

LESSON 13

Floating in Space: Looping with the Spaceman

30 minutes

Creative Stories

WHAT THIS LESSON DOES

As the teacher, guide your students through a Scratch Jr. lesson on coding loops. Introduce space movement concepts, help them set up a spaceman sprite with a space background, and demonstrate using repeat blocks for continuous floating motion.

WHAT STUDENTS SHOULD BE ABLE TO DO

- Understand and apply the concept of loops in coding using the repeat block in Scratch Jr.
- Program a spaceman character to simulate floating in space using a sequence of movement blocks.
- Explore the concept of space movement and how it differs from movement on Earth.
- Customise a character in Scratch Jr. using the camera feature to personalise the spaceman.
- Apply creativity and coding skills to create a unique 'space dance' using different sequences of movements and loops.

BEFORE THE LESSON

- Have Scratch Jr open and ready on each pupil device, tablets charged and logged in.
- Test the tablet camera in Scratch Jr's character paintbrush editor beforehand, as the 'face in space' step depends on it. If your devices have no camera, plan to skip that customisation.
- Have the space visual stimulus ready to display on the board for the opening discussion.

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HOW THE LESSON RUNS

Introduction

Space movement

Setting the Scene for Space

Programming the Float Movement

The Repeat Block

Creative Extension: Your Face in Space!

Final Challenge: Program a Space Dance!

TEACHING MOVES

- 2. Space movement. Draw out that space movement is slow, smooth and in all four directions, not just forward. Steer answers toward the exact motions pupils will code next: floating up, down, left, right.
- 3. Setting the Scene for Space. Model deleting the cat once at the front: tap and hold the sprite until the X appears, then tap the X. Then let pupils add the spaceman and background themselves.
- 4. Programming the Float Movement. Demonstrate a short sequence of small movement blocks in different directions. Stress small steps over big jumps so the motion reads as floating, not hopping.
- 5. The Repeat Block. Show that the orange repeat block wraps around the movement blocks, not next to them. Run it so pupils see the same sequence loop endlessly.
- 6. Creative Extension: Your Face in Space! Tap the character, then the paintbrush, then the camera to capture a face inside the helmet. Keep this optional so pupils without a working camera are not left waiting.
- 7. Final Challenge: Program a Space Dance! Ask each pupil to plan a short move sequence first, then wrap it in the repeat block. Suggest a spin or a square as starting patterns, then let them invent their own.

WHAT TO WATCH FOR

- Students may think: Pupils place the repeat block beside their movement blocks rather than around them, so nothing loops. What to do: Show the block visibly enclosing the sequence. Have the pupil point to where the loop starts and ends before they run it.
- Students may think: Pupils use large single movements and expect smooth floating. What to do: Compare a big jump with several small steps side by side. Ask which one looks like an astronaut floating.
- Students may think: Pupils think the character will keep floating off the screen forever without noticing it stops at the edge. What to do: Let them watch it hit the edge, then discuss combining directions so the spaceman drifts back and stays visible.

DIFFERENTIATION

- Emerging: Pre-place the green start block for them so they begin with the movement, and let them copy your two-block float before adding more.
- Developing: Have them explain aloud what their repeat block is looping before they run it, to check they understand the loop rather than just the drag.