VOCABULARY
Broadcast: A block that sends a message (usually to another sprite)
Receive: A block that does something in response to a message (which probably came from another sprite)
Code: Writing a computer program (like building scripts with blocks). Scripts and sprites that make up the program.
Wait: Block that makes a script pause so that actions happen when you want them to.

ACTIVITY GOAL
In this project, you will learn how to make sprites work together in a program by broadcasting and receiving messages.

BACKGROUND
Sometimes if something happens to one sprite you want another sprite to do something in response. To do this, you will need to broadcast and receive messages between sprites.

To make sprites respond to each other you use the broadcast and receive blocks together.

- One sprite broadcasts a message:

- The other sprite receives a message:

Notice that each of these blocks has a square that you can type in. This is where the message name goes.

- To add a new message name, click on the shaded box with the little triangle in it, click on “new…”

- A box will pop up. Type the name of the city sprite you want the car to drive to.

- The message names must match for the sprites to do what you want.
EXPLORE

1. Open the project. You will see a map of California and different sprites that represent cities.

2. Click on the green flag.

3. Click on the mission located in Santa Barbara. Describe what happens below.
   Hint: If you want to see it again, click the green flag and then the mission again.

4. Click on the Control category and look at the blocks available.

5. What blocks do you think were used to make the sprite for the Santa Barbara mission send a message to the sprite for the car? Circle the correct blocks on the right.

6. What block do you think was used to make the car respond to the Santa Barbara mission’s message? Circle the correct block on the right.

Quick Tip: Remember, you can copy scripts that you may want to use more than once. Right-click on the top block then hit “duplicate”.
PROGRAMMING CHALLENGE: California Geography

Your goal is to send and receive messages so that when you click on a city’s sprite, the car says the name of that city and drives to it.

PLAN

Step 1: Plan how to send messages between each city sprite and the car.
In the EXPLORE section you figured out which blocks to use to send and receive messages between sprites. You will need a new set of blocks for each sprite.

Step 2: Plan how to make the car sprite say each city’s name.
What block do you think you could use to make the car say a city’s name when you click on the city’s sprite? Circle the block below.

- when space key pressed
- point in direction (90)
- glide 50 steps
- broadcast Santa Barbara
- say Hello for 2 secs
- when clicked

0 Write what the car will say when you click on all of the city’s sprites.  
  Hint: Each city’s name is on the map in the EXPLORE section.

Capitol Building: ________________________________

Lake: _______________________________________

Golden Gate Bridge: _______________________________________

Mission: _______________________________________

Ear of Corn: _______________________________________

Hollywood sign: _______________________________________

Step 3: Plan how to make the car move towards a city.
What block do you think you need to use to make the car drive to a city when you click its sprite? Write your choice below.

__________________________________________
CREATE
Now it is time to create your project. Make sure to add scripts to all of the city sprites and the car sprite (Santa Barbara is already completed).

Double-check: Did you remember everything?
1) Did you broadcast and receive messages between the car sprite and all of the city sprites?
2) Does your car sprite drive to each city sprite and say the city’s name?

IMPROVE
Think about what you could do to make your project even better. Notice that in Looks category, there are blocks that you didn’t use in this activity.

1. Could you use any of these blocks to make your project more interesting? Try some out and describe what they do below.