

THE COMIC BOOK MOUSE

A LUCKY MATCH (T3)

S10
T3
D9
L1 P3

In focus:

- Creativity, talent development (D9)



Task1: How can you communicate with someone who does not understand you?

Students talk about communication and languages.

How do you feel when you feel excluded/have been excluded from a group?

Students talk about inclusion and exclusion and their experience about this situation (possible reasons, reactions, solutions).

They dramatize and act out the given situation.

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

Idea Bazaar – some ideas:

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

Cut out the situation cards!

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 skills
 - Inclusion
- Communication

strategies

- Empathy
- Text comprehension
- Life skills

In addition:



How to manage output:

Take a video/audio record of the dramatized situation!

Task2: How would you communicate in a country where you don't know the language?

Students collect what they would need in a foreign country.

They create their own sign language for these needs.

Every solution is good!

Any kind of tool and material can be used!

You can use the ideas and list of materials from the Idea Bazaar, come up with your own ideas or just let the children be creative.

Idea Bazaar – some ideas:

- Brainstorming about needs in a new environment
- Collecting types of sign languages
- Making the props

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

Developmental fields:

In focus:

- All skills
- Life skills
- Algorithmic thinking
- Attention
- Creativity

In addition:

- Subject concentration – Arts, IT
- Talent development

THE COMIC BOOK MOUSE

A LUCKY MATCH (T3)

S10
T3
D9
L1 P4

In focus:

- Creativity, talent development (D9)



Task3: Build a maze:

Build a maze, play an orienteering game in the maze!

Every solution is good!

Any kind of tool and material can be used!

You can use the ideas and list of materials from the Idea Bazaar, come up with your own ideas or just let the children be creative.



Idea Bazaar – some ideas:

- They can use cardboard boxes, wooden boards. Nail, spatula, yarn, rubber, glue, etc. (I2)
- They can build a maze in the classroom, e.g. using furniture, boxes, or in the yard, using branches, sand, stones

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

Take photos of buildings while they are being built and when they are finished.

Developmental fields:

In focus:

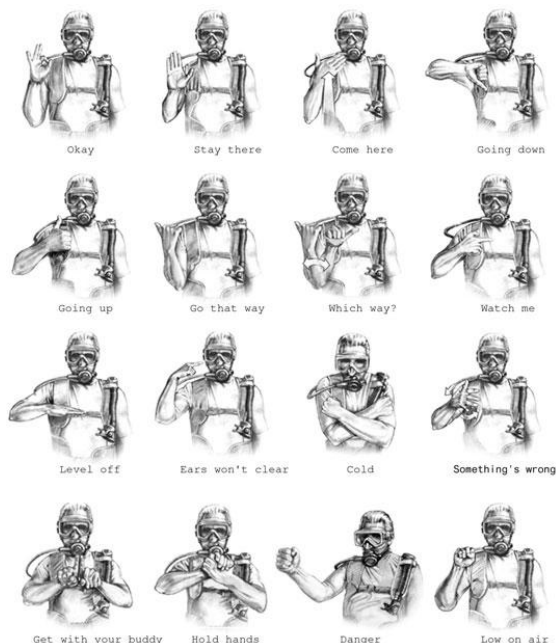
- Spatial orientation
- Fine motor skills
- Creativity
- Social skills

In addition:

- Life skills
- Subject – Arts and crafts
- Talent development

How to manage output:

Organise the completed photos either in an online repository or printed on a notice board. If the children have made notes, or have any additional ideas left over, attach them as well.



THE COMIC BOOK MOUSE

A LUCKY MATCH (T3)

S10
T3
D9
L2 P3



For a while the mouse continued to chew. When he finally realized that he was alone, it was already too dark to look for the road and decided to spend the night at the mill. He was about to fall asleep, when in the darkness two yellow traffic lights came on, there was the sinister rustle of four paws of a hunter. A cat!

"Squash!" said the little mouse, with a shudder. "Gragrragnau!" replied the cat. My goodness, it was a comic book cat! The real cat tribe had kicked him out because he couldn't meow properly. The two derelicts hugged each other, swearing eternal friendship and spent the whole night conversing in the strange language of comics. They understood each other wonderfully.

