

Ready, Set, Race! Programming Speedy Sprites

30 minutes

Creative Stories

WHAT THIS LESSON DOES

Get ready to create an exciting animal race in Scratch Jr.! You'll learn to add sprites, set backgrounds, and programme movements. Adjust speeds to make your characters race across the screen and see who wins!

WHAT STUDENTS SHOULD BE ABLE TO DO

- Understand and apply basic programming concepts using Scratch Jr.
- Manipulate sprites by adding, removing, and controlling their speed.
- Apply sequencing skills to create a desired outcome in a digital project.
- Develop critical thinking by predicting and observing the outcome of the programmed race.
- Explore creativity by designing and programming a unique race with different sprites.

BEFORE THE LESSON

- Have ScratchJr installed and open on a device for each pupil or pair, and check it launches without an update prompt.
- Open the app yourself first and locate the green flag block and the speed block so you can point to them quickly.
- Make sure device sound is on if you want pupils to notice the movement and finish, though the race is visual and headphones are not essential.

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HOW THE LESSON RUNS

Introduction

Adding the Sprites

Changing the Background

Adding the Movements

Changing character's speed

Running the Race

Free Play

TEACHING MOVES

- 2. Adding the Sprites. Model deleting the cat by holding it until the X appears, then adding two animals. Steer choices toward one clearly fast and one clearly slow so the speed contrast lands later.
- 3. Changing the Background. Keep this quick. A field or track is fine. Do not let background browsing eat the time meant for the coding.
- 4. Adding the Movements. Stress that every sprite's sequence must start with the green flag block, otherwise it will not run. Add blocks to one sprite together before pupils do the second.
- 5. Changing character's speed. Show the speed block on the fast animal, then on the slow one. Ask pupils to predict who wins before running, so the speed change is a choice they made, not a setting.
- 6. Running the Race. Have everyone press the green flag and watch. Ask a few pupils why their animal won or lost, tying it back to the speed value they set.
- 7. Free Play. Let pupils rebuild with any sprites they like, but ask them to predict the winner before pressing the flag, then check whether they were right.

WHAT TO WATCH FOR

- Students may think: Pupils forget the green flag block, so pressing the flag does nothing and they think the app is broken. What to do: Show them their sequence must begin with the green flag. Check the first block on each sprite before they run the race.
- Students may think: Pupils think adding more movement blocks makes an animal faster, rather than using the speed block. What to do: Line up two animals with the same number of moves but different speed settings and run them, so pupils see speed, not block count, decides the winner.

DIFFERENTIATION

- Emerging: Sit with them for the sprite deletion and first green flag block, then let them copy that pattern onto the second animal. Pair them with a partner who has already added their animals so they can watch the steps once before doing them.
- Developing: Ask them to change one animal's speed, run it, then predict what a different speed will do before trying it.
- Proficient: In free play, challenge them to make a three-animal race and rank the finish order in advance, then check it against what happens on screen.