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.

   **The car drives to the Santa Barbara Mission and then says “Santa Barbara”**.

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

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: Sacramento
- Lake: Lake Tahoe
- Golden Gate Bridge: San Francisco
- Mission: Santa Barbara
- Ear of Corn: Fresno
- Hollywood sign: Los Angeles

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. There are other correct blocks also.
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.

The IMPROVE sections are designed to be open-ended for students and there are multiple correct responses that can be given.