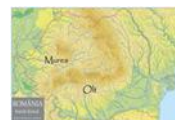


MURES AND OLT MURES AND OLT BECOME RIVERS (T2)

S13
T2
D8
L1 P1



Focus on:

- Other subjects – Geography (D8)

Task1: How to make a paper mache mountain?

Students create a mountain as an element of the landscape.

Every solution is good!

Any kind of tool and material can be used!

You can use the ideas and list of materials from the Idea Bazaar, come up with your own ideas or just let the children be creative.



Idea Bazaar – some ideas:

- Building environment out of recycled materials
- Drawing
- Creating

For details of the creation, see the Idea sheets!

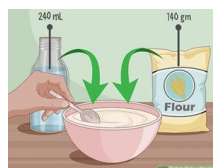
Developmental fields:

In focus:

- Fine motor skills
- Spatial orientation
- Creativity

In addition:

- Attention
- concentration
- Subject concentration – Art
- Talent development



Task2: Study the map of Romania. How do the two rivers, Mures and Olt flow?

Students search the internet to find interesting information about the different regions of Romania!

Create a presentation, a poster or a model using the map of Romania!

Every solution is good!

Any kind of tool and material can be used!

You can use the ideas and list of materials from the Idea Bazaar, come up with your own ideas or just let the children be creative.

Idea Bazaar – some ideas:

- Building out of ArTeC Blocks
- Printing out the map of Romania (large scale or smaller)
- Creating presentations, posters
- For details of the different solutions, see the Idea sheets!

Developmental fields:

In focus:

- Mathematical competences
- Spatial orientation
- Presentation skills
- Creativity

In addition:

- Attention, concentration
- Subject concentration – Natural Science, Geography
- Talent development

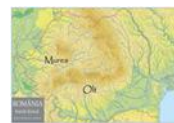


How to manage output:

Record videos of the children's creations and presentations.

MURES AND OLT MURES AND OLT BECOME RIVERS (T₂)

S13
T₂
D8
L1 P2



Focus on:

- Other subjects – Geography (D8)

Task3: How does the characters and the scenes of the story look like?

Students create elements of the environment, the mountain, castle. They create plants, animals, figures as well.

Every solution is good!

Any kind of tool and material can be used!

You can use the ideas and list of materials from the Idea Bazaar, come up with your own ideas or just let the children be creative.



Idea Bazaar – some ideas:

- Building environment and characters out of ArTeC Blocks, using Artec mechanisms
- Drawing
- Creating computer graphics

For details of the different solutions, see the Idea sheets!

Developmental fields:

In focus:

- Spatial orientation
- Presentation skills
- Creativity
- Talent development

In addition:

Subject concentration
– Natural Sciences,
Arts

How to manage output:

Record videos with different characters and elements of the environment.

Task4: How to use arguments in a conflict? How to convince people of your ideas?

The main situation of the story can be used to talk about conflict solving and argumentation techniques. How to do it, what language to use to convince people in a conflict situation?

They dramatize and act out the given situation.

You can use the **Act it out! cards** from the Idea Bazaar

Idea Bazaar – some ideas:

- Finish sentences about siblings.
- Dramatize a conflict situation with your sibling. Think of the solution, argumentation!
- Imagine a conflict before travelling. What could be the reason and the solution?
- Dramatize the two end of the conflict.

For details see the Idea sheets!

Developmental fields:

In focus:

- Social competences
- Critical thinking
- Civics
- Text comprehension

In addition:

- Attention concentration
- Life skills
- Talent development


MURES AND OLT

S13
T1,3
L1


Some ideas – Behaviors in different situations

Finish the sentences:

What I like about my sibling(s) is that they...

What I cannot stand about my sibling(s) is that...

Act it out!

The brothers in the story were always quarrelling. Have you found yourself in a similar situation before? What was the reason and the resolution of the conflict? Find out and play out the situation!

Act it out!

In the story the brothers could not come to common sense regarding the travelling. What could be the reason? Do you think they managed to agree? How? If not, why? Imagine and dramatize the two ends of the conflict.

How to manage output:

Record a video acting out the situations.

MURES AND OLT MURES AND OLT BECOME RIVERS (T₂)

S13
T₂
D8
L2 P3

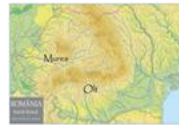


Focus on:

- Other subjects – Geography (D8)

Goals of the lesson:

- text comprehension
- trial argumentation
- problem solving
- decision making
- organizing group work



Summary:

Tarcău, the fairy, wanted to send her sons to find their father. To make it easier for them to travel, she wanted to turn them into rivers. While she went to fetch her magic wand, the two brothers quarreled over whose name they would travel under.

Main features and interactions of the characters

Character	Features	Interactions
Tarcău	Walks, moves	Walks in front of the golden palace
Mures	Walk, moves	Quarrels with his brother
Olt	Walk, moves	Quarrels with his brother

How to use the character card:

Each student fills in their own Character card:

- writes the name of the character
- their features, movements, reactions, etc.
- collects the elements of the environment, other accessories, things to be built
- thinks over the phases, tools and materials of the robot's building

Students can use more pieces of each part of the Character card if needed!

Suggestions

Discussion topics:

- Why did the brothers quarrelled?
- What were their arguments?
- What does this say about their character?
- Have them act out the dialogue, and think of possible arguments.

