

# MASTER EDER AND HIS PUMUCKL

## THE HAUNTED WORKSHOP (T1)

S20  
T1  
D9  
L1 P3



### Focus on:

- Talent development (D9)

#### Task 1: What does a goblin look like?

What do you think a kobold looks like? What is his hair like, what clothes does he wear? Is it well groomed? What could be the reason for its unkempt appearance? Does he have any special features? The pupils create a puppet that is suitable as a decoration or gift.

#### Every solution is correct!

Any tool and material can be used!

You can use the ideas and the list of materials from the ideas bazaar, develop your own ideas or simply let the children be creative.



#### Idea bazaar – some ideas:

- Building out of ArTeC Blocks, using Artec mechanisms
- Drawing
- Creating computer graphics

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

#### Developmental fields:

##### In Focus:

- Fine motor skills
- Creativity
- Work of mechanical structures

##### In addition:

- Attention
- Subject concentration – Arts, Crafting
- Talent development

#### Task 2: How is it possible for goblins to be invisible?

The pupils consider when objects are invisible, how they can still know their presence, how can they possibly be made visible?

The pupils research recipes for invisible inks on the Internet or use the one from the idea bazaar.

The pupils can make the invisible ink themselves, or use ready-to-use invisible ink.

They draw goblins or write messages with the invisible ink. Finally, they make the ink visible.

#### Idea bazaar – some ideas:

- Research recipes for invisible ink on the internet
- Make your own invisible ink
- Experimenting with the invisible ink

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

#### Developmental fields:

##### In Focus:

- Orientation
- Logical thinking
- Seriality

##### In addition:

- Attention
- Subject concentration – IT, chemistry, drawing
- Talent development



#### How to manage output:

Take some photo or scan the solved Sudoku-mazes. Save the own Sudoku-mazes on your computer. You can give these as a task for other pupils or show them as examples.

# MASTER EDER AND HIS PUMUCKL

## THE HAUNTED WORKSHOP (T1)

S20  
T1  
D9  
L1 P5



### Focus on:

- Talent development (D9)

#### Task5: Design a pencil case!

The pupils design their own pencil holder.  
Discuss how big should a pen holder be? What does it depend on?  
Research suitable figures on the Internet or use the template. Be careful, two figures are on top of each other so that tracing requires more attention.  
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: Coloured paper, glue, scissors, colours, tracing paper
- Print out the template

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

#### Developmental fields:

##### In Focus:

- Fine motor skills
- Creativity
- Attention

##### In addition:

- Subject concentration – Arts, Crafts
- Talent development



#### Task 6: Making a key ring or kitchen magnet

For this purpose, work with shrink film or reuse plastic packaging material.  
Stick magnets onto the finished objects or thread a key ring into the hole. Also makes an excellent gift.

Give the children free rein to their creativity!

#### Every solution is right!

Any tool and material can be used!

#### Idea bazaar – some ideas:

- Working with shrink film
- Experimenting with recycled materials

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

#### Developmental fields:

##### In Focus:

- Fine motor skills
- Seriality
- Creativity
- Attention

##### In addition:

- Subject concentration –Arts, Crafts, Physics
- Talent development



# MASTER EDER AND HIS PUMUCKL

## THE HAUNTED WORKSHOP (T1)

S20  
T1  
D9  
L2 P4



### Focus on:

- Talent development (D9)

### Goals of the lesson:

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

Master eder, the old carpenter, is annoyed. He can't find anything; everything disappears or is simply no longer where he put it. One of his customers mysteriously gets her leg pinched. A box full of nails tips over, even though the master has not touched it. Just when he thinks he has gone mad, he discovers pumuckl, the little goblin, stuck to a tin of glue. It turns out that the little rascal must now live with him according to goblin law.

### Main features and interactions of the characters

| Charakter        | Features                                                                 | Interactions                                                            |
|------------------|--------------------------------------------------------------------------|-------------------------------------------------------------------------|
| Master Eder      | old, lives alone, works very precisely, very popular among his customers | Comes and goes, packs, searches, talks, wonders, finds Pumuckl          |
| Pumuckl          | Invisible to all, only Master Eder sees him, after having found him      | He misbehaves, he packs, he unpacks everything, he scrambles, he shouts |
| Mrs. Steinhauser | Nice, old lady                                                           | He talks, scared when his leg gets pinched                              |

## Suggestions

- Discuss, how people move, do some leg and arm movements together and have the children notice the phases of their own movements
- Build simple figures with movable legs and arms from ArTec blocks
- Discuss what a reflex is and its physiological background. How do people react to a sudden sensation of pain? What does their face reflect?

