

BOBULA AT THE MARKET (T3)



S16
T3
D6
L1 P3

Focus on:

- Computational thinking – life skills (D6)

Task1: Making an advertising poster

Make an advertising poster for market shopping!

Set up a market in your classroom!

Every solution is good!

Any tool or material can be used!

You can use the ideas and materials suggested in the Idea Bazaar, or use your own ideas or let the children find a solution using their creativity.

Idea Bazaar - some ideas:

- Talk about the market, advertising
- Make a poster of the market or offer in the room (I6)
- What is organic farming all about? (I6)

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

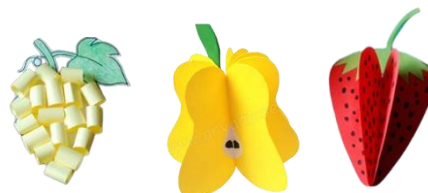
Developmental fields:

Focus on:

- Social skills
- fine motoric skills
- creativity

In addition:

- Life skills
- Subject – technology education, lifestyle and practice



Task2: Making a Monopoly game

Make a Monopoly game!

Talk about the family budget.

Every solution is good!

Any tool or 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:

- They can use recycled materials, textiles, boxes, cardboard, stones, rubber glue, etc. (I5)
- How can we save money?

Details of the different solutions can be found on the Ideas Sheets.

Take photos of the construction works in progress and finished.

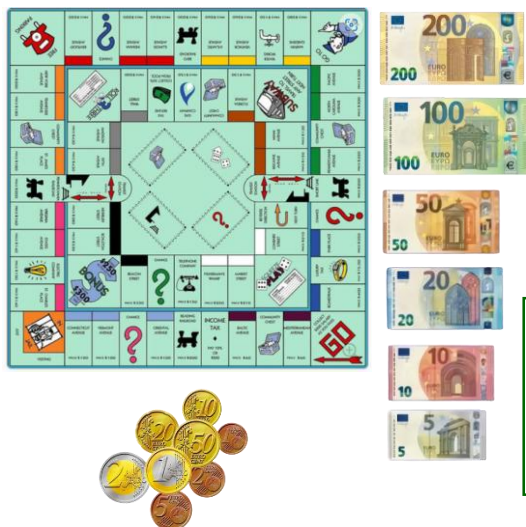
Developmental fields:

In focus:

- Fine motoric skills
- Spatial orientation
- creativity

In addition:

- Life skills
- Subject – math, art, technology education
- Talent management



How to manage the outputs:

Hang the pictures on the wall, on a big poster, and ask the children to arrange them according to a rule they decide.
Store the objects in a wardrobe, to protect them from falls. Attach a label with the name of the group!

BOBULA AT THE MARKET (T3)



S16
T3
D6
L2 P3

At the market

- Bobula, - whispered Grandma. The little girl opened one eye. The room was still dark. - Even though the sun is not shining on your belly, we must go - she heard her grandmother's voice. Grandma was already dressed. Bobula jumped out from under the blanket and started pacing up and down the room as if she were the tallest girl in the world. Grandma and Grandpa couldn't stop wondering. - Wow, you've really grown - they repeated, nodding in approval. Bobula drank a mug of milk. Through the window she saw Grandpa loading the vegetable crates into the car. He put the tomato crates on top of the car, tied tightly so that the car looked like a huge ham tied up.

- The night smells of tomatoes! - exclaimed Bobula as she stepped out of the house. She wanted to know if the moon wore a nightgown when it slept. After finding it in the sky, she saw that it had put on a huge nightgown full of tiny stars. Bobula peered at the sky. After Grandpa finished packing, they set off. Bobula noticed that the birds were not singing at all this early. By the time they reached the city, dawn was breaking. At the market, they unloaded tomatoes, peppers and radishes on a large table. The produce glistening from the dew. The admirers of the round tomatoes, the crisp red and white peppers, the radishes with their tails and the lettuces with their shaggy heads began to flock in. The first customers looked like sleepwalkers who couldn't find their way back to bed. They had eyes as tiny as a mole. Bobula could tell they had come to the market just to buy peppers. Maybe two. The stems of the peppers could prop up their eyelids.

The customers who arrived later in the day were more rested but hungry. Grandma tied an apron around Bobula's waist. A brown apron with yellow flowers and three large pockets. In one were the empty bags for the vegetables, in the second the banknotes, and in the third the coins. Grandma also had an apron just like that, only bigger. Bobula put her new wide-brimmed red straw hat with a bow on her head. She was selling the tomatoes. She became their leader and decided their fate. Who would decide who would stay and who would go. The tomatoes gathered obediently in bags. They stood at attention on the scales and marched with equal steps into the customers' bags. First the radishes were gone, then the tomatoes, so Bobula finished her job. She didn't say a word to anyone, just retreated back to the car, curled up like a hedgehog, and a minute later was deep in sleep.

