

## Lesson Plan

### Coding with Scratch

**Book:** *All About Coding*

**Series:** Cutting-Edge Technology

**Level:** Navigator

#### Objective

To help students develop their technological design abilities by learning very basic computer coding, and to develop their problem-solving skills by learning to think like a coder.

#### Supplies

- *All About Coding*
- Scratch website: <https://scratch.mit.edu/>
- Projector screen
- Computer access for each student

#### Before the Activity

Read through the *All About Coding* book, or assign it to students to read on their own. You may also want to review the main ideas from Chapter 3 with students.

#### Activity

Show the “How It Works” spread (pp. 18–19) on the projector screen. This spread explains how to create an event in the popular coding language Scratch. Scratch allows users to create events and actions by clicking and dragging blocks.

Use the projector screen to show students the Scratch website. Click the “Try It Out” button. Then demonstrate creating one event for the students. Explain that you want to make the sprite (the cat character) walk across the screen. Start by choosing the gold “Events” category. Drag the “when space key pressed” block to the open area on the right. Then choose the blue “Motion” category. Drag the “move 10 steps” block over underneath the gold block. The blocks will snap together. Now press the spacebar. The cat will walk across the screen.

Also show the students that multiple blocks can be stacked underneath the same event heading. Choose the “Looks” category, and drag “change color effect by 25” under “move 10 steps.” Then press the spacebar. The cat will walk and change colors.

Ask the students to create a list of events that will allow their cat to walk all the way around the edges of the white screen. If some students finish before others, encourage them to play around with other effects, such as changing colors, adding sound, or performing other actions.

### **Evaluation**

Could the students create code to make the cat walk all the way around the box? Note: There will be several different combinations of events that can achieve this goal.

### **Standards**

This lesson may be used to address the Common Core State Standards' standards for reading informational texts, grade 4 (RI 4.7) and the National Science Education Standards' Content Standard E, grades K–4 and grades 5–8.