

Broadcasting Signals: Triggering Actions Like a Pro

40 minutes

Creative Coding Challenges

WHAT THIS LESSON DOES

In this lesson, you'll learn to use broadcasts in Scratch to control events in a fairy tale project. Follow steps to create a scene with characters interacting seamlessly, triggering actions for a smooth, engaging story flow.

WHAT STUDENTS SHOULD BE ABLE TO DO

- Master the use of broadcasting to control the timing of events in Scratch projects.
- Develop skills in setting up a scene and characters in a Scratch project.
- Understand how to use broadcasts to trigger character interactions and story progression.
- Learn to add more complexity to the story by using broadcasts to trigger additional details like sound effects or background changes.
- Enhance creativity and storytelling skills by creating a fairy tale scene with interactive characters.

BEFORE THE LESSON

- Each pupil needs a device logged into Scratch (or Scratch offline) with a new project ready.
- Test site access and sound: pupils may add a roar or other effects.
- Have the projector or shared screen ready if you will model the Events blocks once for the class.

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HOW THE LESSON RUNS

Introduction

Create a new project

Set the Scene

Add your Characters

Hide the Dragon

Code our First Character

Code the Second Character to Respond

Code the Third Character to Appear

Continue the Story

Add More Details

Wrap Up

TEACHING MOVES

- 1. Introduction. Frame a broadcast as a message one sprite sends so another knows it is their turn. Stress that both sides must use the exact same message name.
- 2. Create a new project. Wait until every pupil has a blank Scratch project open before choosing backdrops or sprites.
- 3. Set the Scene. Give a short choice window: castle, magical forest or village. Confirm each project has one clear fairy tale backdrop.
- 4. Add your Characters. Aim for two or three theme-fit sprites. Point out the Size box under the stage if a character towers over the scene.
- 5. Hide the Dragon. Check the dragon's green-flag script hides it, places it off or at the start point, and sets its costume before anyone codes the others.
- 6. Code our First Character. On the princess: green flag, say the line for three seconds, then broadcast renamed exactly to Princess Finished, spaces and capitals included.
- 7. Code the Second Character to Respond. On the prince, use when I receive and pick Princess Finished from the dropdown rather than typing. Then say the line and broadcast Prince Finished.
- 8. Code the Third Character to Appear. Dragon receives Prince Finished, shows, then glides. Optional: add a library or recorded roar under show with start sound.
- 9. Continue the Story. Only extend once the three-part chain runs cleanly. One extra broadcast, such as the prince fleeing, is enough.
- 10. Add More Details. On the Stage, switch to Woods when Prince Finished is received, and switch back to the first backdrop on green flag so replays reset.
- 11. Wrap Up. Ask pairs to name one place their story would break if a broadcast name did not match, then celebrate a full run-through.

WHAT TO WATCH FOR

- Broadcast and when I receive message names do not match, so the next character never starts. Have pupils choose the message from the when I receive dropdown instead of typing. Confirm both sprites show the same name.
- The dragon is still visible at the start because hide only runs later or is missing. Open the dragon sprite and check hide, go to, and costume sit under when green flag clicked before the story chain runs.
- Pupils stack everything under green flag on every sprite and expect order without messages. Show that green flag starts the princess only. Later sprites should begin with when I receive so timing follows the broadcasts.

DIFFERENTIATION

- Emerging: Sit them with a partner and coach only the message dropdown match between princess and prince before adding the dragon. Provide the block order verbally: green flag, say, broadcast, then mirror it on the next sprite with when I receive.
- Developing: Ask them to click the green flag and narrate who should move next if a character freezes. Have them explain their sequence back to you using the message names before they add sound.
- Proficient: Challenge them to add one more broadcast-triggered action from the extend step, such as the prince running away. Invite a Stage backdrop change and reset on green flag once the character chain is solid.