

THE PAUL STREET BOYS THE PUTTY CLUB (T1)

S3
T1
D6
L1 P3

Focus on:

- Computational thinking – life skills (D6)



Task1: Imagine yourself founding a club!

What does it mean? What is important for a club?

How would you pick the participants?

Plan its mode of operation, roles and symbols!

Students discuss what makes a club a club.

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:

- Collecting the features of a club
- Writing its constitution
- Planning the roles in the organisation
- Creating a potato or rubber stamp
- Creating its flag and seal

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

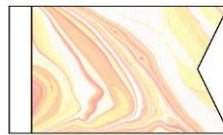
Developmental fields:

In focus:

- Social competencies
- Fine motor skills
- Creativity

In addition:

- Life skills
- Subject concentration – Citizenship
- Talent development



Task2: How does a face show emotions?

Create faces with different emotions!

Students decorate the face template with play-dough. They illustrate emotions.

They can make their own play-dough out of flour, salt, water and coloring.

Every solution is good!

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:

- Creating faces with different emotions
- Face templates
- Play-dough recipe

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

Developmental fields:

In focus:

- Social competencies
- Fine motor skills
- Spatial orientation
- Creativity

In addition:

- Life skills
- Subject concentration – Drawing, Arts&crafts
- Talent development

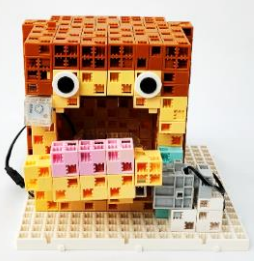


How to manage the outputs:

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!

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L2 P3



„I understand that you boys have formed some sort of Putty Club. Now, then, who did it?”
Continued silence. Then a timid voice: „It was Weisz!”
„Very well. Let us go on” he said.
„Suppose you first tell me what putty is?” In reply Weisz produced from a pocket a big ball and placed it on the table. For a while he gazed at him, then in an almost inaudible tone he declared:
„That’s putty.”
„And what might that be?” the professor inquired
„That’s a sort of paste used by glaziers to fasten window panes. The glazier smears it on and we scrape it off with our fingernails.”
„And did you scrape this together?”
„No, sir. This is club property.”
„The professor’s eyes grew wider:” How is that?
Weisz became somewhat bolder as he explained: „This, you see, sir, was collected by all the members and the executive board appointed me official custodian. Before that it was in charge of Kolnay, who was also treasurer. But he let it dry up. He never chewed on it.”
„Is that what is done?”
„Yes, sir. Otherwise it would become hard and then we couldn’t squeeze it any more. I used to chew it everyday.”
„Why you?”
„Because it says in the bylaws that the president has to chew the club putty at least once a day, to keep it from drying up... Here Weisz burst into tears. Whimpering he added:” And I’m the president now...”
The atmosphere was tense. The professor sternly said: ”Where did you all gather enough for this big ball?”
More silence. The professor looked at Kolnay: „Kolnay, where did you get it? Kolnay sputtered his reply, as if anxious to help matters by a frank confession: The first piece was got by Weisz. That’s when we organized the club. One day he went riding with his father and scraped the putty off the carriage windows. Soon after that the window in the auditorium broke and I went there and waited all afternoon till the glazier came, and I watched until he finished the job and went away. After he was gone, I scraped the putty off and took it away. But I wasn’t stealing it for myself. . .it was for the club. . .for the . .cl-uh-uh-uh-b...”
He, too, was crying.
„Don’t cry”, said Professor Rác. But Kolnay went on, sobbing heart-rendingly. Weisz whispered to him:
„Stop your bawling!” And he, too, burst into tears.
This wholesale blubbing moved Professor Rác to sympathy. He puffed at his cigar uneasily.

Focus on:

- Computational thinking – life skills (D6)

Goals of the lesson:

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



Suggestions

- Discuss what putty means
- Compare the requisites of the Putty Club with those that were planned by the students on the last lesson
- Discuss/create mindmap about what the followings mean: belonging to a club, responsibility, loyalty
- Write the constitution of a gang
- Show movable anatomical models to the children (chewing)

Main features and interactions of the characters

Character	Features	Interactions
Professor Rác	Speaks	Talks to the boys
Weisz	Chews putty, speaks, cries	Talk to Professor Rác
Kolnay	Chews putty, speaks, cries	Cry, prompted by each other
Csele	Scrapes putty from windows	

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!

