

Lesson 5-6: Moving Sprites

Overview

In this lesson students will learn how they can create movement in Scratch and the pros and cons of each type of movement. It is essential for students to understand that each type of movement has a specific purpose and should be used for specific reasons. The types of movement may seem similar at the basic level, but could make big differences later in the unit or when creating programs. The students will learn the concepts of using movement through creating a baseball program. The hands on nature of this lesson should help students to grasp the concept and should also help teachers to gauge the level of comprehension that students have. Students should be encouraged to make the programs as intricate as possible and unique to themselves. Some students will likely struggle at the basic level of completion, but others will benefit from adding their own creative elements.

Lesson Summary

- *The primary parts of this lesson are a discussion of why moving is important in Scratch and facilitating student interaction and thought concerning why different types of movement are necessary. The bulk of the lesson and learning will come through the completion of the baseball program. The program will require students to use multiple types of movement as well as other basic elements of Scratch.*
- *Step 1: Create a path with tape throughout the classroom. Place students into groups. One group member is blindfolded and the others are to give directions to the student so that they can follow the line to the end point. When finished have the students answer the question in their journals: "How many different ways did your group give directions to move? Were some methods more effective than others? Why or why not?"*
- *Step 2: Complete moving.sb program and discuss in groups and then with the class what parts were the most difficult and answer the questions. In the discussion emphasize the difference between the three types of movement and offer student demonstrations.*
- *Step 3: Complete the baseball.sb program and encourage students to add their own style and design.*
 - *Demonstrate turning and the sprite direction*
 - *Make sure all three types of movement are demonstrated*
 - *Demonstrate the importance of refreshing/resetting*
 - *Demonstrate costume changes*
 - *For additional challenge have students create a program for a single, double, triple, or homerun*
- *Step 4: Debrief: have students discuss or write in their journals about the difficulties and successes from this program.*

Objectives

Students will be able to:

- Understand movement concepts
- Apply three types of movement
- Make connections to graphing and coordinate planes

Materials and Prep

- Each student will need a computer and access to Scratch.mit.edu
- Baseball.sb file
- Journal

Resources

Student Documents

- *Baseball.sb file*
- *Moving.sb file*

Video

- <https://www.youtube.com/watch?v=7P5mXuYe8mw>

Assessments

- Monitor Student progress on moving.sb and baseball.sb programs
- Offer additional challenges for advanced students

Notes

CS Content

The nature of this lesson is full of CS content. Students will understand programming, problem solving, creativity, design, and user interface. The majority of the lesson is on the computer and additional connections to web design and other programming languages could be made.