

THE OLD WOMAN'S DAUGHTER AND THE OLD MAN'S DAUGHTER THE LAZY GIRL'S JOURNEY(T3)

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)

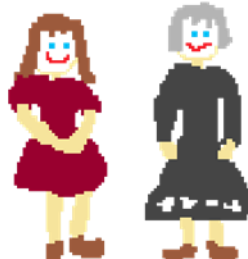
Developmental fields:

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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D10
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!



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T3
D10
L2
P1-P5



Focus on:

- Creativity (D10)

Goals of the lesson:

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

An old man's daughter who was sent away by her stepmother returned home with a lot of treasures because she was helpful and hardworking. When the old woman saw this, she also sent her daughter out into the world to find treasures like the old man's daughter.

Along the way, like her stepsister, she met a pear tree, a well, a furnace and a puppy, but bad as she was, she didn't help any of them. She also reached the Mother of the Forest, where she didn't care for the house and her beasts, and the next day she chose the prettiest chest in the old woman's attic.

On the way back she met the pear tree, the well, the furnace and the puppy, but none of them gave him gifts. She got home and together with her mother opened the chest, out of which there came a lot of dragons that ate them both. The old man and his daughter lived happily ever after in peace and wealth.

Main features and interactions of the characters

Character	Features	Interactions
Old woman	Walks, talks	The have conversation before the girl leaves home.
Old woman's daughter	Walks, talks	
Characters who asked for the girl's help	walk, talk	Ask for help, but the girl does not help.

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 woman
Old woman'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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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, 3 IR Photoreflectors, 6 Touch sensors, 1 Buzzer)
- 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.

Arm (the old woman)
Ears (dog)
Branches (the pear tree)
Door (the furnace)

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
 - 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
- Using random numbers (10.a)

The name of my robot: _____

The parts I need for my robot:

Choose the parts you need! Check off what you use.
☐ DC motor
☐ Servo motor
☐ IR Photoreflector
☐ Touch sensor
☐ Buzzer
☐ LED

Choose the parts you need! Check off what you use.
Blue: action
Green: sensor
Red: support materials of the Technical Corner!

This is how I build and program my robot:

What do I see?	What do I hear?	What do I feel?	What do I smell?	What do I taste?	What do I think?

This is how my robot will work: _____

Write it in complete sentences using the table above!

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

PROG1

The girl and the dog move as long as the buttons on them are pressed. The father's arm moves up and down with a servo motor. The others are motionless

PROG2

You can move and stop by holding down the button on the girl. The father's arm moves up and down. The other characters also have moving parts.

PROG3

Each robot is equipped with more and more sensors. Robots are becoming more and more complex.

PROG4

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Ideas for robots at different programming levels

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

PROG1

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PROG2

You can move and stop by holding down the button on the girl. The father's arm moves up and down. The other characters also have moving parts.

PROG3

Each robot is equipped with more and more sensors. Robots are becoming more and more complex.

PROG4



1- The way of the lazy girl

P1 Puppet show

- The dog, pear tree, fountain are DC motorised devices powered directly by a battery holder.
- The oven door can be opened axially.
- Construction of 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.
- On the first press the furnace door opens and the red LED turns on, the well lowers and then the bucket rises and the blue LED turns off, on the third press the pear tree crowns with gears and rack and pinion, on the fourth press the dog flips its ears back and starts barking with a buzzer.
- The lazy girl moves from station to station as a robot controlled by 4-Touch sensor.

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 lazy girl is equipped with 2 IR Photoreflexors 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 girl's path is marked by black lines glued to the table: the robot counts (with an IR Photoreflexor) the number of lines it crosses and then depends on the direction it moves to the next line (these directions are determined by the children)
- The stations are detected by IR Photoreflexor in the same way as in P3 and move on by pressing a Touch sensor
- After the second push of the button, the line count starts again from the beginning

