

Matatalab Edu Activity/Lesson Plan:

Contributor: Ramón Madrigal Moirón

Classroom Key Information

Content-Related:

Computer Science Math Art Music
Science ELA Social Study Other _____

Time: 6 hours Grade: Early childhood education

Complexity: ★ ★★ ★★★ ★★★★ ★★★★★
(★ stands for the easiest)

Activity/Lesson Key Information

Project Name: Animals and their ecosystems

Big Idea: With the help of Tale-Bot, early childhood education students aged 3, 4 and 5 will create algorithms that connect each animal with the ecosystem in which it lives. Before achieving the previous objective, we will teach you how to work with a floor robot, what commands we can use, how to make an algorithm, how to identify errors and be able to solve them...

Concepts: Tale Bot, command, algorithm, animals, ecosystems

Main Objectives:

The students will learn to know the animals and the ecosystem in which they live and thus be able to take them on a journey with TaleBot from the selected animal to its ecosystem.

Learning Outcomes:

Know the animals and the ecosystems in which they live to be able to take the path with TaleBot. Management and operation of TaleBot so that it moves in the different squares of the mat. Know how to transform the chosen route from the animal to its ecosystem into an algorithm for TaleBot to make the path and thus work on Computational Thinking. Identify wrong and correct algorithms.

Key Vocabulary:

Tale Bot

Rug.

Commands: Go forward, Go backward, turn right, turn left

Algorithm

Loop

Animals

Ecosystems

Prior Knowledge:

Name of animals and ecosystems. Work on the directions and experience how our

Talebot robot moves.

Standards(ISTE, CSTA, CCSS, NGSS, etc.):

K-ESS3-1.

Use a model to represent the relationship between the needs of different plants and animals (including humans) and the places they live.

K-2.AP.17- Describe the steps taken and choices made during the iterative process of program development.

Matatalab Products & Supplementary Materials

Coding Set

Music Add-On

Artist Add-On

Pro Set

Animation Add-On

Sensor Add-On

Lite

MATATA Map

Tale-Bot Pro

Supplementary Materials

No additional materials needed

Detailed Activity/Lesson Plans

Matatalab Edu classic lesson

	Instructions step by step	Time
Lead in & Guided Activity	1.- We experience the commands/movements that the robot can do in our body. The students stand in line and the teacher stands in front, first doing the command and then modeling the movement for the students who have not performed it well (sequence: go forward, go backward, turn to the right, turn to the left). Later the algorithm will be expanded including modifiers example 2 go forward...	1 session of between 30 and 45 minutes
	2.- Get to know TaleBot: First, we are going to show the robot so that the students can observe it, explore it and touch it (initially without it being turned on). We will tell them to pay attention to the buttons it has, the colors... It is important to become familiar with the robot before using it. Then we will turn on the TaleBot and explain how each button works independently, to do this we will use the mat with blank boxes that is included.	1 session of between 30 and 45 minutes
	3.- First commands: We are going to prepare a mat with the help of the MataMap plugin with the name of all the students in the class and the teachers who work in the session. We will also put some image of the robot as algorithm start boxes. We will carry out small algorithms, which include simple commands. It is advisable to work in different phases:1st go forward.2nd go backwards.3rd combine steps 1st and 2nd.4th Turns: turn right, turn left.5th Complete algorithm: mixture of all the commands taught previously.	2 sessions of between 30 and 45 minutes
	4.- Teaching the animals - ecosystems mat: with the MataMap add-on we create a mat that works on the curricular content of animals and the ecosystem in which they live. We have to get the students to know what animal-ecosystem is in each box.	15-20 minutes
Independent Activity	1.- Starting the work with the animals-ecosystems mat: Once the boxes that make up our mat have been shown, we are going to repeat the order worked on in previous activities with the students, although now the teachers are the ones who will mark the path/algorithm that Talebot is going to do to go from the animal that the students choose to the ecosystem where it lives.	1 session of 50 minutes
	2.- We modify the created mat thanks to the fact that with the MataMap plugin it is very easy to do so and we have a new mat with the same images that we had created. For these new activities we are going to include a square die and another hexagonal one that will be the ones that will mark the ecosystem where it lives and the students must say an animal that lives in that ecosystem and then they will indicate the algorithm that must be created to carry out the ecosystem to the animal to the Talebot robot.	2 sessions of between 40 and 50 minutes
Feedback & Extension	To work on the activities described above, we recommend that the students, once they know the animal and the ecosystem, tell us the route they are going to take by pointing with their finger, then use the cards included in the Activity Box to enter the algorithm and then will press the buttons that will make the TaleBot take the indicated route. With this process we will be able to visually and easily identify/see for the students if there was an error when checking the TaleBot lights and the cards that we have on.	

Essential Questions:

- Did you take each animal to the ecosystem in which it lives?
- What did you use to make the algorithm?
- How did you identify the errors?
- How can we see that you have programmed the algorithm created with the cards correctly?

Any others you would like to share

Classroom video(s) link: Because the file takes up more space than allowed, I am sharing the link:

https://youtu.be/se-6mx_jKlk

Link Supplementary Materials 2 (downloadable materials, e.g. clip cards, map instruction videos, PPT,etc.): Because the file takes up more space than allowed, I am sharing the link:

https://drive.google.com/drive/folders/1G-8fkIkFAIwxiVIEPF3xET-vMt_x49J8?usp=sharing

Although it has not been noted in the activities, in many algorithms, the last command used by the students has been the random dance; Watching the TaleBot dance has been an extra motivation for the students. Adapting to the teaching-learning process of each student and taking into account the Universal Learning Design, we have always taken into account the abilities of the students, they have on occasion used the loop command in a simple way.