

Lesson Plan for Activity Jeroo!

Subject: Basic mechanics of object-oriented programming

Length of Lesson: 60 minutes

Concept or Skill Focus: Learn the basics of object-oriented programming.

Goal: Using the Jeroo simulator, participants will learn some simple scripting and basic object-oriented programming concepts.

Objectives/Outcomes:

- Demonstrate how to create a Jeroo.
- Call methods on a Jeroo.
- Use a sequence of method calls on a Jeroo object to solve a Jeroo maze.

Materials

- Computers
- Projector
- Jeroo Stand-Alone or Web-Based version (both available here: <https://www.jeroo.org/>)
- Jeroo Map File (optional – if you want to create one ahead of time)
- Jeroo Methods Sheet (below)

Activities and Time Line (Introduction, Middle, Conclusion)

0-5: Introduction to Jeroo.

6-10: Introduction to basic Java OOP fundamentals, and basic Jeroo behavior/methods.

11-15: Show participants how to use the built-in map editor.

16-20: Demonstrate on the Smartboard how to create a Jeroo with some basic parameters.

21-25: Teach the `.hop()`, `.turn()`, and `.pick()` methods.

26 - End: Let students solve the maze, as well as make their own mazes and swap.

Jeroo: Methods

Creating a Jeroo:

The first step would be to create a Jeroo Object.

Jeroo Name = new Jeroo (Location, Direction, Number of Flowers);

Example:

Let's say you want to make a Jeroo named Pam. We want to place the Jeroo at the position (1,3), facing WEST, and we want Pam to have 11 flowers. You would type:
Jeroo Pam= new Jeroo(1, 3, WEST, 11);

Method One: jeroo.hop();

When "calling" .hop() on a Jeroo object that you have created, the Jeroo will hop the specified number of spaces in the direction that it is facing.

Example:

Let's say you have a Jeroo named Carl. To make Carl hop 5 spaces, you would type:

Carl.hop(5);

Don't forget the semicolon!

Method Two: jeroo.turn();

When "calling" .turn() on a Jeroo that you have programmed in, the Jeroo turn 90 degrees in the direction you type in the parentheses. Options for directions are **LEFT** and **RIGHT**.

Example:

Let's say you have a Jeroo named Stacy. To make Stacy turn 90 degrees to the right, you would type:

Stacy.turn(RIGHT);

Don't forget the semicolon!

The direction must be in capital letters!

Method Three: jeroo.pick();

If you call .pick() on a Jeroo standing on a flower, the Jeroo will pick up that flower.

Example:

Let's say you have a Jeroo named Brad. To make Brad pick up the flower he is standing on, type:

Brad.pick();

Saving Your Jeroo

Once you finish programming, it is very important that you test your code by running it on the Jeroo Island.

IN ORDER TO RUN YOUR PROGRAM, YOU MUST SAVE YOUR CODE FILE!!

Instructions for saving your Jeroo code file:

Click on the **save button** on the top left hand side of the screen. It is the third button from the left side underneath the phrase "Source File"

Decide what you would like to name the file, and where you would like to save the file. You can just save it onto the desktop for now.

Once you save this code file, you will be able to run your program.

Click the play button to run your program. If you see an arrow pop up on the island after pressing run, congrats, your program is now compiling, or running successfully! :)