

THE ROBBER HOTZENPLOTZ CAUTION – GOLD! (T2)



**S12
T2
D3
L1 P5**

Focus on:

- Spatial orientation (D3)

Task5: Create a treasure chest!

Students make their own treasure chest. Discuss what can be kept in a treasure chest. How big should a treasure chest be? How to make it safe? Come up with mechanical solutions that allow us to notice when someone has opened the chest. Let's give free space to their creativity, any material can be used.

Every solution is good!

Any tool or material can be used!

Idea bazaar – some ideas:

- Materials to use: construction paper, glue, scissors, paints
- Print out the lock template

You can find details about the different solutions in the idea sheets!

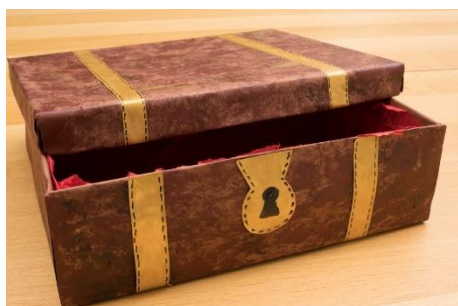
Developmental fields:

In Focus:

- Fine motor skills
- Creativity

In addition:

- Subject concentration – Arts
- Talent development



Task 6: Write handcraft instructions

One of the most common forms of writing tasks is the description. In lower grades, process description is an important point of mother tongue teaching. Make the Handcraft instructions based on the attached pictures. The pupils cut out the pictures and determine the order. This supports them by creating the process description.

For older pupils, you can make the task more difficult by providing more pictures. In this case, use any number of the phase photos from the second page.

Every solution is good!

Idea bazaar – some ideas:

- Brainstorming about craft instructions and the possible order of the pictures
- Inveting similar tasks

You can find details about the different solutions in the idea sheets!

Developmental fields:

In Focus:

- Language development
- Seriality
- Creativity

In addition:

- Subject concentration – Mother tongue, Arts
- Talent development



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S12
T2
D3
L1 P6

Focus on:

- Spatial orientation (D3)

Task 7: Bake a plum pie!

Children are happy to be active in the kitchen, and in some schools they also learn household skills. As part of this, they can bake a plum pie.

Our dear friend Zoltán Szokolay made the recipe available to us, and we tried it ourselves as well. You can also find help for making it on his YouTube channel. We say thank you also here for His cooperation.

Understanding the individual steps of the process, the cause-and-effect relationships can be illustrated very well during baking and cooking, use the opportunity. Some areas of mathematics can also be unavoidable: measurement, units of measure, multiplication, fractions, etc.

Every solution is good!

Of course, other recipes can also be used.

Idea bazaar – some ideas:

- Materials to use: plum pie ingredients, kitchen utensils
- Print out the recipe for the pupils or create a page for their own recipe book

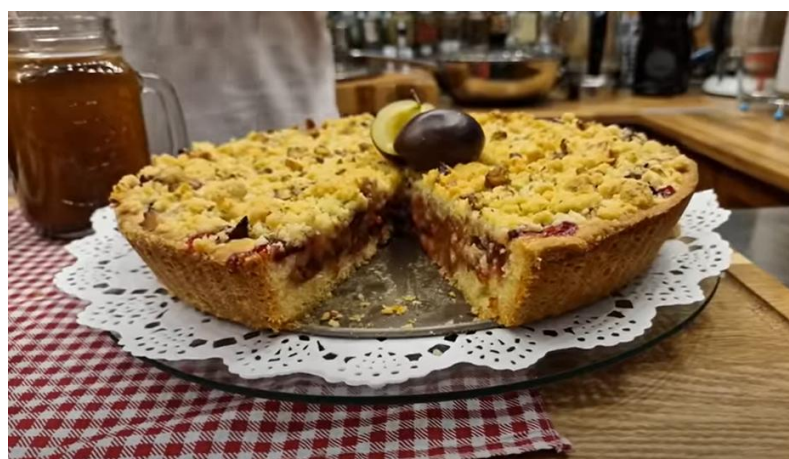
Developmental fields:

In Focus:

- Mathematical skills
- Seriality
- Practical life skills
- Social skills (teamwork)
- Creativity

In addition:

- Subject concentration – Mathematics, Household and nutrition
- Talent development



Idea: Szoky's kitchen:

<https://www.youtube.com/watch?v=E2LK1h91n0w&list=PLY94CkoEYXN4QKMUAHDAG1i--SV3rnYaz&index=14>

THE ROBBER HOTZENPLOTZ CAUTION – GOLD! (T2)



**S12
T2
D3
L2 P3**

Focus on:

- Spatial orientation (D3)

Goals of the lesson:

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

When Kasperl and Seppel find out what happened, they decide to catch Hotzenplotz. They think all day and then decide to trap the robber. For this, they fill a wooden crate with sand and nail down the top. A small hole is drilled in the bottom of the crate, so that the sand will roll out on the way and show the way to the Hotzenplotz cave. On its side, they write: "Caution, gold!", so that the robber will definitely want to catch hold of it.

