Animal Classifications	Kindergarten

Lesson Plan

Coding Tool	Offline coding
Cross-curricular	Literacy & Mathematics

Big Ideas

- We can use positional/directional language to describe an object's location.
- We can provide students with directional commands, and therefore, the students will develop an understanding of sequencing, computational thinking, and the mathematical concepts of coordinates, distance, and location.
- We will group the types of animals and classify them by name.

Specific Expectations

Belonging and Contributing:
- Demonstrate an ability to use problem-solving skills in a variety of contexts, including social contexts.

Self-Regulation and Well-Being:
- Participate actively and regularly in a variety of activities that require the application of movement concepts.

Problem Solving and Innovating:
- Use technological problem-solving skills, on their own and with others, in the process of creating and designing (i.e.: questioning, planning, constructing, analysing, redesigning, and communicating).
- Use the processes and skills of an inquiry stance.

Demonstrating Literacy and Mathematics Behaviours:
- Apply the mathematical processes to support the development of mathematical thinking, to demonstrate understanding, and to communicate thinking and learning in mathematics, while engaged in play-based learning and in other contexts.
- Communicate an understanding of basic spatial relationships *(e.g., use terms such as "above/below", "in/out", "forward/backward"; use visualization, perspective, and movements [flips/reflections, slides/translations, and turns/ rotations])* in their conversations and play, in their predictions and visualizations, and during transitions and routines.
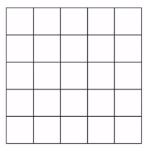
Description

In this lesson, students will use the directional cards to construct a path to follow. The objective is for the students to sequence a path from one selected animal to the next animal within the same classification.

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Materials

- Directional cards
- Animal cards
- Card mat (or choose to arrange the cards in rows on the table, carpet, or floor)

To make your own card mat: use bristol board, laminated chart paper, or a plastic tablecloth to make your own grid with 15cm squares.

Computational Thinking Skills

- Decomposition (the break down of complex problems into smaller and more manageable parts)
- Abstraction (filtering out unneeded information that comes from sorting)
- Algorithm design (determining appropriate steps to take and organizing them into a series of instructions a plan for solving a problem or completing a task correctly)

Introduction

- The goal of today's activity is to classify the different classifications/types of animals (mammals, reptiles, fish, birds, amphibians).
- We will use the directional cards to plan, create, and follow a path to match all of the animals in one specific classification.
- Share the directional cards with the students. Review the arrows and sight words (up arrow – "forward", down arrow – "backwards", left arrow – "left", right arrow – "right").

Action

- Ask the students to begin by sharing the different classifications/types of animals (mammals, reptiles, fish, birds, amphibians). Write the different classifications on the whiteboard or on a piece of chart paper.
- For this example, we will use mammals as a model.
- Place all of the animal cards in a random order on the outer rows of the mat.
- Place the "Go" card in a desired spot. The "Go" card must be placed on top of the chosen animal card.
- Discuss which of the animals are mammals. How do we know which animals are mammals? What are their characteristics? *(have fur or hair, give birth to live young, drink milk when they are young, warm blooded)*
- "Which animals do we see that we can classify as mammals?"
- Have the students share which animals they think are mammals. Discuss if they are mammals using the characteristics previously stated.

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- List these animals on the whiteboard or chart paper. These are the animals that we are going to create a sequence for.
- Begin at the "Go" card. Ask: "To reach the first card *(for this example, the elephant card matched to the polar bear car)*, which directional cards do we need to use to reach our destination?"
- "Going one step (grid square) at a time, what should our first card be?"
- Place the chosen directional card on the grid. Continue to place the next cards on the grid, double checking that we are creating a sequence of cards that lead to the intended destination *(the polar bear card)*.
- Once we reach the first destination, select the next animal that is classified as a mammal and work create the next sequence of cards to reach the selected card from the new starting point.
- Continue this until all animals have been classified for the selected category.

Consolidation/Extension

Wrap-up:

- Discuss the animals and habitats that we matched. Ask: "What did you notice?", "Which animals were we unsure about?"

Variations:

- This activity can be completed without a *Bee-Bot.* The mat and directional cards can be used to create a sequenced path, or a larger version can be made and placed on a carpet or floor for students to walk the sequenced path from the animal cards to their corresponding habitats. The floor can become a giant interactive grid.
- This activity can be used with other topics and themed cards. For example: the lifecycle of a frog, the parts of a plant, story retells, letters, numbers, or colours.

Assessment

- Observation chart (included)
- Observe correct use of directions and reading of sight words (forward, backward, left, right)
- Four frame observations – Are students sharing? Are students working collaboratively? (Belonging & Contributing frame)

Additional Resources

- Cited images attached

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