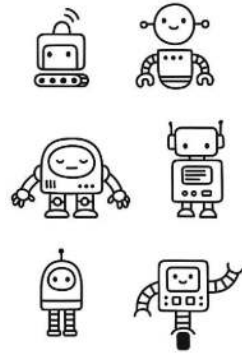


Computing

Moving a robot

Overview

Programming means creating step-by-step instructions that a computer or machine can follow. Robots are machines that can be programmed to carry out tasks. Floor robots like Bee-Bots and Blue-Bots are good examples. These robots have buttons that let us control their movements. We can use algorithms (a list of steps to complete a task) to guide them along paths or routes.



Robots

Robots are machines that can be programmed to do jobs usually done by people. They help with tasks like cleaning, mowing the lawn, and even learning. In factories, robots help build things, and in hospitals, they assist with patient care.

Bee-Bots

Bee-Bots are small floor robots that we can program to move in different directions. They are designed to stay on the floor—putting them on tables or high places can damage them if they fall.



Using a Bee-Bot

To switch it on, use the button underneath. You'll know it's on when its eyes light up. Don't forget to turn it off when you're done!

Beebot controls

Buttons: Bee-Bots have buttons on top, and each one tells the robot to do something different.

Arrows: The arrow buttons control the direction the Bee-Bot moves (forward, backward, left, right).

GO Button: Pressing GO starts the Bee-Bot's program. On some versions, it can also pause the movement during the program.

Programs: A program is a set of steps or instructions. You create a program by pressing the direction buttons in the order you want, then pressing GO to run it.

X Button: This clears the Bee-Bot's current program so you can start again. Turning the Bee-Bot off and back on will also clear the instructions.

Routes and Algorithms

A route is the path we follow to reach a destination. When using floor robots, we create algorithms, which are step-by-step instructions, to program them to follow a chosen route. It's important to plan carefully, thinking about how to avoid obstacles and how many times each button needs to be pressed so the robot travels the correct distance.

Key Vocabulary

Bee-bot, forwards, backwards, turn, Clear Go, commands, instructions, directions, plan, algorithm, program, route

Key Questions

What is a robot?

A machine that can be programmed to do tasks.

Where are the Bee-Bot's buttons located?

On the top of the robot.

What do the arrow buttons do?

Control the direction the Bee-Bot moves (forward, backward, left, right).

What does the GO button do?

Starts the Bee-Bot's program

What does the X button do?

Clears the Bee-Bot's current program.

What is a program?

A set of steps or instructions to follow.

What is an algorithm?

A list of steps used to complete a task.

What is a route?

The path the robot follows to reach a destination.

Why is it important to plan your program carefully?

To avoid obstacles and make sure the robot travels the correct distance