Lesson 8: Start on Bump, Start on Tap, Send and Receive Messages, Stop

Summary

Through various activities in this lesson, students will be introduced to the start on bump, start on tap, send and receive message, and stop blocks. After learning how to use these new blocks, students will have the opportunity to explore ScratchJr and apply the concepts just learned.

Objectives *Students will learn that...*	*Objectives* *Students will be able to...*
• A character's program can be activated when the character is bumped by another character • A character's program can be activated when the character is tapped • Characters can send and receive messages that activate their program • Programs can be terminated	• Use the start on bump block to activate another character's program • Use the start on tap block to activate a character's program • Use the send and receive message blocks to initiate another character's program • Terminate particular characters' programs

New Programming Blocks

• Start on bump • Start on tap • Send message • Receive message • Stop	

Schedule

Review (5 minutes):
The teacher should review some of the recently learned programming blocks with students. S/he should project the iPad onto the board, and show students the various programming blocks. S/he should ask them to verbally describe what each block can be used for.
Materials: iPad for teacher only.

Scavenger Hunt (7 minutes): With the class, the teacher should list ten objects that can be found in the room (e.g. red marker, backpack, eraser). S/he should explain to the class that one child is to retrieve the first object on the list from its location in the room. Once the student has obtained the object, s/he is to high-five another student in the class, who will then go and retrieve the next object on the list. Continue this process until all of the objects on the list have

been retrieved. The teacher should then explain how this activity relates to the start on bump and start on tap block.

iPad Demonstration (15 minutes): The teacher should demonstrate how to use the start on bump and start on tap blocks. In these demonstrations, s/he should use characters that complement each other, so that it is clear who is receiving the "bump" or "tap." Such pairs may include:
1. Magician and dragon
2. Frog and fly
3. Sun and moon

After the teacher has demonstrated how to use these two blocks, s/he should **hand out the iPads**. The students should be given the opportunity to practice these blocks using two characters that the teacher chooses.

"Three, two, one, blast off" (15 minutes): During this activity, the teacher should project the Scratch cat and the rocket onto the board. S/he should show the cat counting down "Three, two, one" and then have the space ship "take off" by moving upward. After this demonstration has occurred, the teacher should show the children the programming blocks that made this occur. S/he should show students how to use the send and receive message blocks, and how the message colors must match each other in order for the message to occur. Students should then be given the opportunity to recreate this demonstration themselves on their own iPads.

Stop! (5 minutes): The teacher should demonstrate how to use the stop block in ScratchJr. The stop block is used to terminate all programs running for a particular character. To teach this block, s/he should have two characters. The first character has two programs: one that repeats forever and a second one that stops when it's bumped. The second character should have a sequence that repeats forever. For example:

Place the penguin to the right of the cat. The cat will stop moving as soon as it bumps into the penguin, but the penguin will keep jumping forever.

iPad Exploration (13 minutes): Allow children to continue working on their projects. They should be using the blocks learned in this lesson. They should have the opportunity to add new characters and change the background. Collect iPads.