Lesson 6: Message Trigger and Stop Block

In this lesson, students will see a more predicable way for one character to trigger action for one or multiple other characters.

 OR

Discussion (5-10 minutes):

We used the Start on Bump block to have one character trigger action in another character, but that arrangement would trigger action in a character no matter which character ran into it. If we want a character's script to be triggered by a specific character, we need to use the message block. The message block is color coded so that the sender and the receiver need to be referring to the same color.

Because the message block has 6 possible colors, we can make 6 different connections between characters. Thus, we can use the message block for sequential activity across characters. The first character to act would send a message of one color which the second character to act would be listening for. Then the second character would do its movement and send a different colored message, which a third character (or the original character, in the case of a conversation or other back and forth sequence across characters) would be listening for, and so on.

The character that sends the message can be thought of as a radio broadcaster. The broadcaster sends its message on a particular color-coded "channel." If another character is tuned to the same channel on this imaginary radio, it will hear the message and act on it. But characters that are tuned to different channels (i.e., listening for messages of another color) will not hear that message at all. Instead, they will only hear broadcasts for the color "channels" that they are listening to. A character can send and listen for messages of multiple colors.

Mechanics (5 minutes):

When you want a character to trigger action for another character, put a Send Start Message block in its script and select a color. Then, in the script of the other character or characters, put a Start on Message triggering block. Make sure the color matches the color that was sent. Show how the stop block works so that students can stop the action once a character is caught.

Self-directed work (20 minutes):

Option 1

Redo the Sharks and Minnows game as follows:

1. Add more minnows and give them a Start on Message trigger of one color. Give all minnows the same color message trigger block.
2. Change the trigger block of the existing sharks from Start on Flag to Start on Message, and pick a different color message block for them that what you picked for the minnows. Give all sharks the same color message trigger block.
3. Add a character (other than a shark or a minnow) to call the sharks and minnows by sending a message of the color that the minnows and then the sharks are listening for (or vice versa).

Here are scripts that will work for this project:
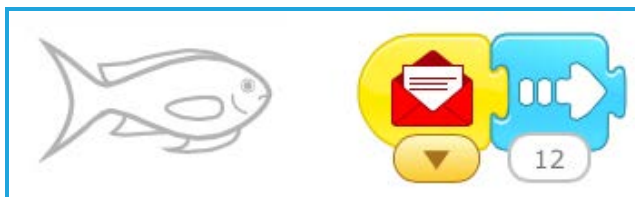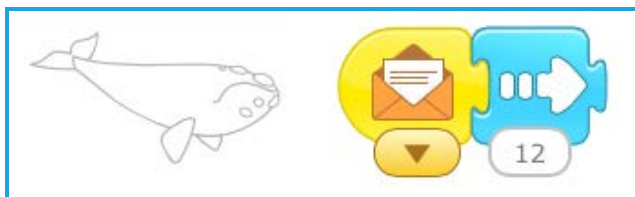
Option 2

Make a game of Monkey in the Middle. You will need a ball and 3 other characters. Two characters will be tossing the ball to each other, and when the third character catches the ball, the game stops. Students will need to know how the Stop block works for this project.
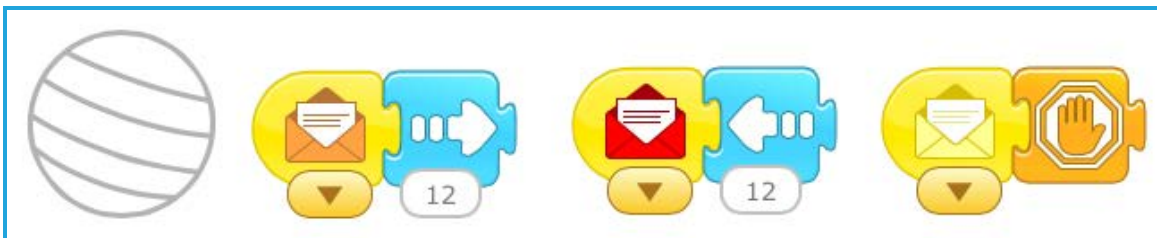
Here are sample scripts for that game.

1. Throwing/catching characters:
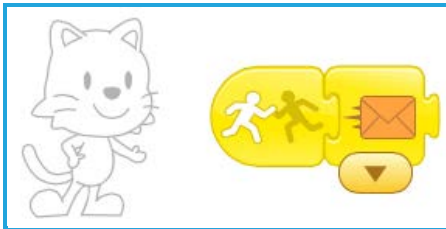
2. Middle character
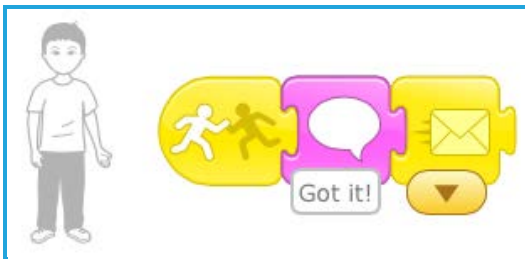
3. Ball

Wrap-up (5-10 minutes):

Ask a few students show their projects to the class.

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