CANADA LEARNING CODE

Interactive Habitats & Communities

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Duration:

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

Overview

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

Prep Work

Prior to the lesson:

- LRF App should be downloaded on all devices being used.
- LRF Blocks also needs to be downloaded on all devices being used.
- Little Robot Friends need to be connected to be charged.
- Students should have been exposed to LRF blocks/Scratch programming.

Materials

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

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

Activity:

- Have the students choose ONE habitat that they would like to create (e.g., Arctic habitat)Have the students 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
- Students can then decorate their interactive (LRF) animal using classroom resources (e.g., markers, stickers, beads, etc)
- After students have made their interactive animal, they can create a diorama of their

to help solve a problem

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

respective habitat for their LRF animal.

Consolidation:

Students will showcase their interactive habitats in a Science exhibit where they will present their interactive animals and habitats to the students.

Assessment

Students will use the following co-created success criteria (see below) 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.

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

Curricular Connections

Concepts

References

Arctic Fox photo by Pixabay from Pexels.