In focus:

- Creativity, talent development (D9)

Goals of the lesson:

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

Suggestions

- Discuss how movements are made. Make some movements together and the children should perceive the phases of their own movements.
- Have the children try out different ways to hug each other.
- Discuss why the mouse and the cat could understand each other. What are the basics of communication?
- Discuss what can be a good bases for a friendship.
- Discuss how one can find way in the dark
- Build a simple figure of a mouse with movable legs, arms or mouth from ArTeC Blocks

How to use the character card:

Each student fills in their 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!

Mouse
Cat

Falling asleep
Interact

Mill
Sacks of flour
Outdoor places

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

Main features and interactions of the characters

Character	Features	Interactions
Mouse	eats, interacts	Talk to each other
The cat	Walks,, interacts	


 Your name _____
Build _____
 ----- ✂ -----


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


 Your name _____
There also should be: _____
 ----- ✂ -----


 Your name _____
Think over: _____
 ----- ✂ -----

THE COMIC BOOK MOUSE A LUCKY MATCH (T3)

S10
T3
D9
L3-4
P4



Suggested materials

- ArTeC Blocks (at least the 112 pcs set) and ArTeC robotics set (2 Studuino motherboards, 4 Touch Sensors, 2 LEDs, 2 Buzzer, 3 IR Photoreflectors, 3 servo motors, 4 DC motors)
- Mindmap or Chart draft, Storyline
- Character cards and Robotic task card template
- Pencil
- Video of hedgehog movements

How to fill in the Robotic card?

Choose the 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).

In focus:

- Creativity, talent development (D9)

Goals of the lesson:

- text comprehension
- problem solving
- decision making
- expressing movement

Suggestions

Walking

- Discuss how movements are made
- Make some movements together to imitate a mouse and a cat
- Show movable anatomical models to the children
- Build a simple figure with movable legs, arms or mouth from ArTeC Blocks

Eating

- Imitate the movements of moving the mouth so that it seems real.

Body
Mouth

Így hívják:

A robotom tudja majd mozgatni a _____

Építs bele aktuátorokat és szenzorokat:

„Érzékelés” zsidóban
„Geelekések” kéken
Válassz ki a szükséges alkatrészeket!
Pipáld ki, ami kell!



Építsd és programozd meg a robotot úgy, hogy tudjon _____

Robotom segít anyagokat a Technikai Szakosításon találni!

Related topics in the Technical corner

- Programming DC motor (2.a, 2.b)
- Programming servo motor
 - Moving elements mounted on a servo motor to a given angle (3.a)
- Programming waving movement (3.b)
- Testing and programming Touch sensor
 - Starting and stopping DC motors by pressing the same or different buttons or Touch Sensors (4.b, 4.c)
- Using LED (5.a)
 - Flashing (5.b)
- Using Buzzer (6.a)
- Using IR Photoreflector
 - Testing IR photoreflector (7.a)
 - Detecting obstacles (7.b)
 - Avoiding obstacles, (7.c,d)
 - Moving forward until the black line is found (7.e)

The Comic Mouse is a motor-driven device. The Comic Cat can be moved by axes.

PROG1

The Comic Mouse and Comic Cat can also be controlled with Touch sensors. Both robots have a Buzzer.

PROG2

The Comic Mouse approaches the Comic Cat and they switch on each other's programmes.

PROG3

The Comic Mouse goes as far as the Comic Cat. The cat turns on the mouse button to display their hug.

PROG4

THE COMIC BOOK MOUSE

A LUCKY MATCH (T3)

S10
T3
D9
L3-4
P5

Ideas for robots on different programming levels

The Comic Mouse is a motor-driven device. The Comic Cat can be moved by axes.

PROG1

The Comic Mouse and Comic Cat can also be controlled with Touch sensors. Both robots have a Buzzer.

PROG2

The Comic Mouse approaches the Comic Cat and they switch on each other's programmes.

PROG3

The Comic Mouse goes as far as the Comic Cat. The cat turns on the mouse button to display their hug.

PROG4



The coming together

P1 Puppeteering

- The directly driven, DC motor-driven Comic Mouse rolls to the Comic Cat.
- Build a Comic Book Mouse mounted on a robot trolley.

