TangIn

Tangible Programming & Inclusion

TangIn Toolbox

Animals

6-10 years old

Classification | Characteristics

Itineraries | Distinct Aspects

Probotic

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/tanginproject

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Summary

Animals species – classification, characteristics, and distinct aspects.

Expected duration: **50 min** (the lesson plan duration is flexible, and teachers can adapt them accordingly to their needs and class duration).

Learning Outcomes

At the end of the session students are expected to:

- Classify different animals according to natural and feeding habits, class, etc.;
- Identify the characteristics of several animals and distinct aspects;
- Identify animals throughout some of their characteristics;
- Improve the interest and respect by nature and, particularly, by animals;
- Reflect on the impact of human action in animals' life;
- Program the robot adequately;
- Value STEM areas;
- Develop transversal competencies such as problem-solving, communication and reasoning;
- Develop group work skills, namely, to respect and favor the inclusion of all elements, regardless of gender, culture, etc.

Links With Curriculum Topics

Covered Curriculum Topics		
Subject		**Topics**
Engineering	**Mathematics**	Algebra • Trial and classification Geometry • Location and orientation – itineraries
	Science	Biology • Animals' characteristics: Habitat, feeding, class, etc. Life on Earth • Impact of human action in animals' life
	Technology	Programming • Fundamental principles and concepts of programming • Programs – Results, errors, and troubleshooting Robotics • Programming objects to solve challenges

Notes for Teachers

The teacher should discuss with the students, in a previous class, the main characteristics of the animals relative to the habitat, feeding, class, ... and the impact of human action in animals' life

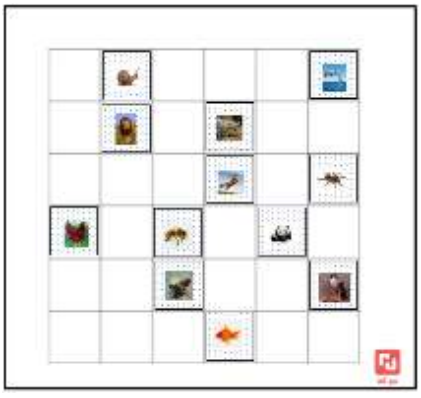
And should prepare, in advance, all the materials needed and the classroom according to the activities to be developed.

The teams should be as heterogeneous as possible to foster the integration of all students.

It's important that clear rules are established in terms of group work. This way it avoids the most active children assuming the lead and the quitter ones only observing.

The teacher must circulate through the various groups to support the activities and the dynamics of each one. In the end, it should promote a collective discussion of the main issues focused and the constraints and difficulties experienced.

Lesson Plan

Intro	10'	Class	"Today's mission is to teach MI-GO that the animals on earth are very different and have many distinctive characteristics but also common ones." Remember/Discuss with the class the variety of animals that exist on Earth, main characteristics and distinct aspects of some of them.	
Prep	10'	Group	Divide the class into groups and each group into two teams. Ask the group to distribute the animal photos underneath the transparent scenario (grid). Prepare one pile of cards with the name of the animals and others with questions about the animal characteristics.	

Play	20'	Group	Ask one team (Team A) to take a card from a pile of cards with the name of the animals. The card should not be shown to the other team. The objective of the team that didn't take the card (Team B) is to guess the animal that the other team has. For this, Team B will take a maximum of 3 cards (one at a time) from the pile of cards with the questions and ask Team A. Based on their answer, Team B tries to guess which animal is. If the answer is correct, Team A will let them know. Then, Team B programs MI-GO to the animal and teams switch roles. If the answer is wrong, Team B does not program the robot and teams switch roles. The game continues in the same way and Team A, if guesses the correct animal, programs the robot from the position it was in.	  
Discussion	10'		In the end, the class discusses how the animals' habitat, feeding, … is impacted by human actions.	

Resources List & Support Material

Per each group:

- A robot kit with drawing capabilities;
- Cards with animal images (Annex);
- Cards with the names of the animals (Annex);
- Cards with questions about animal' characteristics (Annex);
- Transparent scenario with a 6x6 grid.

Is it a mammal?	**Does it live in the water?**
Does it have scales?	**Does it lay eggs?**
Is it carnivore?	

Lion	**Horse**	**Crocodile**
Bee	**Snail**	**Fish**
Chicken	**Snake**	**Shark**
Dolphin	**Octopus**	**Spider**
Hawk	**Panda**	**Whale**
Turtle	**Ladybird**	**Seahorse**