Interactive Habitats & Communities

By: Suk Wu

LEVEL	SUBJECTS	PROVINCES / TERRITORIES	TOOL
Grades 4-6	Science and Technology	Across Canada	Little Robot Friends

Overview

Learners will create an interactive diorama with a robotics animal that is related to the choice of habitat. Learners will use Little Robot Friends to create an animal (e.g., an Arctic fox) and program it using LRF blocks.

Prep Work

Materials

- Construction paper
- Markers
- Paint
- Scissors
- Computers (e.g., Macbook, HP netbooks, etc)
- Little Robot Friends

Download the LRF Blocks App on each computer: learn.littlerobotfriends.com/downloads

Little Robot Friends need to be connected to be

Key Coding Concepts

Algorithms

Arrays

Boolean Logic

Debugging

Events

Functions

Loops

Sequences

Variables

Terminology

Algorithms
A step-by-step set of operations to be performed to help solve a problem

charged.

Learners should have been exposed to LRF blocks/Scratch programming.

Lesson

Learning Goal

We are learning to create an interactive diorama to demonstrate our learning of habitats and communities for Grade 4.

Minds On

Introduce the lesson by demonstrating a Little Robot Friend.

Ask: “How do you think the LRF works?

Elicit answers from the learners.

Activity

Have the learners choose ONE habitat that they would like to create (e.g., Arctic habitat).

Have the learners choose ONE animal that lives in that habitat (e.g., Arctic Fox).

Model how to use LRF blocks to manipulate and change the following:

- Colours
- Sounds
- Motions

Give learners some time to create their interactive LRF animal. How might this animal respond to its environment?

Learners can then decorate their interactive (LRF) animal using classroom resources (e.g., markers,

Array
Allows you to store more than just one piece of information

Boolean Logic
And, or, not are examples of boolean logic. they are values that can be either true or false

Debugging
Finding problems or ‘bugs’ in code and solving them

Events
One thing causing another thing to happen i.e. ‘when clicked’ block

Function
A type of procedure or routine that performs a distinct operation. There are often ‘canned’ functions that exist already like the ‘jump’ block

Loops
Running the same sequence multiple times i.e. repeat or forever blocks

Sequence
Identifying a series of steps for a task. Computers and Scratch read and perform commands in order from top to bottom

Variable
Stores a piece of information i.e. score of a game that increases by 1 value for each goal

stickers, beads, etc)

After learners have made their interactive animal, they can create a diorama of their respective habitat for their LRF animal.

Consolidation

Learners will showcase their interactive habitats in a science exhibit where they will present their interactive animals and habitats to the learners.

References

Arctic Fox photo by Pixabay from Pexels
https://www.pexels.com/photo/animal-arctic-blur-canine-208976/

Little Robot Friends
https://littlerobotfriends.com/

Assessment

Learners will use the following success criteria to ensure that they have been successful in the assignment.

Success Criteria

We will learn how to use LRF blocks to code
We will create an interactive LRF animal that is connected to their chosen habitat
We will create a diorama to represent our chosen habitat
We will communicate how our chosen Little Robot Animal Friend adapts to its environment
We will present our dioramas in a science exhibit in our classroom and/or school

Extension

List out the chosen animals and habitats and work as a class to draw connections between common habitat features or arrange animals into their place within a food chain.