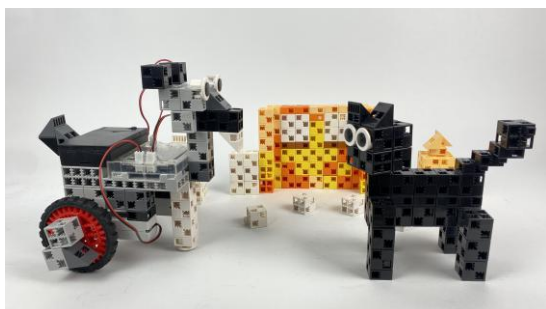
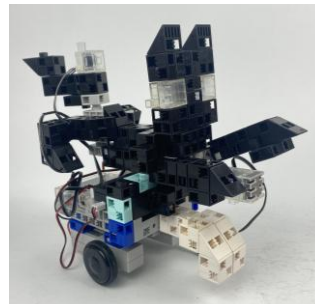
- The programmed Cartoon Mouse starts automatically on switch-on and moves forward for 5 seconds until it reaches the Comic Cat.

P2 Characters controlled by Touch sensors

- Build the Comic Mouse as in P1 b), 2 Touch sensors, 1 Buzzer attached.
- The Comic Mouse starts when one Touch sensor is pressed and stops when the other Touch sensor is pressed, and the Buzzer sounds a high-pitched tone.
- Build a Comic Cat mounted on a robot trolley, 1 push button, 1 servo motor, 2 LEDs and 1 Buzzer attached.
- The Comic Cat starts when you press the push button and moves forward for a fixed time.
- Then it stops and the servo motor mounted in its neck moves its head left and right, while the 2 LEDs in its eyes light up and the Buzzer sounds briefly.

P3 Infrared Sensor Guided Robot

- Build the comic mouse as in P1 b), 2 IR photoreflectors, 1 push button, 1 servo motor, 1 Buzzer are attached.
- The IR Photoreflector is placed on both sides of the mouse to guide it to the Comic Cat.
- The robot will stop when the Touch sensor is pressed, then the servo motor in the tail and the Buzzer will turn on.
- Build the Comic Cat according to P2. 1 IR photoreflector, 1 push button, 1 servo motor, 2 LEDs and 1 Buzzer are connected.
- The Comic Cat detects the Comic Mouse with an IR sensor. When this happens, it turns on the servo motor built into the cat's tail, the 2 LEDs in its eyes, which start flashing, and the Buzzer.



P4 Comic Cat slapping with paws

- The Comic Mouse has the same structure and function as the one in P3, but its Touch sensor is pressed by the Comic Cat.
- Build the Comic Cat mounted on a carriage. The foreleg and tail are mounted on a servo motor, 1 IR Photoreflector, 2 LEDs, 1 Buzzer are attached.
- When the IR photoreflector mounted on the Comic Cat detects the Comic Mouse, it turns on the servo motor built into its front leg and can then tap the mouse button.
- Meanwhile, the servo motor in its tail, the 2 LEDs in its eyes and the Buzzer are activated.

THE COMIC BOOK MOUSE

A LUCKY MATCH (T3)

S10
T3
D12
L1 P3

In focus:

- Linguistic communication (D12)



Task1: How can you communicate with someone who does not understand you?

Students talk about communication and languages.

How do you feel when you feel excluded/have been excluded from a group?

Students talk about inclusion and exclusion and their experience about this situation (possible reasons, reactions, solutions).

They dramatize and act out the given situation.

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

Idea Bazaar – some ideas:

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

Cut out the situation cards!

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 skills
 - Inclusion strategies
 - Communication strategies
 - Empathy
- Text comprehension

In addition:

- Life skills


RIDE
 Co-funded by the
 Erasmus+ Programme
 of the European Union

**THE COMIC BOOK
MOUSE**

S10
T1
L1

 **Some ideas- Feeling misunderstood- Feeling laughed at**

Act it out!

