Lesson 2.4: The Quiz Game - Part 1
Introduction to Lists

Objectives

In this lesson, students will:

- Be introduced to the list variable and learn numerous list editing commands
- Practice creating and editing lists

Agenda

1. Overview and Game Demonstration	10 mins
2. A New Type of Variable	15 mins
3. Student Activity: Become a List Wizard	15 mins
4. Wrap Up and Reflections	10 mins

Preparation

- ❑ Learn about lists, a new type of variable at https://en.scratch-wiki.info/wiki/List
- ❑ Projector for game demonstration
- ❑ Print student activity worksheet, one per student

Resources & Links

- ❑ Sample Quiz Game for demonstration: https://scratch.mit.edu/projects/375399359
- ❑ Lists explained: https://en.scratch-wiki.info/wiki/List
- ❑ List Demo project: https://scratch.mit.edu/projects/315371625

1. Overview and Game Demonstration

Students will create a quiz game over the course of the next 2 lessons. There are various ways in which a quiz game can be implemented. Although students are given much freedom to code their quiz game, they are led in the direction of using lists to contain a list of questions and another list that contains the respective answers.

A sample quiz game is available to demonstrate what a quiz game could look like. After the demonstration, students learn about lists and how to create and edit them. The sample quiz game code can also serve as help in guiding students during their game creation.

Demonstrate the following quiz game to give students an idea of what they could create. Explain that they will be creating their own quiz game.

https://scratch.mit.edu/projects/375399359

2. A New Type of Variable

Engage students in an interactive demonstration and instruction.

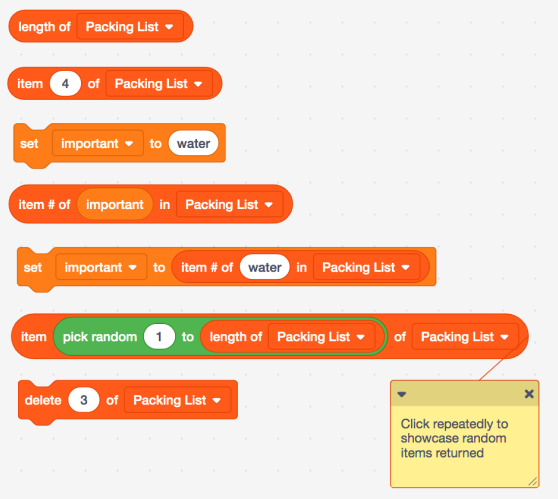
For our quiz game we will need a new type of variable to store a list of questions and a list of answers. Remember a variable stores one value in the computer's memory. A list stores many values in the computer's memory.

A list in a computer program is just like a list in real life, like a grocery list, or a list of school supplies. When you create a list in Scratch, you get a bunch of commands to change and manipulate your list.

Demo creating a list. Use the following demo project to showcase several list commands relevant to the game they will be coding:

https://scratch.mit.edu/projects/315371625/editor

Simply click on the blocks in the script area to demonstrate the various commands.



3. Student Activity: Become a List Wizard

In this activity students practice creating and manipulating a list in Scratch. Distribute the activity worksheet and instruct students what to do.

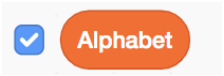
4. Wrap Up and Reflections

Reflection Points:

- What is a list variable?
- In what ways are lists useful?
- How do you retrieve a random item from a list?

Student Activity: Become a List Wizard

1. Create a new project. Create a **list** variable called "**alphabet"**. Select the list in the category so you see it on the stage.

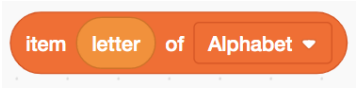
   

   Add the first 5 letters of the **alphabet** (a,b,c,d,e).

2. Code the following blocks to show their value. You can simply click on the block to see the value or use a **say** block.

   a. length
   b. **Item** at location number 2
   c. **item number** of the letter **d**
   d. check if the list contains the letter **g**
   e. item at location number 1

3. Create a variable called **letter.** What does this block return when you:

   - Set ***letter*** to 4: _____
   - Set ***letter*** to 2: _____

4. Observe what happens to your list when you click on each one of these blocks.

5. Explore other list commands.