

## Bee-Bot Basics: Forward and Backward Fun!

30 minutes

Journey into Robotic Movements

### WHAT THIS LESSON DOES

This lesson guides teachers through introducing Bee-Bots to their students. It includes activities such as a numbers strip game and a colours strip game, a demonstration of Bee-Bot's functions, and a class activity where students can practice giving commands to the Bee-Bot. The lesson concludes with a celebration of the students' achievements.

### WHAT STUDENTS SHOULD BE ABLE TO DO

- Understand the basic functions of a Bee-Bot, including its forward and backward movements.
- Develop skills to give instructions to a Bee-Bot, using number and colour strip activities.
- Apply knowledge of Bee-Bot functions to guide it along a number line.
- Work collaboratively in small groups to practice Bee-Bot instructions and movements.
- Reflect on the process of giving instructions to a Bee-Bot, promoting critical thinking and understanding.

### BEFORE THE LESSON

- Have the number strip and colour strip direction games open and tested on your IWB or projector before pupils arrive.
- Check Bee-Bots are charged and working. Aim for one per small group.
- Lay out a number line floor mat per group, or print the card variations included in the Class Activity step if you are short of mats.
- Clear a space on the floor where the class can gather in a circle for the demonstration.

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### HOW THE LESSON RUNS

Meet the Bee-Bot

Numbers Strip Activity

Colours Strip Activity

Demonstration

Development

Clear the Code

Class Activity

Wrap Up and Celebrate

### TEACHING MOVES

- 1. Meet the Bee-Bot. Hold up a real Bee-Bot as you introduce it so pupils connect the on-screen ladybird to the robot they will drive later.
- 2. Numbers Strip Activity. Model one turn yourself first, thinking aloud as you choose arrows, then invite pupils up to give the ladybird instructions to reach the target.
- 3. Colours Strip Activity. Run the same game on colours so pupils see the instructions work the same way whatever is on the squares.
- 4. Demonstration. Press forward and backward slowly, one at a time, and count the step aloud so pupils see one press equals one square.
- 5. Development. As pupils try commands, ask them to say what they think will happen before they press go. This is where the thinking happens.
- 6. Clear the Code. Have the whole class say 'clear the code' aloud and make an X with their arms as you press the X button. Repeat it until it is automatic.
- 7. Class Activity. Circulate and set each group a target number to reach. Let pupils explore the rotate buttons if they find them; those come up properly in later lessons.
- 8. Wrap Up and Celebrate. Ask one or two groups to talk through how they moved their Bee-Bot to a number, then flag that Bee-Bots make a good Aistear free-play choice.

### WHAT TO WATCH FOR

- Pupils forget the Bee-Bot remembers earlier commands, so it drives off doing the previous instructions plus the new ones. Insist on the clear-the-code routine before every attempt. If a Bee-Bot behaves oddly, ask 'did we clear the code?' rather than fixing it yourself.
- Pupils press a button repeatedly expecting continuous movement, not realising each press adds one step to a sequence that runs when they hit go. Show that one press equals one square and that the Bee-Bot waits until the go button before moving. Count presses aloud together.

#### **DIFFERENTIATION**

- Emerging: Pair the pupil with a partner and let them do the physical button-pressing while the partner counts the squares.
- Developing: Give a short target of two or three squares and ask them to predict where the Bee-Bot will stop before pressing go.
- Proficient: Set a longer target further along the number line, or ask them to reach a number using both forward and backward moves. Have them explain their sequence back to you before they run it.