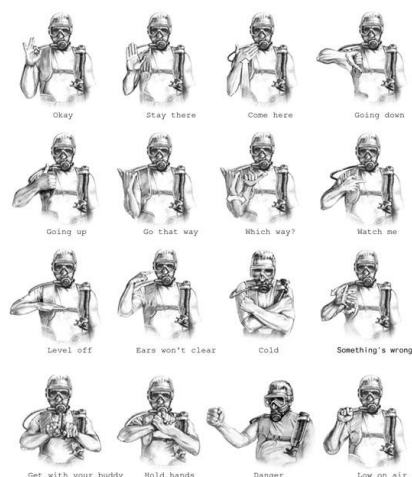
Imagine and dramatize a situation in which you and your friend do not understand each other.
 How would you solve the problem? What can you use to communicate with someone who do not understand your language?

Act it out!

Imagine and dramatize a situation in which you have been excluded from a group of people (imagine also the reason).
 What can you do to change the situation? Find a solution!

Act it out!

Have you ever been laughed at? How did you feel?
 Share your experience with your friends and reflect on the effects of this behaviour on self-esteem and well-being.
 Imagine and dramatize a situation of bullying or cyberbullying and find a solution!



How to manage output:

Take a video/audio record of the dramatized situation!

THE COMIC BOOK MOUSE

A LUCKY MATCH (T3)

S10
T3
D12
L1 P4



In focus:

- Linguistic communication (D12)

Task2: How would you communicate in a country where you don't know the language?

Students collect what they would need in a foreign country.

They create their own sign language for these needs.

Every solution is good!

Any kind of tool and material can be used!

You can use the ideas and list of materials from the Idea Bazaar, come up with your own ideas or just let the children be creative.

Idea Bazaar – some ideas:

- Brainstorming about needs in a new environment
- Collecting types of sign languages
- Making the props

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

Developmental fields:

In focus:

- All skills
- Life skills
- Algorithmic thinking
- Attention
- Creativity

In addition:

- Subject concentration – Arts, IT
- Talent development

Task3: Build a maze:

Build a maze, play an orienteering game in the maze!

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- They can build a maze in the classroom, e.g. using furniture, boxes, or in the yard, using branches, sand, stones

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

Take photos of buildings while they are being built and when they are finished.

Developmental fields:

In focus:

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

In addition:

- Life skills
- Subject – Arts and crafts
- Talent development



How to manage output:

Organise the completed photos either in an online repository or printed on a notice board. If the children have made notes, or have any additional ideas left over, attach them as well.

THE COMIC BOOK MOUSE

A LUCKY MATCH (T3)

S10
T3
D12
L2 P5

In focus:

- Linguistic communication (D12)

Goals of the lesson:

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



For a while the mouse continued to chew. When he finally realized that he was alone, it was already too dark to look for the road and decided to spend the night at the mill. He was about to fall asleep, when in the darkness two yellow traffic lights came on, there was the sinister rustle of four paws of a hunter. A cat!

"Squash!" said the little mouse, with a shudder. "Gragragnau!" replied the cat. My goodness, it was a comic book cat! The real cat tribe had kicked him out because he couldn't meow properly.

The two derelicts hugged each other, swearing eternal friendship and spent the whole night conversing in the strange language of comics. They understood each other wonderfully.

Suggestions

- Discuss how movements are made. Make some movements together and the children should perceive the phases of their own movements.
- Discuss why the mouse and the cat could understand each other. What are the basics of communication?
- Discuss what can be a good bases for a friendship.
- Discuss how one can find way in the dark
- Build a simple figure of a mouse with movable legs, arms or mouth from ArTeC Blocks

How to use the character card:

Each student fills in their 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!

Mouse
Cat

Falling asleep
Interact

Mill
Sacks of flour
Outdoor places

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

Main features and interactions of the characters

Character	Features	Interactions
Mouse	eats, interacts	Talk to each other
The cat	Walks,, interacts	


 Your name _____
 Build _____


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


 Your name _____
 There also should be: _____


 Your name _____
 Think over: _____

THE COMIC BOOK

MOUSE

A LUCKY MATCH (T3)

S10
T3
D12
L3-4
P6



Suggested materials

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- Mindmap or Chart draft, Storyline
- Character cards and Robotic task card template
- Pencil
- Video of hedgehog movements

How to fill in the Robotic card?

- Choose the 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).

In focus:

- Linguistic communication (D12)

Goals of the lesson:

- text comprehension
- problem solving
- decision making
- expressing movement

Suggestions

Walking

- Discuss how movements are made
- Make some movements together to imitate a mouse and a cat
- Show movable anatomical models to the children
- Build a simple figure with movable legs, arms or mouth from ArTeC Blocks

Eating

- Imitate the movements of moving the mouth so that it seems real.