### 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



**Build**

Your name \_\_\_\_\_



**Be attentive, your robot should be able to:**

\_\_\_\_\_



**There also should be:**

\_\_\_\_\_



**Think over:**

\_\_\_\_\_

Master Eder  
Pumuckl  
Mrs. Steinhäuser

move, talk, raise hands,  
pack, frighten, scrambles

Carpenter's workshop,  
equipment, tools, box of  
nails

- 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

# MASTER EDER AND HIS PUMUCKL

## THE HAUNTED WORKSHOP (T1)

S20  
T1  
D9  
L3-4  
P4



### Suggested materials

- ArTeC Blocks (at least the 112 pcs set) and ArTeC robotics set (1 Studuino motherboard, 2 DC motors, wheels, 2-3 servo motors, 1 Touch sensor, 1 IR Photoreflectors, 1-2 Buzzer)
- Mindmap or Chart draft, Storyline
- Character cards and Robotic task card template
- Pencil

### Suggestions

- Think about what gestures people use when they are confused or scared
- Collect ways to build a randomly wandering robot
- Collect ways to build a box with nails that tips over by itself

Arm  
Move ahead  
Detect obstacle

**Robotic task card**

The name of my robot: \_\_\_\_\_

The parts I need for my robot:

|        |              |                      |              |                   |              |
|--------|--------------|----------------------|--------------|-------------------|--------------|
| Motor  | DC motor     | Servo motor          | Touch sensor | IR Photoreflector | Buzzer       |
| Wheels | ArTeC blocks | Studuino motherboard | ArTeC blocks | ArTeC blocks      | ArTeC blocks |

Choose the parts you need! Check off what you use!  
Bonus action: Create a story! Find robotics in your materials in the Technical Corner!

This is how I build and program my robot:

| What do I want? | What is it doing? | What is it thinking? | What is it saying? | What is it feeling? | What is it doing? |
|-----------------|-------------------|----------------------|--------------------|---------------------|-------------------|
|                 |                   |                      |                    |                     |                   |
|                 |                   |                      |                    |                     |                   |
|                 |                   |                      |                    |                     |                   |
|                 |                   |                      |                    |                     |                   |

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

Tools, or objects that are moved from under the table using magnets

PROG1

Shaking box OR  
Cupboard with door that opens

PROG2

Master Eder: wanders aimlessly around the workshop  
OR  
Mrs Steinhauser comes and talks to Master Eder

PROG3

Pumuckl sticks firmly to a glue tin, he screams and wriggles with his hands and legs

PROG4

### Focus on:

- Talent development (D9)

### 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 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!
- Fill in 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 DC motor
  - Winding the motor until the sensor detects change (4.b, 4.c)
  - Spinning, random movements (2.e, 2.f)
- Programming servo motor
  - Moving the arm 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 (7.f)
- Using Buzzer (6.a, 6.b)
- Using random numbers (10.a)

# MASTER EDER AND HIS PUMUCKL

## THE HAUNTED WORKSHOP (T1)

S20  
T1  
D9  
L3-4  
P5

### Ideas for robots on different programming levels

tools, or objects that are moved from under the table using magnets

PROG1

Shaking box  
OR  
Cupboard with door that opens

PROG2

Master Eder: wanders aimlessly around the workshop  
OR  
Mrs Steinhauser comes and talks to Master Eder

PROG3

Pumuckl sticks firmly to a glue tin, he screams and wriggles with his hands and legs

PROG4



### Tools, Master Eder, Pumuckl and Mrs Steinhauser

#### P1 Tools, other objects

- Static figures
- Build the master carpenter's tools and other equipment
- Hide a small piece of iron between the cubes so that you can move the tools from under the table using a magnet

#### P2 Moving box and opening cabinet door

- Build a small nail box that moves, for ex. rotates in place with a DC motor or rocks back and forth with a servo motor

OR

- Build a cabinet with a door, the door opens by a motor

#### P3 Master Eder

- Build master Eder wandering aimlessly in his workshop
- Use random movements

OR

- Build Mrs. Steinhauser
- She moves using a DC-motor and talks (buzzer)

#### P4 Pumuckl

- Build the figure of Pumuckl stuck to a tin can, he squeals at a very high pitch (buzzer)
- His hands and feet don't touch the ground, he moves with servo motors