Main features and interactions of the characters

Charakter	Features	Interactions
Kasperl	Grandmother's grandson, Seppel's best friend, very smart, wears a red pointed cap	Can talk, shovels sand, drills a hole in the crate, lifts the crate to the handcart
Seppel	Kasperl's best friend, not particularly smart but loyal and reliable, wears a green Seppel-hat	Can talk, shovels sand, nails the lid of the crate, lift the crate onto the handcart

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!

Suggestions

- Discuss, how people move, do some leg and arm movements together and have the children notice the phases of their own movements
 - While painting
 - When pulling a handcart
 - When carrying the bucket
- Build simple figures with movable legs and arms from ArTec blocks



Build

Your name _____

Kasperl
Seppel



Be attentive, your robot should be able to:

Your name _____

Move, talk, raise hand(s),
nail the lid of the crate,
shovel sand



There also should be:

Your name _____

Barn, handcart, wooden
crate



Think over:

Your name _____

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

Suggested materials

- ArTec Blocks (at least the 112 pcs set)
- Map of Europe
- Storyline template
- pencil

**THE ROBBER
HOTZENPLOTZ**
CAUTION – GOLD!
(T₂)



S12
T2
D3
L3-4
P4

Suggested materials

- ArTeC Blocks (at least the 112 pcs set) and ArTeC robotics set (2 Studuino motherboards, 2-4 servo motors, 5 Touch sensors, 1 IR Photoreflector)
- Mindmap or Chart draft, Storyline
- Character cards and Robotic task card template
- Pencil

Suggestions

- Think about what gestures people use when they think of something or when they are at a loss
- Collect possibilities for how the robot could be controlled to move along a specific route
- Collect possibilities for imitate the tapping motion of a hammer

- Raise the arm(s)
- Move around
- Hammer

Focus on:

- Spatial orientation (D3)

Goal of the lesson:

- Fine motor skills
- Problem solving
- Decision making
- Life skills

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 servo motor (3.a)
 - Moving the arm or tail to up and down (3.b)
- Testing and programming Touch sensor (4.a, 4.b, 4.c)
- Testing and programming IR Photoreflector (7.a, 7.c, 7.e)
 - Using an IR Photoreflector for detecting an object (7.d, 7.e)
 - Line tracing robots using 1 IR Photoreflector
- Using variables (11.a)
 - Counting (11.c)

[illegible]

Static figure
Kasperl and Seppel,
wooden chest with
movable top (use axle
for hinges)

PROG1

Seppel throws nails in the crate

PROG2

Seppel throws nails
into the box, the box
"counts" and the
cubes are thrown out

PROG3

Seppel throws nails
into the box, the box
"counts" and the
cubes are thrown out

PROG4

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P5

Ideas for robots on different programming levels

Static figure
Kasperl and Seppel,
wooden chest with
movable top (use axle
for hinges)

PROG1

Seppel throws nails in the
crate

PROG2

Seppel throws nails into
the box, the box
"counts" and the cubes
are thrown out

PROG3

Seppel throws nails into
the box, the box
"counts" and the cubes
are thrown out

PROG4

Kasperl and the chest

P1 Kasperl, Seppel and the chest

- Static figures
- Let's build Kasperl and Seppel, his arm should be movable with the axle
- OR
- Build a box with a shaft, with a small slot at the top and bottom that opens axially

P2 A chest with a sliding top

- We build Seppel and the crate as a separate robot.
- We build Seppel, mount a servo motor in its waist and connect 1 Touch sensor to it.
- When the Touch sensor is pressed, the servomotor will help the sand to fall into the crate
- We build the crate, the top of which can be closed axially. When it is lowered, the roof pushes the push button in the box
- Using wait until, on the third press of the button, the servomotor that moves the bottom of the crate opens a small gap where the sand falls out

P3 Counting crate

- Seppel and the crate are built in a similar way to P2.
- The operation of Seppel is the same as in P2.
- The lid of the crate is closed and opened by a servomotor, which is activated by an infrared sensor in the top of the crate
- Count the number of times the lid is closed, and after the third time, the servomotor at the bottom of the crate opens a small gap where the sand falls out

P4 Counting crate

- Seppel and the crate are constructed in the same way as P3
- The top and bottom of the crate are controlled by 4 Touch sensor
- The lid opens and closes in steps and the bottom can only be opened when the lid is closed
- The lid of the crate can only be closed and the bottom can only be opened if there is sand in it, this is detected by the robot with an infrared sensor

