

KELOĞLAN AND A MAGICAL BOWL STRANGE FISH (T1)

S17
T1
D3
L1 P3



Focus on:

- Spatial orientation (D3)

Task1: What does the landscape look like?

Students create elements of the landscape.

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!

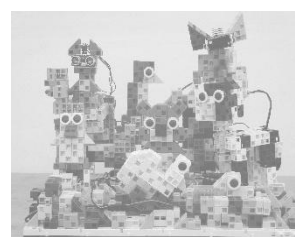
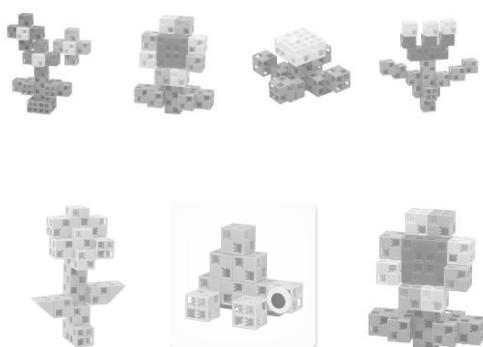
Developmental fields:

In focus:

- Spatial orientation
- Fine motor skills
- Creativity

In addition:

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



Task2: What does a puppet with movable limbs look like?

Students create a human figure with movable limbs.

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 a puppet out of ArTeC Blocks
- Cutting and binding a cardboard puppet
- Drawing series
- Animation editor

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

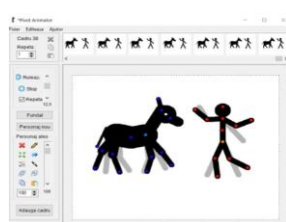
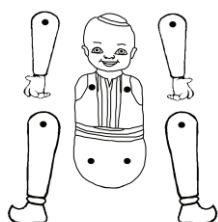
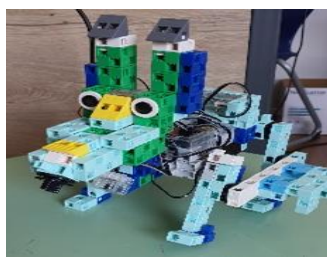
Developmental fields:

In focus:

- Fine motor skills
- Spatial orientation
- Creativity

In addition:

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

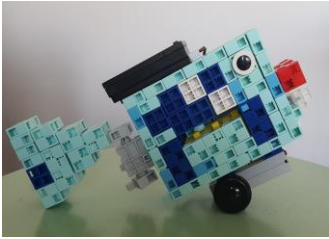


How to manage output:

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!

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T1
D3
L2 P3



In focus:

- Spatial orientation

Goals of the lesson:

- problem solving
- decision making
- organising group work



Once there was a bald boy, named Keloğlan(Kelolan). Keloglan lived with his mother and donkey. Keloğlan and his mother were very poor. They were living in a very small house. They didn't have enough money to buy food and they had hard days. One day Kelolan went to catch some fish to have it for dinner with his mother that evening. So, he started walking toward the river near his house. On the edge of the river he threw his fishing-rod to the water, soon he caught a very big fish. But it was not like any other fish. It was a very beautiful fish. Keloglan has never seen a fish like that before. But still fish would be Keloglan's and his mom's dinner.

But it was not like any other fish, it was a very beautiful fish. Keloğlan carved its scales, and wanted to cut its belly and clean it. At that time, he saw a big bowl inside the fish. First, he was shocked but then he got very happy. He was happy because he would give both fish and the bowl to his mother. He took some water from the river to wash the fish. He poured the water on the fish but at that time he saw that gold was flowing from the bowl instead of water. He tried a few times to make sure. But again he saw that gold was flowing. Keloğlan was now rich. He was flying with happiness. He was so excited that he got on his donkey and set off for home to tell his mother about the magic bowl. At first she was delighted when her mother saw the magic bowl, but then she gave her some advice on how to spend her money and how to take care of her money.

Keloğlan became very rich in a short time by accumulating the gold flowing from the bowl and had a palace built.

Main features and interactions of the characters

Character	Features	Interactions
Keloğlan	Walks, talks, moves arms	Move together, talk to each other and to the Stranger
Keloğlan Mother	Walks, talks, moves arms	
Donkey	Walks	Keloğlan, his mother and palace officials talk.
Fish	It moves	
Palace Officials	Walks, talks, moves arms	

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!

Keloğlan
Keloğlan Mother

Walk
To talk
Raise their arm

There should be a bowl in the fish.
Gold must be poured out of the bowl.

