

THE OLD WOMAN'S DAUGHTER AND THE OLD MAN'S DAUGHTER THE HARD-WORKING GIRL'S JOURNEY (T1)

S14
T1
D10
L1
P3-P6

Focus on:

- Creativity (D10)



Task1, 2: How does the environment look like?

Students create elements of the countryside landscape or family life scene

Every solution is good!

Any kind of tool and material can be used!

You can use the ideas and the list of materials from the Idea Bazaar, use your own ideas or just let the children to solve the problem using their creativity.



Idea Bazaar – some ideas:

- Building environment out of ArTeC Blocks
- Building environment out of recycled materials
- Drawing
- Creating computer graphics

For details of the different solutions, see the Idea sheets! (I1, I2)

Developmental fields:

In focus:

- Fine motor skills
- Spatial orientation
- Creativity

In addition:

- Attention concentration
- Subject concentration – Natural Sciences
- Talent development

Task 3, 4: How do the characters look like?

Students create a characters using different means or techniques.

Every solution is good!

Any kind of tool and material can be used!

You can use the ideas and the list of materials from the Idea Bazaar, use your own ideas or just let the children to solve the problem using their creativity.



Idea Bazaar – some ideas:

- Building people out of ArTeC Blocks
- Building people out of recycled materials
- Creating computer graphics, animations
- Drawing

For details of the different solutions, see the Idea sheets! (I3, I4)

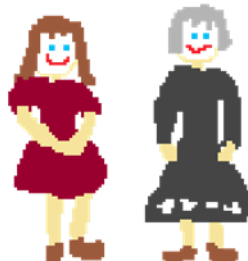
Developmental fields:

In focus:

- Social competences
- Graphomotor skills
- Creativity

In addition:

- Life skills
- Subject concentration – Citizenship
- Talent development



How to manage output:

Store the objects in a wardrobe, to protect them from falls. Attach a label with the name of the group!

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S14
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L1
P7,P8

Focus on:

- Creativity (D10)



Task 5: Learn about the life of old times

Students make virtual visit to Folk Museums in order to learn about old wells and furnaces. They can draw or build them in small models or large structures. Have them be creative, use big variety of materials.

Every solution is good!

Any kind of tool and material can be used!
 You can use the ideas and the list of materials from the Idea Bazaar, use your own ideas or just let the children to solve the problem using their creativity



Idea Bazaar – some ideas:

- Building the structure out of ArTeC Blocks
- Using recycled materials
- Drawing

For details of the different solutions, see the Idea sheets! (I5)

Developmental fields:

In focus:

- Fine motor skills
- Creativity
- Spatial orientation

In addition:

- Attention concentration
- Subject concentration – Drawing, IT, History
- Talent development

How to manage output:

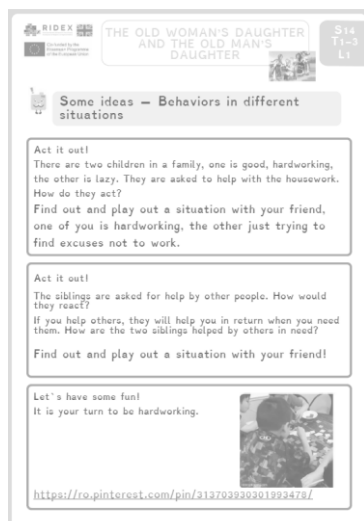
Store the objects in a wardrobe, to protect them from falls. Attach a label with the name of the group!

Task 6: Behaviors in different situations

Students discuss the situations where people help each other.

Every solution is good!

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



Idea Bazaar – some ideas:

- Find out and dramatize a situation where two very different siblings are asked to help

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

Cut out the situation cards! (I6)

Choose the focus that you want the children to deal with! Give them the appropriate situation card!

Help them to build the situation if needed!

Developmental fields:

In focus:

- Social competences
- Critical thinking
- Social skills
- Civics
- Text comprehension

In addition:

- Attention concentration
- Talent development

How to manage output:

Take a video record of the dramatized situation!

THE OLD WOMAN'S DAUGHTER AND THE OLD MAN'S DAUGHTER THE HARD-WORKING GIRL'S JOURNEY (T1)

S14
T1
D10
L2
P1-P5



An old man had a beautiful, hardworking and listening daughter. His wife, an old woman also had a daughter who was ugly, lazy and naughty. Because she was her daughter, the old woman didn't put her to any work, while the old man's daughter did all the work in the household. When the old man came, the old woman would tell him that his daughter was lazy and naughty, and the old man believed her.

One day, fed up with the old woman's talk, the old man called his daughter and told her that she had better left home so that there would be no more trouble in the house. The girl, seeing that she had no choice, kissed her father's hand and went out into the world. On the way she met a sickly and weak puppy who asked the girl to nurse her, and she, hardworking and merciful as she was, nursed the puppy until it got well. She went on and met a pear tree full of caterpillars, an abandoned well and a furnace that was about to fall over, and the girl took care of these too.

Focus on:

- Creativity (D10)

Goals of the lesson:

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



Main features and interactions of the characters

Character	Features	Interactions
Old man and old woman	Walks, talks	The have conversation before the girl leaves home.
Old man's daughter	Walks, talks	
Characters who asked for the girl's help	walk, talk	Ask for help, the girl helps.

