

Twist and Turn: Bee-Bot's Lateral Moves

30 minutes

Journey into Robotic Movements

WHAT THIS LESSON DOES

In this lesson, teachers will guide students through the process of making Bee-Bots turn left and right. The lesson begins with a recap of previous knowledge, followed by interactive practice of lateral movements. Teachers will then demonstrate the turning process with a real Bee-Bot, after which students will get a chance to practice themselves. The lesson concludes with a review and discussion of the learned skills.

WHAT STUDENTS SHOULD BE ABLE TO DO

- Understand and apply the concept of lateral movement in Bee-Bot programming.
- Differentiate between turning and moving actions in Bee-Bot navigation.
- Execute sequences of turn and move commands to guide Bee-Bot to specific locations.
- Develop spatial awareness and precise programming skills through hands-on Bee-Bot practice.
- Reflect on learning experiences, sharing challenges and successes in Bee-Bot navigation.

BEFORE THE LESSON

- Open and test the turning interactive on the board, and have the recap game ready to load first.
- Have one Bee-Bot per group charged, plus a grid mat for each group (or print one from the mat designer tool named in the lesson).
- Prepare small targets such as stickers or objects for pupils to guide the Bee-Bot to.
- Clear floor or tabletop space for each group to work in.

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HOW THE LESSON RUNS

Introduction

Lesson 1 Recap

IWB Practice lateral movement

Teacher Bee-Bot Demonstration

Student Practice

Wrap Up

TEACHING MOVES

- 2. Lesson 1 Recap. Run the interactive game briefly and have pupils clear code with the arms-crossed 'X' gesture, so the habit carries into the new turning work.
- 3. IWB Practice lateral movement. Press a turn button on the interactive and stop. Point out the Bee-Bot has rotated but not moved, then press forward so pupils see the two actions are separate.
- 4. Teacher Bee-Bot Demonstration. On the grid mat, turn the real Bee-Bot and count squares aloud as you move it, so pupils tie each button press to one square of movement.
- 5. Student Practice. Set groups a simple sequence first, such as turn right then forward two, before placing a target for them to reach. Circulate and check they press forward after turning.
- 6. Wrap Up. Ask groups to say aloud what turning does and does not do, then invite pupils to share one thing they found tricky or exciting about reaching the target.

WHAT TO WATCH FOR

- Pupils expect the Bee-Bot to move when they press a turn button, so it ends up facing the right way but staying still. Turn the Bee-Bot yourself and freeze. Say 'it is facing the new way but it has not gone anywhere', then press forward so they see the two steps are separate.
- Pupils confuse the Bee-Bot's left and right with their own, especially when it faces towards them. Have a pupil stand behind the Bee-Bot facing the same way it does before deciding which turn button to press.
- Pupils add a new sequence without clearing the old commands, so the Bee-Bot does more than expected. Reinforce the arms-crossed 'X' clear gesture before every new attempt.

DIFFERENTIATION

- Emerging: Give a two-command target only, such as turn once then move one square, and stand behind the Bee-Bot with them to agree the turn direction.
- Developing: Ask them to say their sequence aloud before pressing any buttons, then check the outcome against what they said.
- Proficient: Set a target that needs at least two turns to reach, or have them plan a route to two objects in order.