

THE STORY OF THE PIG

THE MONASTERY OF INCENSE (T3)

S8
T3
D6
L1 P3



In focus:

- Computational thinking – life skills (D6)

Task 1: What types of wells and bridges were used in different times and places? Collect information and use it to draw and build together.

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:

- Use the Idea sheet (17)
- Look it up in the library or online, create a presentation, a tableau or an exhibition.
- Build creatively, use recycled materials!
- Find out more about the construction of the Leonardo Bridge, look for information online or in books! Use pencils to recreate the bridge from Leonardo da Vinci's plans!

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

Developmental fields:

In focus:

- Graphomotor skills
- Creativity
- Spatial orientation

In addition:

- History
- Attention development
- Life experience

Task 2:

Look for synonyms for the word „building”. Make a word cloud out of it!

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:

- Use the Idea sheet (16)
- Use the free word cloud app wordart.com or mentimeter.com!
- Make separate word clouds of the characteristics of each type of building.

Developmental fields:

In focus:

- Social skills
- Attention
- Creativity
- Spatial orientation

Managing the output:

Photograph the completed bridges and create an exhibition of the images and word clouds. Give a presentation of your book and internet research!

Label the completed projects with the name of the group!

THE STORY OF THE PIG THE MONASTERY OF INCENSE (T3)

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L2 P3



In focus:

- Computational thinking – life skills (D6)

Goals of the lesson:

- Reading comprehension
- problem solving
- Decision-making
- organising group work

If ever you need me, remember my name is Prince Charming, and I will be found at the Incense Monastery. The wonderful bridge crumbled and the palace turned back into a miserable cottage. Then the princess set out. She mounted the lark's back and they soon reached the Monastery of Incense. There she found Prince Charming, the golden bridge and the palace where they had lived for such a short time.

Proposals

- Discuss what types of bridges you know
- Ideas on how to build the bridge
- How to connect the monastery to the bridge
- Collect information about famous buildings from different eras or countries!
- Discuss how splendour and wealth were shown in the past and today on a building.



Main features and interactions of the locations

Locations	Features	Interactions
Monastery with bridge	Lights up	Descending drawbridge

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!

Character task cards

 Your name _____
Build _____

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

 Your name _____
There also should be: _____

 Your name _____
Think over: _____

Monastery with bridge

Lighting
Bridge lowering
Door opening

Water
Moat

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

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D6
L3-4
P4



Materials needed

- ArTeC blocks (at least the 112 pcs set) and ArTeC robot set (1 Studuino motherboard, 2 Touch sensors, 4 LEDs, 3 servo motors, 2 IR Photoreflectors, 2 Touch sensors)
- Blank mind map, table or storyline
- Blank actor and robot task cards
- Ceruza
- Video of hedgehog movements

In focus:

- Computational thinking – life skills (D6)

Goals of the lesson:

- Reading comprehension
- problem solving
- Decision-making
- expression of movement

Suggestions

Stove

Bridge lowering

- Discuss with the children the movements that can be used to express the descent
- What sensors can be used to further improve the indication of descent (LED)
- Discuss timing by coordinating the movement of the doors and the bridge.
- Build simple figures and structures from ArTeC blocks with movable parts.

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).

Door, bridge - with servo motors

Robotic task card

Your name _____

Build a robot that can move its _____

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

Studuino	Servomotor	DC motor	Sound sensor	Light sensor
Accelerometer	Infrared sensor	Touch sensor	Electronic buzzer	LED

Build and program so that the robot _____

Use the Technical Corner for robotics in _____ materials!

Related topics in the Technical corner

- Programming Touch sensor (or buttons) (4.b, 4.c)
- Programming servo motor
 - Moving elements mounted on a servo motor to a given angle (3.a)
- Using LED (5.a)
 - Flashing (5.b)
- Using IR Photoreflector (7.a)
 - Detecting obstacles(7.b)

The characters and the environment are suitable for puppetry, which can be used to bring the scene to life.

PROG1

Incense Monastery with a bridge that can be opened and closed with a servo motor, where the other moving parts can still be moved via axles.

PROG2

The Incense Monastery opens with servo motors

PROG3

The Incense Monastery and the Princess interact through infrared sensors.

PROG4

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L3-4
P5

Ideas for robots on different programming levels

The characters and the environment are suitable for puppetry, which can be used to bring the scene to life.

PROG1

Incense Monastery with a bridge that can be opened and closed with a servo motor, where the other moving parts can still be moved via axles.

PROG2

The Incense Monastery opens with servo motors

PROG3

The Incense Monastery and the Princess interact through infrared sensors.

PROG4



The Monastery of Incense

P1 Characters movable by axles

- The bridge of the Monastery of Incense will be built lowered, with a gate opening in two directions on axles.
- The princess, the lame lark have axles built into some of their parts, which allow them to be moved.
- So the scene can be puppeteered.

P2 Servo motorized bridge structure

- The bridge of the Incense Monastery can be raised and lowered by means of a servo motor built into the lower part
- The two wings of the gate can still be opened with axles, as in P1.
- The gate program starts on the push of a Touch Sensor and a red LED will start flashing after full pressing.
- When the flashing stops, the bridge automatically opens.
- The structure of all the other characters is the same as in P1.

P3 Bridge and gate structure with servo motor

- The bridge and the two wings of the gate of the Monastery of Incense can be moved by 3 servo motors.
- The bridge has 4 LEDs, which switch on and off in pairs.
- There are 2 Touch Sensors built into the Incense Monastery. One of them starts your program, the bridge opens, the LED pairs light up one after the other and the two wings of the gate open.
- On the second, the structure is restored to its initial state.

P4 Infrared sensor controlled devices

- The operation of the Incense Monastery is identical to that shown in P3, but it is triggered by an IR Photoreflector.
- At the press of 1 button, the Incense Monastery resets to its default position, the gate wings close, the LED pairs switch off and the bridge closes.
- The princess in front of the infrared sensor also has an infrared sensor mounted on, which activates her program when she is placed in front of the castle's sensor.

