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, print and cut out the Bee-Bot Directional Cards and the Flower Resources before class. One set per group is plenty.
- Charge the Bee-Bots and check they still turn and move as expected, and lay out the grid mats on the floor with space to move around them.
- Clear floor space at the front for the Student as Bee-Bots demonstration so the whole class can see the turns.

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HOW THE LESSON RUNS

Introduction
undefined
Bee-Bots Recap
Planting Flowers
Wrap Up

TEACHING MOVES

- 2. undefined. Model each command with your own body first: step forward, step back, then turn on the spot without moving so pupils see that a turn is not a step. Keep commands to one at a time.
- 3. Bee-Bots Recap. Run the acting-out game briefly, giving short two or three command sequences. Watch for pupils who walk forward when told to turn, and pause to separate the two actions.
- 4. Planting Flowers. Hold up each direction card and say what it means before pupils start. Have them place one flower on every square the Bee-Bot stops on, so the sequence is visible.

WHAT TO WATCH FOR

- Pupils treat a turn as a step forward, so the Bee-Bot ends up one square further along than intended. Show the turn on the spot with your own feet, staying on one square. Have pupils name whether each card is a turn or a move before pressing it.
- Pupils enter all the commands at once and lose track of the order, so they cannot tell why the Bee-Bot stopped where it did. Ask them to lay the direction cards in a row first, then press the buttons in that same order, checking one card off at a time.

DIFFERENTIATION

- Emerging: Give a short two-card sequence and have the pupil place a flower after each single command before adding the next.
- Developing: Let the pupil build the card sequence first, then predict aloud which square the Bee-Bot will land on before pressing go.
- Proficient: Set a target square and ask the pupil to work out the sequence of cards needed to reach it, then test whether it works.