Story 1 Outline

Objectives:

- Students become acquainted with the Alice IDE.
- Students use a marker (dummy) to mark the initial camera position.
- Students add objects to a scene, specifically a teacher, a school environment (from the web), and assorted classroom objects.
- Students will use the *quad view* capability.
- Students call built-in methods, some with parameters, to animate Story 1.
- Students will learn that, by default, statements are executed in order.
- Students will use the *doTogether* construct.
- Students will use parameters.
- Students will use a world function to get input from the user and a numeric variable to hold the answer.
- Students will write methods for the teacher object
- Students will use the *Do in Order* control structure.
- Students will use variables and random number generation to make the program run differently every time.
- Students will build a string that contains the values of numeric variables
- Students will use the *while* construct to repeatedly ask the user a question until they respond correctly
- Students will use the *while* construct to make their program run forever (or until the user stops the program)
- Students are exposed to (object-oriented) programming terms e.g. object, method, parameter, *if/else*.

Talking points:

1. Hand out thumb drives and have them put their names on them.
2. Students may team up in groups of 2 or 3, or they may work alone.
3. Show students how to log into the system and bring up Alice.
4. Begin by dropping a dummy at the camera. (Note that the usefulness of doing this will become apparent later.)
5. Add our main character (Teacher from the local People gallery).
6. Save the file, giving it a good name.
7. Add the school environment from the online Environments gallery
8. Add a desk to the scene and demonstrate the movement/resize buttons and quad view.
9. Allow the students to add a few more items to their scene.
10. Show students how to lower the teacher’s arms using the teacher’s subparts and the *roll* method.
11. Follow the storyline in Story 1.
Story 1 Outline

a. Talk about built-in methods (for all objects and then for our particular character) and demonstrate move for the camera and say and turn to face for the teacher.
b. Demonstrate asking the user a question (world functions – ask user) that requires a numeric answer.
   i. Discuss variables and use a number variable to hold the answer
c. Demonstrate the if/else
   i. Use the test for equality (world functions – math) to determine if the user entered a correct answer.
   ii. Build a jump method and a shake head method for the teacher.
      1. Demonstrate the need for Do in Order by have the teacher say something while jumping and shaking her head.
12. Modify the world to use variables, selected randomly between 1 and 12, for the question.
   a. Add two numeric variables.
   b. Set them to random integer-only values from 1 to 12.
   c. Add a string variable to hold the question “What is x times y?”
      i. This will be the most difficult part because it requires the nesting of world functions – joined with and what as a string
      ii. Use the string in the teacher’s say and the ask user for a number
   d. Modify the condition of the if to use the variables
13. Add a while around the appropriate code so that the user is asked the question until they get the correct answer
   a. The condition will use the world – math function a==b, and then the b part has to be the multiplication of the two variables.
14. Add a while around the appropriate code so that the user will be asked a new problem every time they get a correct answer.
   a. We could use either a while true or a loop infinite times here.