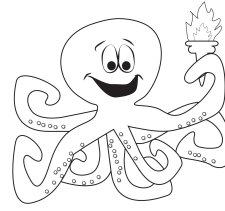


## LESSON PLAN, ACTIVITY 3 : INITIALIZATION



**GRADE:** 4<sup>th</sup> - 5<sup>th</sup> Grades

### **OVERVIEW:**

Initialization refers to the act of setting up everything properly at the beginning. This is very common in daily life. For example, whenever you play a game, you must set it up properly to begin. When you play soccer, after a goal is scored, both teams return to their side of the field, and one team kicks off. When you play Monopoly, everyone receives the same amount of money, returns hotels, returns property, and places their pieces at the starting point.

Initialization is equally important in programming. In traditional programming, initialization typically involves setting starting values. In Scratch, on the other hand, it involves placing sprites in the right locations, and resetting their sizes and orientations.

In this activity, the teacher intentionally “forgets” to place items in their starting position for an activity. You can take this as far as you want – doing this in the activity we suggest or throughout the day. We have further suggestions at the end if you want to do it for the entire day.

### **OBJECTIVES:**

The purpose of this activity is to reinforce the idea of initialization – setting things up properly. There are many ways one needs to set something up, so we do encourage you to be creative and find additional ways to reinforce this concept.

**MATERIALS:** Several erasers, an outdoor play area with two parallel lines that are quite far apart

### **PREPARATION:**

Familiarize yourself with the game “Steal the Bacon.” In this game, students begin on two rows, all facing each other. The rows need to be sufficiently far apart that the students can race to the middle, and some students will arrive faster than others (but not so far that it's obvious who is much slower). The erasers (or other soft objects) are placed in a row halfway in between the two rows. When the teacher says “Go!”, students from both rows try to run and grab an object in the middle and return it past the line on their own side. You then count how many items each side retrieved, and the largest number wins.

**DIRECTIONS:**

1. Begin by dividing the students in two groups and having each group make a line, with the two lines facing each other.
2. Explain the rules of the game, making sure everyone understands.
3. Run the game one time.
4. Once you have completed the game one time and determined the winner, have the students get back in their lines (but don't reset the items).
5. Make a big deal out of doing "Ready, set, go!" again.
6. One of two things should now happen. Hopefully, if all goes well, some student(s) will point out the fact that the second game won't work because all of the items are already at the side rows. You can then have a short discussion of what needs to happen.
7. Return to the classroom (either immediately or after recess or more play time)
8. Explain the concept of "resetting" or "initializing"
9. Invite the students to supply ideas as to other times when initialization is required for success. Below is a list we have compiled. For each one, have students tell you
  - a. what needs to be initialized
  - b. what would happen if they forgot to initialize it
10. Optionally, you can continue forgetting to initialize things for the rest of the day to see if students catch it.

**REFLECTIONS:**

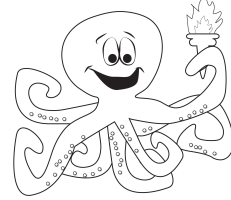
At the conclusion of the day, please pass out this reflections worksheet to assess student understanding of the concept.

**STANDARDS:**

### FiredUp Activity 3: Initialization Activity Reflections

Username:

For this exercise, your teacher ran a class activity and forgot to **initialize** or reset something.



Give an example of something you do at home that requires initialization.

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What do you need to initialize?

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What would happen if you forgot to initialize it?

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In Scratch, you need to **initialize** the location and size of your sprites (and you'll learn more things later). Don't forget!