Y1

COMPUTING: PROGRAMMING KNOWLEDGE ORGANISER

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.

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.

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.

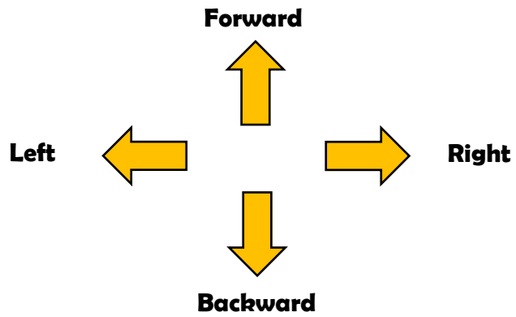
-The GO button makes the Bee-bot start its program. (on some models, it also pauses the Beebot in-program).

-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.

Directions

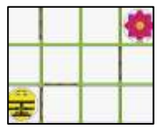
-In order create clear routes for our Bee-bots, we need to be sure of our directions.



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

Programmed	Robot	Algorithm	Button	Direction	Forward	Backward	Left	Right	Route