Body Mouth

Related topics in the Technical corner

- Programming DC motor (2.a, 2.b)
- Programming servo motor
 - Moving elements mounted on a servo motor to a given angle (3.a)
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- Using IR Photoreflector
 - Testing IR photoreflector (7.a)
 - Detecting obstacles (7.b)
 - Avoiding obstacles, (7.c,d)
 - Moving forward until the black line is found (7.e)

The name of my robot: _____

The parts I need for my robot:

Robot	Motor	DC motor	Servo motor	Light sensor	Touch sensor	IR sensor	Buzzer	LED
☐	☐	☐	☐	☐	☐	☐	☐	☐

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

Build action: Green's "Building" Find robotics support materials in the Technical Corner!

This is how I build and program my robot:

What do I see?	What is in my eye?	What? (sensors)	What? (actuators)	To what? How long? How many times?	What kind? With what?

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

The Comic Mouse is a motor-driven device. The Comic Cat can be moved by axes.

PROG1

The Comic Mouse and Comic Cat can also be controlled with Touch sensors. Both robots have a Buzzer.

PROG2

The Comic Mouse approaches the Comic Cat and they switch on each other's programmes.

PROG3

The Comic Mouse goes as far as the Comic Cat. The cat turns on the mouse button to display their hug.

PROG4

THE COMIC BOOK MOUSE

A LUCKY MATCH (T3)

S10
T3
D12
L3-4
P7

Ideas for robots on different programming levels

The Comic Mouse is a motor-driven device. The Comic Cat can be moved by axes.

PROG1

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PROG2

The Comic Mouse approaches the Comic Cat and they switch on each other's programmes.

PROG3

The Comic Mouse goes as far as the Comic Cat. The cat turns on the mouse button to display their hug.

PROG4



The coming together

P1 Puppeteering

- The directly driven, DC motor-driven Comic Mouse rolls to the Comic Cat.
- Build a Comic Book Mouse mounted on a robot trolley.

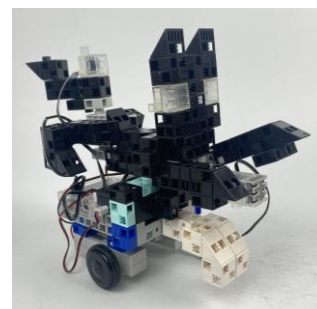
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P2 Characters controlled by Touch sensors

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- Build a Comic Cat mounted on a robot trolley, 1 push button, 1 servo motor, 2 LEDs and 1 Buzzer attached.
- The Comic Cat starts when you press the push button and moves forward for a fixed time.
- Then it stops and the servo motor mounted in its neck moves its head left and right, while the 2 LEDs in its eyes light up and the Buzzer sounds briefly.

P3 Infrared Sensor Guided Robot

- Build the comic mouse as in P1 b), 2 IR photoreflectors, 1 push button, 1 servo motor, 1 Buzzer are attached.
- The IR Photoreflector is placed on both sides of the mouse to guide it to the Comic Cat.
- The robot will stop when the Touch sensor is pressed, then the servo motor in the tail and the Buzzer will turn on.
- Build the Comic Cat according to P2. 1 IR photoreflector, 1 push button, 1 servo motor, 2 LEDs and 1 Buzzer are connected.
- The Comic Cat detects the Comic Mouse with an IR sensor. When this happens, it turns on the servo motor built into the cat's tail, the 2 LEDs in its eyes, which start flashing, and the Buzzer.



P4 Comic Cat slapping with paws

- The Comic Mouse has the same structure and function as the one in P3, but its Touch sensor is pressed by the Comic Cat.
- Build the Comic Cat mounted on a carriage. The foreleg and tail are mounted on a servo motor, 1 IR Photoreflector, 2 LEDs, 1 Buzzer are attached.
- When the IR photoreflector mounted on the Comic Cat detects the Comic Mouse, it turns on the servo motor built into its front leg and can then tap the mouse button.
- Meanwhile, the servo motor in its tail, the 2 LEDs in its eyes and the Buzzer are activated.