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 and the children should perceive the phases of their own movements
- Show movable anatomical models to the children
- Build a simple figure with movable legs, arms or mouth from ArTeC Blocks

Suggested materials

- ArTeC robot and Blocks (at least the 112 pcs set)
- Anatomical models or pictures of mouth, arms and legs
- white paper, pencil, folder

Character task cards


 Your name _____
 Build _____
 Be attentive, your robot should be able to: _____
 There also should be: _____
 Think over: _____

KELOĞLAN AND A MAGICAL BOWL STRANGE FISH (T1)

S17

T1

D3

L3-4 P4



Suggested materials

- ArTeC Blocks (at least the 112 pcs set) and ArTeC robotics set (at least Studuino motherboard, 2 DC motors, wheels, 1 servo motor, 1, 2 or 5 Touch sensor, 1 IR Photoreflexor, 1 Accelerometer, 2 LED-s, gears, drive rails)
- Anatomical models or pictures of mouth, arms and legs
- Photos, videos about different types of greed Mindmap or Chart draft , Storyline
- Character cards and Robotic task card template

Suggestions

- Discuss how human movements come about.
- Do some movements together and ask the children to recognise the phases of their own movements
- Show the children movable anatomical models
- Build a simple figure with movable legs, arms or mouth from ArTeC blocks

Focus on:

- Spatial orientation (D3)

Goals of the lesson:

- fine motor skills,
- problem solving,
- decision making
- body image,
- simple machines

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.

Arm
Leg
Mouth

Removes the bowl
from the stomach
of the fish.

Robotic task card

The name of my robot: _____

The parts I need for my robot:

Motor	Sensor	Light sensor	Choose the parts you need! Check off what you use!
Accelerometer	Touch sensor	IR sensor	Draw action
IR sensor	IR sensor	IR sensor	Draw action

This is how I build and program my robot:

What do I see?	What is it?	What does it do?	What does it say?	What does it do?	What does it say?

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 (2.a)
- Winding the engine a number of times (2.a, 2.b)
- Programming servo motor (3.a)
 - Moving the arm to a given angle (3.a)
 - Repeated movement of the arm for a number of times (3.b)
- Testing and programming Touch sensor (4.a, 4.b, 4.c)
 - Programming an Accelerometer (4.e)
- Testing and programming IR Photoreflexor (7.a, 7.c, 7.e)
 - Using an IR Photoreflexor for detecting an object (7.d, 7.e)

The scene is stunned
with axially constructed
actors and a fishing rod
with a magnet

PROG1

Scenes with a DC motor-
driven fishing rod and fish

PROG2

The rod is reeled in
and out using an
accelerometer.
Robots interacting
with an infrared
sensor

PROG3

Cooperation between
an accelerometer-
guided fishing rod
and a fish on a gear.

PROG4

KELOĞLAN AND A MAGICAL BOWL STRANGE FISH (T1)

S17
T1
D3
L3-4 P5

Ideas for robots on different programming levels

The scene is stunned
with axially constructed
actors and a fishing rod
with a magnet

PROG1

Scenes with a DC motor-
driven fishing rod and fish

PROG2

The rod is reeled in
and out using an
accelerometer.
Robots interacting
with an infrared
sensor

PROG3

Cooperation between
an accelerometer-
guided fishing rod
and a fish on a gear.

PROG4



The strange fish

P1 Puppeteering with puppets

- Construction:
- Build a mother figure with axially movable arms.
- Build a boy figure with axially movable arms.
- Build a fishing rod with gears using magnets tied on and off with string.
- Fish and symbolic river as the environment. Magnets are placed on 1-2 fish and thus some fish can be caught from the river with the fishing rod.

P2 Figures equipped with DC motor

a.) Mother built in the same way as P1.

- Boy is a large figure with a fishing rod with 1 DC motor and gear transmission built into its arm. He uses 2 Touch Sensors to wind and unwind the string with the magnet to catch the fish.
- Fish and surroundings are constructed in the same way as the P1.

b.) Mother constructed as in P1.

- Boy constructed as in P2/a).
- Fish moves forward with 1 DC motor, 1 Touch sensor, tail moves with 1 servo motor. 2 LEDs (1 right, 1 left when moving) light up.

P3 Accelerometer controlled robot operation

- Mother built in the same way as P1.
- Boy built similar to P2, but with 1 accelerometer decision to wind up and down the string on the fishing rod built into its arm.
- Fish structure similar to P2, but with 1 infrared sensor mounted on its side. It will stop if it detects a block on the end of the fishing rod, but it will keep the tail moving and light up the LEDs on the corresponding side.

P4 Interaction between a static robot with gears and an accelerometer robot

- Mother built in the same way as P1.
- Boy built like P1.
- Fishing rod with 1 servo motor and 2 push buttons, turns left and right in steps. 1 DC motor, controlled by 1 Accelerometer, winds and unwinds the blocks mounted on the line, which are detected by the fish.
- Fish on a rack track, mounted on 1 DC motor, "swim" forward with gears at the push of 1 button. 1 infrared sensor is mounted on them, if it detects the dice mounted on the fishing rod they stop. Then the rack track is lifted and the 2 LEDs on the fish start flashing.

