of floor robot.
-We can programme Bee-bots to move around.

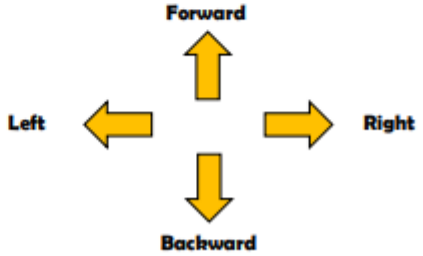
Bee-bots should only be used on the floor, and not tables etc. They can be damaged if they fall from high surfaces. (Other floor robots, e.g. Blue-bot, can also be used).

-**Turning on a Bee-bot:** Before we use a Beebot, we need to make sure it is charged.

To turn it on, using the switch underneath. You can tell that the Bee-bot is on because its eyes light up. Switch it back off again after you have finished using it.

## Directions

-In order create clear routes for our Bee-bots, we need to be sure of our directions.




Make sure that you stand behind Bee-bot.

## Routes and Algorithms

-A route is the course that we travel to get somewhere. We use algorithms (a set of guidelines to complete a task) to program our floor robot to take a route to where we want it to go.

-We should think carefully about how to avoid obstacles. We should also consider how many times we need to press each button to travel the correct distance.

**Important Vocabulary**

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|---|---|---|---|---|---|---|---|---|---|
| Programmed | Robot | Algorithm | Button | Direction | Forward | Backward | Left | Right | Route |