Civic, social studies:

- Talk about the scene, participants, interactions during the dialogue (who are the participants, what is the environment like, who can speak, how can they quarrel, etc.)
- Collect information about the geographical situation of the rivers.

Suggested materials

- ArTeC Blocks (at least the 112 pcs set)
- Act it out! cards
- Pencil, paper, cardboard, glue

Tarcău
Mures
Olt
Mountains
landscape

Walk
Sit
Carry things

Landscape on a map
Shores, trees, palace

The main actions of the story
Media files needed
Divide the text segment into pieces
Make a list about things needed


Your name _____
Build _____

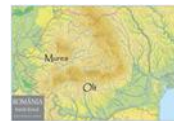

Your name _____
Be attentive, your robot should be able to: _____


Your name _____
There also should be: _____


Your name _____
Think over: _____

MURES AND OLT MURES AND OLT BECOME RIVERS (T2)

S13
T2
D8
L3-4
P4



Suggested materials

- ArTeC Blocks (at least the 112 pcs set) and ArTeC robotics set (1 or 2 Studuino motherboards, 2 DC motors, wheels, 2 servo motors, 2 Touch sensors, 2 IR Photoreflectors, 2 Buzzer, 2 Sound sensor, 3 LEDs)
- Mindmap or Chart draft, Storyline
- Character cards and Robotic task card template
- Pencil

Suggestions

- Collect information about the landscapes with the two rivers (paintings, photos)
- Collect information about clothing of fairies, kings

Tarcu, the fairy Mures /Olt
Moves Moves
Lights her magic Moves his arm
wand Has LED

The name of my robot:

The parts I need for my robot:

Function	Part	Quantity	Notes
DC motor	1		
Touch sensor	1		
IR Photoreflector	1		
Buzzer	1		
Sound sensor	1		
LED	1		

Choose the parts you need! Check off what you use!

Draw action:

Draw sensor:

Draw material:

Draw the robot:

This is how I build and program my robot:

What do I do?	When is it done?	What is the result?	What is the next step?

This is how my robot will work: Write it in complete sentences using the table above!

Focus on:

- Other subjects – Geography (D8)

Goals of the lesson:

- fine motor skills,
- problem solving,
- decision making,
- life skills

How to fill in the Robotic card?

- Choose the robot's activity and the complexity of the program to match the child's abilities, based on the character card, the developmental aspect and the programming level.
- If necessary (e.g. for clarification or differentiation), additional robot cards can be filled in.
- Design the robot with several ways of building/programming!
- Complete the robot cards in the target language!
- Not all columns of the table need to be filled in, only those relevant to the robot's specific operation.
- Based on each row of the table, describe the robot's operation in the target language using grammatically correct sentences.

Related topics in the Technical corner

- Programming DC motor (2.a)
 - Winding the motor until the sensor detects change (2.b, 2.c)
- Programming servo motor
 - Moving the arm up and down (3.b)
- Testing and programming Touch sensor (4.a, 4.b, 4.c)
- Using LED
 - Lighting and blinking the LED (5.a, 5.b)
- Using Buzzer (6.a, 6.b)
- Testing and programming IR Photoreflector (7.a, 7.c, 7.e)
 - Using an IR Photoreflector for detecting an object (7.d, 7.e)
- Using Sound sensor
 - Testing the Sound sensor and activating the robot with clapping (9.a, 9.b)
- Random numbers (10.a)

The two girls argue with Buzzer

PROG1

Maros and Olt shaking their hands in dispute

PROG2

Maros and Olt arguing with Buzzer and Sound sensor

PROG3

Mures and Olt debate – cooperating robots

PROG4

MURES AND OLT MURES AND OLT BECOME RIVERS (T2)

Ideas for robots on different programming levels

S13
T2
D8
L3-4
P6

The two girls argue
with Buzzer

PROG1

Maros and Olt shaking
their hands in dispute

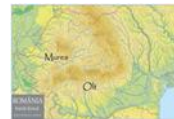
PROG2

Maros and Olt
arguing with Buzzer
and Sound sensor

PROG3

Mures and Olt debate
– cooperating robots

PROG4



Mures and Olt dispute

P1 Mures and Olt argue

- Maros and Olt robot mounted on separate trolleys
- They shout at each other using 1-1 buzzer, starting automatically, one after the other

P2 Maros and Olt arguing

- Maros and Olt static figures, mounted on separate motherboards
- One of them has a servo motor in his shoulder, the other a DC motor
- We switch them on alternately with 1-1 touch sensor
- Both girl figures are equipped with a buzzer, they make a sound

P3 Maros replies to Olt

- Both girls are static robots with 1 servo motor in each shoulder
- Olt is equipped with a Touch sensor and a Buzzer, Maros with a Sound sensor and a Buzzer
- After pressing the Touch sensor, Olt waits randomly for 1-3 seconds, then the Buzzer sounds and raises her arm
- On Maros, the sound sensor detects the buzzer sound, turns on and raises the arm and sounds

P4 Maros and Olt are arguing

- Both girls are built on 1-1 trolley
- Both move their arms with servomotors
- Both robots are equipped with 1-1 IR Photoreflexor, 1-1 touch sensor and 1-1 Buzzer
- When the touch sensor is pressed, they move towards each other, and when the IR Photoreflexor detects the other robot, they stop, move their arms, talk to each other with Buzzer, then back up for 2 seconds and stop

