

LESSON 2

Scratch Tutorial

40 minutes

Introduction to Coding

WHAT THIS LESSON DOES

Get started with coding using Scratch! Follow step-by-step instructions to explore the Scratch website, add and customise sprites, create movement with code blocks, use loops, and enhance your project with backdrops. Begin your coding journey now!

WHAT STUDENTS SHOULD BE ABLE TO DO

- Understand and navigate the Scratch coding platform.
- Manipulate sprites by adding, removing, and controlling their movements.
- Apply basic coding concepts such as loops and event triggers.
- Modify code blocks to alter sprite behaviour.
- Explore and experiment with various Scratch functionalities to create unique projects.

BEFORE THE LESSON

- Open scratch.mit.edu on your own device and check the school filter allows it and the Create editor loads. Some networks block it.
- One device per pupil, or per pair if devices are short. Dragging blocks is easier with a shared screen and one driver.
- Play the step 1 introduction video yourself first and have it ready on the big screen, with sound on, so all pupils watch it together.
- No login is needed to build a project. Warn pupils that work will not save unless a class account is set up, so this is a one-sitting project.

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HOW THE LESSON RUNS

What is Scratch?

Open the Scratch website

Remove the Default Sprite

Add a sprite to your project

Make the sprite move

Change the values inside the blocks

Create a loop

Add a backdrop

Discover More with Scratch

TEACHING MOVES

- 1. What is Scratch? Play the video on the big screen for everyone at once rather than on thirty devices. Ask pupils to name one thing they could make with Scratch before you move on.
- 2. Open the Scratch website. Point out clearly that Create sits at the top of the page and opens the editor. Wait until every screen shows the editor before starting anything, or you will lose half the room.
- 3. Remove the Default Sprite. Show the small x on the cat thumbnail below the stage on your screen first. Reassure pupils the cat is not gone forever, it lives in the sprite library.
- 4. Add a sprite to your project. Model opening the sprite library and finding the Bat so everyone lands on the same sprite. Keeping the whole class on the bat makes the next steps easier to follow together.
- 5. Make the sprite move. Stress that block colour tells you which category to open. Drag one block yourself on the board and show how blocks click together only when dropped close. Expect several attempts and reassure them that is normal.
- 6. Change the values inside the blocks. Have pupils click into the number, type 50 and 25, then run the green flag and watch the difference. Ask what would happen if the numbers were bigger.
- 7. Create a loop. Explain a loop repeats instructions. Demonstrate detaching the two motion blocks and dropping them inside the forever block. Point out the forever block has a different shape that wraps around the others.
- 8. Add a backdrop. Show the backdrop library button and let pupils pick any scene. Keep this brief, it is a quick win before the free exploration step.
- 9. Discover More with Scratch. Set a clear task for the free time: try one block from a category you have not used and see what it does. Circulate and ask pupils to show you their favourite discovery.

WHAT TO WATCH FOR

- Pupils think blocks are joined when they are only sitting near each other, then the code does not run. Show them the blocks must snap together with the connecting notch. Have them gently tug the top block: joined blocks move as one.
- Pupils put the two motion blocks beside the forever block rather than inside it, so nothing loops. Point out the forever block must wrap around the motion blocks, with the move and turn tucked inside the C-shape, not sitting underneath it.
- Pupils expect the sprite to move without clicking the green flag. Remind them the when green flag clicked block means the code only runs after they click the flag at the top left of the stage. Have them click it each time they change something.

DIFFERENTIATION

- Emerging: Pair them with a partner who has the editor open and let them share one screen while they find their feet. Do the drag and snap of the first block with them, then let them add the second one themselves.
- Developing: Ask them to change the numbers again and predict what will happen before clicking the flag, so they connect the value to the movement. Have them explain back to you why the forever block makes the sprite keep circling.
- Proficient: Point them at the Looks or Sound categories in the final step and challenge them to make the sprite also say something or play a sound. Ask them to add a second sprite and give it different code from the bat.