How to use the character card:

Each student fills in his/her 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!

Old man, old woman
Old man's daughter
Other characters

Walk
stop
talk
Raise a hand
Express opinions
Ask questions

House
dog
Pear tree
Well
Furnace

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

Suggestions:

- Discuss how human movements are made
- Make some movements together; children should percept the phases of their own movements
- Collect information about country life in Romania about 100-150 years ago.
- Build a simple figures with movable legs, arms or mouth from ArTeC Blocks

Suggested materials

- ArTeC Blocks (at least as the 112 pcs set)
- Storyline template
- pencil


 Your name _____
 Build _____


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


 Your name _____
 There also should be: _____


 Your name _____
 Think over: _____

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T1
D10
L3-4
P4

Suggested materials

- ArTeC Blocks (at least the 112 pcs set) and ArTeC robotics set (1 or 2 Studuino motherboards, 4 DC motors, 6 IR Photoreflectors, 8 Touch sensors, 1 Buzzer 2 LEDs)
- Mindmap or Chart draft , Storyline
- Character cards and Robotic task card template
- Pencil

Focus on:

- Creativity (D10)

Goals of the lesson:

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



Suggestions

- Collect ideas about how the characters move.
- Collect ideas about how to represent the helping
- Build simple figures from ArTeC Blocks.

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.

Arm (the old man)
Tail (dog)
Branches (the pear tree)
Door (the furnace)

The name of my robot: _____

The parts I need for my robot:

Function	Component	Quantity	Notes
Motor	DC Motor	1	
Sensor	IR Photoreflector	6	
Actuator	Buzzer	1	
Control	Studuino	1	

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

Blues: action
Greens: settings
Pinks: materials
in the Technical Corner!

This is how I build and program my robot:

What do I want?	What is it doing?	What? (Sensors)	What? (Motors)	To what? How many? How often?	What kind?

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

Related topics in the Technical corner

- Programming DC motor
 - Setting power, direction (2.a, 2.b)
 - Random movements (2.f)
- Using Touch sensors (4.a, 4.b)
 - Remote control made of 4 Touch sensors (4.d)
- Buzzer (6.a, 6.b)
- 7. IR Photoreflector
 - 7.a) Testing IR photoreflector
 - 7.b) Detecting obstacles
- Counting (11.c)

The dog, pear tree and well are directly driven by a DC motor. The mother/father and the girls are static figures.

PROG1

The dog, pear tree, fountain, furnace push button is pressed to operate ked. The girl moves on a 4-button robot.

PROG2

The dog, the pear tree, the well, the furnace start to work when the girl is detected. The girl is tracking.

PROG3

The dog, the pear tree, the well, the furnace start to work when the girl is detected. She counts black lines to decide which way to go.

PROG4

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Ötletek különböző programozási szintű robotokhoz

The dog, pear tree and well are directly driven by a DC motor. The mother/father and the girls are static figures.

PROG1

The dog, pear tree, fountain, furnace push button is pressed to operate ked. The girl moves on a 4-button robot.

PROG2

The dog, the pear tree, the well, the furnace start to work when the girl is detected. The girl is tracking.

PROG3

The dog, the pear tree, the well, the furnace start to work when the girl is detected. She counts black lines to decide which way to go.

PROG4



1- The way of the diligent girl

P1 Puppet show

- The dog, pear tree, fountain are DC motorised structures powered directly by a battery holder.
- The oven door can be opened axially.
- Building father, mother and two daughters - their arms can be moved by axle

P2 Stations on the road

- Build stations connected to one motherboard:
- the dog, whose ears can be moved by a servomotor,
- the pear tree and the well are built in a similar way as in P1, but the motors are connected to a programmable motherboard, the well is equipped with a blue LED
- the furnace is equipped with a servomotor with an opening door and a red LED.
- We connect 4 Touch sensors to the motherboard. On the first push the dog starts to move its ears, on the second push the leaves on the pear tree start to rotate, on the third push the well descends and then the bucket rises and the blue LED lights up, on the fourth push the red LED in the oven goes out and the door opens.
- The diligent girl moves from station to station as a 4-button robot.

P3 Cooperative robots

- The figures in the stations are built in a similar way as in P2, but each figure has 1 IR Photoreflexor that detects when the girl has reached it, and then the movement of that figure is triggered (the dog moves its ears, the leaves in the tree start to turn, the bucket in the well lowers and rises and the blue LED turns on, the red LED in the oven goes out and the door opens)
- The diligent girl is equipped with 2 infrared sensors and a Touch sensor
- One IR Photoreflexor is used to track and the other to detect the figures at the different stations. When it detects the figures, it stops and starts again when the Touch sensor is pressed, continuing to follow the line.

P4 Line counter robot

- The figures on the stations are constructed as in P3
- The path of the girl is marked by black lines glued to the table: the robot counts (with an IR Photoreflexor) the number of lines it crosses and depends on this to move in the direction to the next line
- (these directions are determined by the children)
- The stations are detected by IR Photoreflexors in the same way as in P3 and moves on by pressing a Touch sensor
- After the second push of the button, the line count starts again from the beginning

