

Didactic Scenario

1. Title

Space Trip

2. Keywords

Space, solar system, STEAM, exploration, coding

3. Basic Information

STEAM Subject: Science

Typical interaction time with the instructional scenario in teaching hours for in-school work:
1,5 hours

General description of the scenario:

<u>Phases</u>	<u>Stage</u>	<u>Time</u>
Warm up- All about Solar System	preparation stage	10'
The Mouse-Bot floor robot make a trip in space	implementation stage	40'
Space trip for everyone!	implementation stage	40'

Age group: 7-8 years old

Estimated difficulty level:

Very Easy	Easy	Moderate	Challenging	Very Challenging
		X		

Teaching resources

Material: Mobile, large piece of cardboard, colored pencils, scissors, glue, square image of planets, Mouse bot robot, space image projector, tissue paper roll, colored craft papers

colored cardstock paper

School infrastructure: laptops/tablets for each student, video projector

Additional material from external sources/online tools:

https://www.youtube.com/watch?v=Xs_Z3tb2CFw&ab_channel=ATOYDAY

<https://www.youtube.com/watch?v=81MzetrvDKY>

https://www.mathplayground.com/ASB_SpaceRaceMultiplication.html

<https://www.youtube.com/watch?v=RjkK88CXCKk>

<https://www.proprofs.com/quiz-school/story.php?title=mti3mjm572yp>

<https://www.gieson.com/Library/projects/games/shuttle/>

Differentiated Instruction for students of differing abilities and learning styles in the same class: N/A

Developed by: Primary teacher - STREBA ALINA

4. Educational Problem

Students will have the opportunity to learn how to code and use mathematical concepts when work with coding algorithms.

5. Learning Objective (-s)

1. To programme specific commands for the Mouse-Pad
2. To learn a song about astronauts
3. To measure the distance from a planet to another
4. To create a rocket for an imaginary trip

6. Phases of the Scenario

Phase 1

Title: All about Solar System

Indoor	Outdoor	Mixed
X		

Phase duration in minutes: 10'

Detailed description of the scenario phase:

Students will remember names for all the planets from Solar System watching the video:

https://www.youtube.com/watch?v=Xs_Z3tb2CFw&ab_channel=ATOYDAY.

There will be discussions about how they can travel in space and about personalities who have already managed to make this journey. Activity takes place in the classroom, the students will answer the questions orally. Then, students will sing a song about astronauts:

<https://www.youtube.com/watch?v=HSYaEBcl8xl>.

Each one has use on their phone, apps for the math section and prepare them for the next section of lesson.

Activity sheets: N/A

Phase 2

Title: The Mouse-Bot floor robot make a trip in space

Indoor	Outdoor	Mixed
X		

Phase duration in minutes: 40'

Detailed description of the scenario phase:

Students will have the opportunity to learn how to code and use mathematical concepts when work with coding algorithms. The students will issue and programme specific commands for the Mouse-Bot floor robot to make a trip to the chosen planet. They will measure how long can be the trip for each card used and fill a table with their measured items.

Then they play a funny game to exercise multiplication. It is a creative way to make them understand better the multiplication.

Students will open the math app and try to answer correct.

https://www.mathplayground.com/ASB_SpaceRaceMultiplication.html

Activity sheets: N/A

Phase 3

Title: Space trip for everyone!

Indoor	Outdoor	Mixed
X		

Phase duration in minutes: 40'

Detailed description of the scenario phase:

The activity begins with the discovery of the materials in a surprise box and they are asked to find solutions for how to use them. Students will learn to make a model of rocket with the help of a video tutorial. They will work in teams, consult each other and collaborate to illustrate the proposed theme as best as possible.

<https://www.youtube.com/watch?v=81MzetrvDKY>

STEPS

1. Paint cardboard tube in favorite color
2. To make the fins, trace half of the bowl to make a half circle on a piece on construction paper. Then move the bowl down the page, and trace half of a circle again to make a crescent shape. (We need two of these shapes.) Then cut them out! Take both pieces and fold them in half to find the center. Unfold, and cut a line halfway up the folded center line on one crescent, and make a cut half way down on the other. Carefully bring the two crescent shapes together by inserting one into the other using the cuts you made. Using scissors, cut four 3" slits into one end of the paper tube, evenly spaced out. Then carefully slide the crescent shapes into the slits on the paper tube.
3. To make the nose cone, trace a circle onto a piece of construction paper and cut it out. Then, cut away a 1/4 pie piece off of the circle. Roll the paper up to make a cone, then tape and glue together. Add glue to the top of the cardboard tube's rim so you can secure the cone into place. Add extra tape underneath to make it extra secure!
4. Cut long triangle shapes from tissue paper (Red, yellow and orange tissue paper to best show the flames) You can cut all the triangles you need at the same time by stacking the tissue paper together. Cut out a strip of construction paper, and glue the triangles to the strip. Make sure you glue the bottom of the triangle to the strip of paper. Add glue to the bottom of the rocket ship and glue the strip along the outer edge.
5. For the finishing touches, we have to cut out some circles to make some windows.

Each student has internet connection, a tablet and headphones (for more authentic feeling!). They get the link <https://www.gieson.com/Library/projects/games/shuttle/> and imagine they are in their own rocket and travel in space!

Activity sheets: N/A

7. Evaluation Methodology

The students will complete a test with the help of the application <https://www.proprofs.com/quiz-school/story.php?title=mti3mjm572yp> to recall the information related to solar system and to develop digital skills. The students' answers will be evaluated through verbal evaluations.

Teachers' answers:

Did they achieve my proposed goals?

Was the activity sufficiently well thought out and carried out?

Students finished their works?

The teacher systematically observes the student's activity, makes assessments on the way of working and grades the student's performance.

8. Additional Resources for the teacher

N/A