VOCABULARY

User: The person playing the game, running the program, etc.
Control Blocks: Blocks that determine when something should happen.
Event: Something that the user does (click sprite, press button, etc.)
Interactive: A program that responds to things the user does.

ACTIVITY GOAL

In this project, you will program a sprite to respond to user events. To create a fun game, something should happen when the user clicks on things. In this project, you will learn how to do this.

BACKGROUND

Remember, every script must start with a control block to tell when to do something. Action blocks tell the sprite what to do.

Quick Tip: Remember, you can copy scripts! Right-click on the first block of the script, and choose duplicate. Now you can drag the new one to a different sprite.

EXPLORE

1. Does anything happen when you click on the rocket?

2. Look in the scripts area for the rocket. Does it have any scripts telling it what to do? Write what you think the script makes the rocket do below.

   __________________________________________

   __________________________________________

   __________________________________________

3. Now click on the Control category and look at the blocks. Think about which blocks you might use and what you think they might do.
PROGRAMMING CHALLENGE: FLYING THROUGH SPACE

Your goal is create several scripts so that the rocket moves up, down, left, and right using the arrow keys on the keyboard.

PLAN

Step 1: Plan how to allow a user to control the rocket. You will create four scripts for the rocket – one for each arrow key (left, right, up, down).

Plan how you will make the rocket turn and move up when you press the up arrow key.

1. Circle which Control block on the right you would use to do this.

2. Now click the Motion category and look at the blocks. What blocks do you think will make the rocket move up when you press the up arrow key? Write the blocks you will use in the space below.

Hint: You should use one block to get the rocket to point in the right direction and another block to make the rocket move.

___________________________
___________________________
___________________________
___________________________

Step 2: Plan how you will make your rocket move in each direction. Write out the blocks you will use to make the rocket turn and move in each direction when you push on all of the different arrow keys in the table below.

<table>
<thead>
<tr>
<th>Control Block</th>
<th>LEFT (←)</th>
<th>RIGHT (→)</th>
<th>UP (↑)</th>
<th>Down (↓)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>________</td>
<td>________</td>
<td>______</td>
<td>________</td>
</tr>
<tr>
<td>Action Blocks</td>
<td>________</td>
<td>________</td>
<td>______</td>
<td>________</td>
</tr>
<tr>
<td></td>
<td>________</td>
<td>________</td>
<td>______</td>
<td>________</td>
</tr>
</tbody>
</table>
CREATE

Now it is time to create your project. You should create scripts for all of the arrow keys except for the one that has already been completed (the up arrow).

**Double-check: Did you remember everything?**
1. Make the rocket move when you press all of the arrow keys.

**Try it out:** When you have finished everything try it out! Push all of the arrow keys to make sure your scripts are working.

IMPROVE

After you have finished, think about what you could do to make your project more interesting. Below are some challenge questions to try out.

1. How could you program your rocket so that it can move in a square shape? Describe what blocks you might use below.

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

2. How could you program your rocket so that it can move in a circle? Describe what blocks you might use below.

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

3. How could you program your rocket so that it can move in a star shape? Describe what blocks you might use below.

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________