

Toolbox #2
Who can
recognize a robot?

### Introduction

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## What is this about?

How do children recognize a robot? What do children identify as something technical? Children learn through the games and with the materials in the toolbox.

How they can recognize robots and Al-controlled devices in their everyday life. The educators support the children in thinking about the differences between robots/Al-controlled devices and humans.

# Children's point of view

#### **Ouestions from Children**

Do you recognize a robot when you see one?

Would a robot recognize you?

Where does the robot live?

What is a robot?

What does a robot look like? Does a robot have legs, arms, hands, etc.?

What can a robot do?

How can a robot move?



### What we know

Robots and Al-controlled devices are already part of our daily lives. Children of all ages encounter them in their everyday lives all the time and may not even realize that they are using a robot or an Al-controlled device. Often, even we adults are not aware if and how much Al is hidden in our everyday objects.

But we do know that a human has to switch on the robot or Al-controlled device in order for it to work - although sometimes timers are used and then the robots start automatically.

#### **Examples of robots in everyday life**

- Refrigerators
- cars
- hoovers
- computers
- smartphones
- · video game consoles
- · and much more

Goals

# 2

## Goals

# Pedagogical professionals

#### Raise awareness

They themselves use many Al-controlled devices.

#### **Recognize and clarify differences**

Differences between robots or Al-controlled devices and humans.

#### Create educational activities

Create play and educational activities to differentiate between humans and machines.

#### Understand the enthusiasm of children

For robots and other technological devices

## Children

#### **Developing awareness**

There are robots and Al-controlled devices in their everyday life.

#### Recognize differences

Between humans and Al controlled devices

#### **Clarify differences**

Children can name the differences between Al and them



Level



# Recognizing robots

#### Materials

#### **Images**

Animals, Tools, Humans, technical devices, vacuum cleaner, smartphone, etc

2 Boxes (or more)

#### **Preparation**

First place all the pictures face down on the floor. Have two cardboard boxes ready. Label the boxes with the pictures, one box with a picture of animals and one box with a picture of robots. Place the boxes in opposite corners of the room. The room is now ready for playing.

#### **Implementation**

One child at a time chooses a picture and has to sort it into the correct box. Continue until all of the pictures on the floor are sorted. Discuss with the children why you put which picture card in which box. This can be done during the activity or afterwards.

#### Variation

- 1. Put on some music. When you stop the music, each child takes a picture and puts it in the corresponding box.
- 2. Set up multiple boxes to offer more opportunities for differentiation.
- 3. Make a grid on the floor using chalk or masking tape, etc. Use a robot (beebot, bluebot, etc.) to sort out the pictures with it.

Exercise







# **Robot treasure hunt**

#### **Materials**

#### 1 Digital camera or more

Smartphone, tablet

#### Implementation

Go on a robot treasure hunt with the children. Search and find robots with the children in the kindergarten or during a walk in the neighborhood. Everything that appears to the children as a robot is photographed.

During the walk and the photographing, discuss the corresponding questions with the children

Do you recognize a robot when you see one?

Would a robot recognize you?

Where does the robot live?

What is a robot?

What does a robot look like? Does a robot have legs, arms, hands, etc.?

What can a robot do?

How can a robot move?

#### Variation

The children take photos alone of all the robots they find. They then look at the photos together in the group and discuss what a robot is.



Level



# **Humans turn into robots**

#### **Materials**

Someone who would like to play a robot

**Images** 

Animals, Tools, Humans, technical devices, vacuum

cleaner, smartphone, etc

2 Boxes (or more)

**Chalk or masking tape** to make a grid on the floor

#### Preparation

Make a grid on the floor using chalk, masking tape etc. Place the pictures in the grid faced up. Label the boxes with the pictures, one box with a picture of animals and one box with a picture of robots. Place the boxes in opposite sides of the grid. The room is now ready for playing. Briefly discuss with the children and the adults why a robot needs commands.

#### **Implementation**

The children now program the "robot" by saying simple commands out loud. Simple commands could be:
Pick up the picture! / Walk three steps! / Put the picture down

The first few times you play this game it might make sense the adult is playing the role of the robot to demonstrate how the robot only moves when it is coded. It is important that the adults really only do what the children tell them to do, i.e. really turn into robots. When the children understand the game the children can start coding each other. The aim is for the "robots" to sort the pictures in the correct boxes.

#### Variation

You can use command cards with symbols, commanding the robot.

## Tips for in-depths study



#### Literature



"Hello Ruby - Wenn Roboter zur Schule gehen"

by Linda Luikas



"Hello Ruby - Journey inside the computer"

by Linda Luikas

## **Imprint**

Toolbox #2 was created in 2022 by Ulrike Stadler-Altmann, Susanne Schumacher, Michael Højbjerg, Mia Lind, Karen Sterling, Michelle Kjær Vennekilde, Paulina Landtved.



Fakultät für Bildungswissenschaften unibz Facoltà di Scienze della Formazione Facultà de Scienzes dla Formazion

Bressanone Persenon







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