Professor Rác
Weisz, Kolnay
Csele

Speak
Chew
Cry
Scrape putty from window


Desk
Putty
Cigar
Constitution
Treasures

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




Your name _____

Build _____




Your name _____

Be attentive, your robot should be able to: _____



Your name _____

There also should be: _____



Your name _____

Think over: _____

THE PAUL STREET BOYS THE PUTTY CLUB (T1)

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T1
D6
L3-4
P4



Suggested materials

- ArTeC Blocks (at least the 112 pcs set) and ArTeC robotics set (at least 18 for P3 2)
- Studuino motherboard, 2 servo motors, 1 LED, 1 Buzzer, 1 Sound Sensor, 1 IR Photoreflector)
- Anatomical models or pictures of mouths
- Mindmap or Chart draft , Storyline
- Character cards and Robotic task card template
- Pencil

Focus on:

- Computational thinking – life skills (D6)

Goals of the lesson:

- fine motor skills,
- problem solving,
- decision making
- body image,
- expression of emotions

How to fill in the Robotic card?

- Choose robot's „activity” and its programming complexity according to the Character task card, the developmental aim and the programming level that fits the child's skills.
- More Robotic cards can be filled in if needed (for clarification or for differentiation).

Suggestions

Chewing

- Discuss how human movements are made
- Make some chewing 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 a movable mouth from ArTeC Blocks

Crying

- Collect the traits of crying!
- Discuss how tears could be shown by the robot

Mouth
Cry

Robotic task card

Your name _____

Build a robot that can move it's _____

Use actuators and sensors for building:
 Senses are green
 Actions are blue
 Choose the needed parts!
 (Check the boxes)

<input type="checkbox"/> Ultrasonic sensor	<input type="checkbox"/> Servomotor	<input type="checkbox"/> DC motor	<input type="checkbox"/> Sound sensor	<input type="checkbox"/> Light sensor
<input type="checkbox"/> Accelerometer	<input type="checkbox"/> Reflective infrared sensor	<input type="checkbox"/> Touch sensor	<input type="checkbox"/> Electronic buzzer	<input type="checkbox"/> LED

Build and program so that the robot _____

Use the Technical Corner for robotic helping materials!

Related topics in the Technical corner

- Programming servo motor
 - Moving the mouth to a given angle (3.a)
 - Repeated movement of the mouth a number of times (3.b)
- Testing and programming the IR Photoreflector (7.a, 7.c, 7.e)
 - Using an IR Photoreflector for detecting an object (7.d, 7.e)
- Testing and programming Sound sensor (9.a)
 - Activating the robot with sound (9.b)
- Using LED (5.a)
 - Blinking (5.b)
- Using Buzzer (6.a)

Chews putty moving his mouth up and down

PROG1

Chews automatically and cries while chewing

PROG2

Chews putty and cries (tears and sound). He begins to chew when the putty is put into his mouth

OR
One boy cries and the other begins to chew and cry when he hears crying

PROG3

Begins to chew and cry (tears and sound) when putty is put into his mouth. He finishes chewing and crying when the putty is taken out.

PROG4

THE PAUL STREET BOYS THE PUTTY CLUB (T1)

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L3-4
P5

Ideas for robots on different programming levels

Chews putty moving his mouth up and down

PROG1

Chews automatically and cries while chewing

PROG2

Chews putty and cries (tears and sound). He begins to chew when the putty is put into his mouth OR

One boy cries and the other begins to chew and cry when he hears crying

PROG3

Begins to chew and cry (tears and sound) when putty is put into his mouth. He finishes chewing and crying when the putty is taken out.

PROG4



Chewing the putty and crying

P1 Build a head with a movable mouth

How to build:

- It can be achieved by movable parts without robotics

P2 Build a person chewing and crying

- Use the servo motor for programmable movement!
- Chewing is moving the mouth up and down with a servo motor
- Crying is blinking with an LED
- All these happen from the robot's activation until it is turned off

P3 Build a person chewing and crying activated by a sensor

- Use the servo motor for programmable movement!
- Chewing is moving the mouth up and down with a servo motor
- Crying is blinking with an LED and giving sound with Buzzer
- The robot begins to chew and cry after a block symbolising the putty is put into its mouth, and continues chewing until it is turned off
- OR
- Build one more robot with a head that can cry with a Buzzer
- The chewing head begins to chew and cry when its Sound Sensor senses the sound of the other head.

P4 Build a person chewing and crying while the putty is in its mouth

- A sensor (IR Photoreflexor) can sense if the putty is put into its mouth as well as if it is taken out
- Chewing is moving the mouth up and down with a complex synchronized movement of 2 servo motors
- Crying is blinking with a LED and giving sound with Buzzer