Focus on:

- Computational thinking – life skills (D6)

Goals of the lesson:

- Text comprehension
- Problem solving
- Decision making
- Organising group work

Character	Feature	Action
Bobula	likes adventure	Sells vegetables on the market angry Gets tired
grandpa and grandma	old kind They love their grandchild	grow vegetables and sell them on the market
stand	the scale and the goods are on the table	Grandparents and Bobula sell the tomatoes and radishes

Suggestion

- Identify the characters in the text, with particular emphasis on the main plot points, character traits, emotions and movements.
- How do you wake up on weekdays and weekends?
- What are you having for breakfast?
- How do you keep your room packed?
- Have you been to the market?
- How to bargain?

How to use the character card:

Each student fills in their own Character card:

- writes the name of the character
- their features, movements, reactions
- 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!

**Bobula
Grandparents
Buyers**

**bedroom
vegetable crate
vegetable stand**

**opens eyes
wakes up
looks around
sells vegetables**

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


 Your name _____
 I am building: _____


 Your name _____
 Make sure your robot is able to: _____


 Your name _____
 There also should be : _____


 Your name _____
 Think over : _____

BOBULA AT THE MARKET (T3)



S16
T3
D6
L3-4
P4

Suggested materials

- ArTeC blocks (at least the 112 pcs set) and ArTeC robot set (1 or 2 Studuino motherboards, 2 DC motors, 1 servo motor, 4 red LEDs, 2 IR photoreflectors, 1 or 5 Touch sensors), axes
- Mindmap or Chart draft, Storyline
- Character cards and Robotic task card template
- Pencil

Focus on:

- Computational thinking – life skills (D6)

Goal of the lesson:

- Problem solving
- Decision making
- Body image

Suggestions

Breakfast, travel, market

- Discuss the concepts of markets goods and money with the children
- Have a conversation about family farming
- What do we use to pay for goods today? How did people pay in the past?
- Create a vegetable stand using 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 activity 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.

waking up, having breakfast
packing up
unpacking
weighing goods
shopping

The name of my robot:

The parts I need for my robot:

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

Brain action: Greater learning. Find robotics in the Technical Corner!

This is how I build and program my robot:

What do I do?	What is the step?	What do I use?	What do I do?	What do I use?	What do I do?	What do I use?	What do I do?	What do I use?

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

Related topics in the Technical corner

- Programming servo motor (3.a, 3.b)
- Using LED (5.a)
- Testing and programming IR Photoreflector (7.a, 7.c, 7.e)
 - Using IR Photoreflector for detecting an object (7.d, 7.e)
- Using variable (11.)
 - Counting (11.c)

Puppeteering the market scene using figures moving with axes

PROG1

Market scene with puppet theatre

PROG2

The customers buy a random number of tomatoes

PROG3

The robot counts how many tomatoes are bought by the customers

PROG4

BOBULA AT THE MARKET (T3)



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L3-4
P5

Robot ideas for different programming levels

Puppeteering the market scene using figures moving with axes

PROG1

Market scene with puppet theatre

PROG2

The customers buy a random number of tomatoes

PROG3

The robot counts how many tomatoes are bought by the customers

PROG4

Bobula sells vegetables with her grandparents at the market

P1 Puppet theatre

- Building the characters of the market scene
- Their heads and arms turn on axes
- We puppeteer the market scene

P2 Robotic puppet theatre

- 5 LEDs glow on the front of the puppet theatre, symbolizing the tomatoes
- We mount Bobula on a servo motor, which is located behind the front of the puppet theatre.
- We connect a Touch sensor to the front of the puppet theatre.
- When a customer (figure) arrives, it presses the Touch sensor, and an LED goes out with every press.
- Bobula tilts lower and lower with each customer.

P3 Random shopping

- We build the puppet theatre similarly to P2
- We connect an IR Photoreflexor to the puppet theatre, which detects the arrival of the customers.
- When a customer arrives, a random number of LEDs go out, and Bobula tilts forward in proportion to the number of LEDs that went out.

P4 Counting puppet theatre

- We build the puppet theatre similarly to P3, this time with 2 IR Photoreflexors.
- The customer is a robot which can be controlled using 4 Touch sensors.
- One IR Photoreflexor counts how many tomatoes the customer wants, based on how many times the customer approaches and moves away from the IR Photoreflexor.
- When the customer wants to finish shopping, it rolls over to the next IR Photoreflexor. This causes the same number of LEDs as the number of tomatoes requested by the customer to go out.
- Bobula tilts forward by an amount in proportion to the number of tomatoes bought by the customer.

