

LESSON 16

Flower Power: Planting with Bee-Bots

30 minutes

Exploring Robotics and Commands

WHAT THIS LESSON DOES

In this lesson, you'll guide students through a series of activities to reinforce their understanding of directional commands and sequencing. They'll start by acting as Bee-Bots, then practice programming on an interactive whiteboard, and finally, use real Bee-Bots to plant flowers on a grid mat. The activities are designed to provide hands-on experience with logical thinking and problem-solving processes essential for coding.

WHAT STUDENTS SHOULD BE ABLE TO DO

- Develop understanding and application of directional commands in a fun and interactive manner.
- Enhance problem-solving skills through the use of Bee-Bots and directional cards.
- Improve logical thinking by programming Bee-Bots to follow specific sequences.
- Gain hands-on experience in coding through the 'Planting Flowers' game.
- Reinforce the concept of sequencing and its importance in coding.

BEFORE THE LESSON

- Download and cut out the Bee-Bot Directional Cards and the Bee-Bot Flower Resources for the class.
- Charge the Bee-Bots and lay out the grid mats on the floor (mat size is your choice).
- Clear open floor space so pupils can act out Bee-Bot steps and turns with their bodies.

Flower Power: Planting with Bee-Bots

HOW THE LESSON RUNS

Introduction

Be the Bee-Bot

Bee-Bots Recap

Planting Flowers

Wrap Up

TEACHING MOVES

- 1. Introduction. Tell pupils the three phases up front: body Bee-Bot practice, a quick commands recap, then real Bee-Bots planting flowers on the mat from direction cards.
- 2. Be the Bee-Bot. Model each move yourself: one step forward or back, and a 90-degree left or right turn without stepping. Choose one pupil as the Bee-Bot and give short spoken command chains.
- 3. Bee-Bots Recap. Run another round of the body Bee-Bot game so forward travel and on-the-spot turns are steady before anyone touches a real Bee-Bot.
- 4. Planting Flowers. Hold up sample direction cards and name each command. Place a Bee-Bot on the mat. Pupils enter the card sequence, run it, and lay a flower printout on every square where it stops.
- 5. Wrap Up. As a class, name how the ordered commands made the flower path. Keep the talk spoken only: no writing or handing up of answers.

WHAT TO WATCH FOR

- Pupils step forward while turning, so their path drifts off the intended square. Freeze the move. Model turn-only on the spot, then forward as a separate command, and have them repeat that pair.
- Pupils mix up left and right when reading cards or pressing Bee-Bot buttons. Have them point the way the Bee-Bot is facing first, then show left and right from the robot's view before they enter the command.
- Pupils run one command at a time instead of building the full sequence, so they lose the idea of a program. Ask them to line up all the cards and enter the whole list before pressing Go, then match the flower trail to that list.

DIFFERENTIATION

- Emerging: Pair them with a partner: one reads the card, the other enters the command on the Bee-Bot. Give a very short card sequence (two or three commands) until they land one flower correctly.
- Developing: Have them say the full sequence aloud before pressing any buttons. Stay nearby to check the card order against the buttons before they run the Bee-Bot.
- Proficient: Hand them a longer card sequence that plants several flowers in one run. Ask them to predict which squares get flowers before they press Go, then check against the mat.