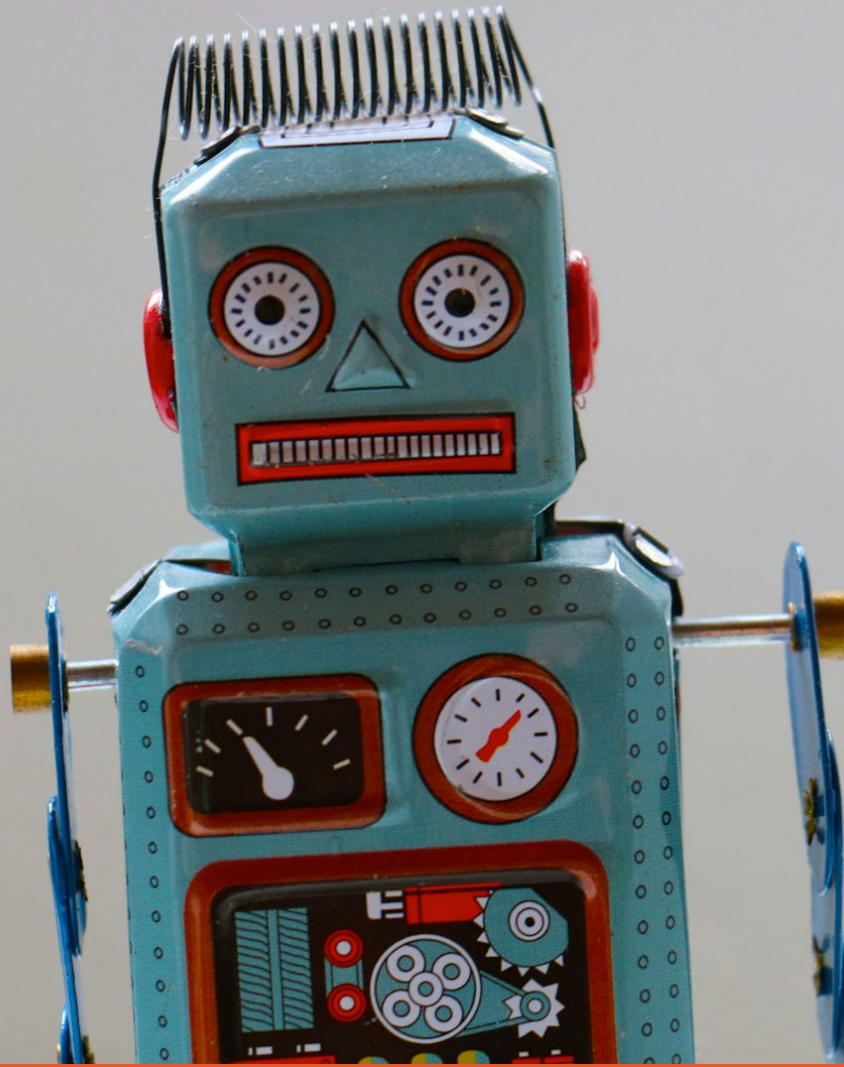




## EduTrend Contents

EDUTECH · INTRODUCTION TO ROBOTICS · PRIMARY

# Human Robot: Sense, Think, Act

Act out how a robot senses, decides and moves

Ages 7–10

Level: Foundation

45 minutes

Groups of 3 · up to 30

Activity 01

Inside: activity at a glance · step-by-step session plan · facilitator notes · 3 pupil worksheets · assessment checklist

## ACTIVITY 01 · AT A GLANCE

# Human Robot: Sense, Think, Act

In groups of three, one pupil is the sensor (reports “wall” or “clear”), one is the controller (follows a rule card to decide) and one is the motor (moves only when told). Groups guide the “robot” across the room avoiding chairs, then improve their rule card and compare robots in pictures to find their sensors and motors.

## Learning outcomes

By the end of the session pupils can:

- name sensors, controller and motors;
- follow a decision rule;
- improve a rule after testing;
- explain sense–think–act.

**KEY WORDS**

robot · sensor · controller · motor · rule · sense–think–act

**CURRICULUM LINKS**

Science: senses. PE: movement and direction. English: clear instructions.

**1****SENSE**

What can it detect?

**2****THINK**

What should it decide?

**3****ACT**

What should it do?

**4****TEST**

Run it

**5****DEBUG**

Find and fix

**6****IMPROVE**

Make it better

## Materials (per group)

- Role cards
- Rule cards
- Chairs or cones as obstacles
- Robot pictures
- Worksheets 1, 2 and 3

## Before the session

- Print role and rule cards.
- Set up a simple obstacle course.
- Collect robot pictures.
- Print worksheets.

**SAFETY**

Walk slowly. The “sensor” must stop the robot before it touches anything.

## ACTIVITY 01 · SESSION PLAN

# Step by step

Insist the motor pupil moves only on the controller's instructions; that makes the pattern clear.

| Time                 | What happens                       | Say or ask                             |
|----------------------|------------------------------------|----------------------------------------|
| 0–8 min<br>Hook      | Show a robot picture.              | <i>"How does it know where to go?"</i> |
| 8–15 min<br>Roles    | Explain sensor, controller, motor. | <i>"Who decides?"</i>                  |
| 15–30 min<br>Test    | Guide robots through the course.   | <i>"Did the rule work?"</i>            |
| 30–38 min<br>Improve | Rewrite the rule card.             | <i>"What rule would be better?"</i>    |
| 38–45 min<br>Connect | Find sensors in real robots.       | <i>"Where are its senses?"</i>         |

**CHALLENGE CARD (print or copy onto the board)**

Act out a robot that senses, decides and moves to cross the room without touching obstacles, then improve its rule.

## ACTIVITY 01 · FACILITATOR NOTES

# The robotics know-how in brief

Most robots follow a sense–think–act pattern. Sensors collect information such as distance, light or touch. A controller runs a program that decides what to do. Motors, lights or speakers carry it out.

A floor robot for young children and a competition robot work on the same principle. The difference is how many sensors there are, how complex the program is and how precisely it is built.

## Common ideas to listen for

- “Robots think like people.” They follow programs.
- “Robots can see everything.” Only what their sensors detect.
- “Robots are always metal humans.” Many look like cars or arms.

## Adapting the activity

### Support

Use a simple two-rule card.

### Stretch

Add a light sensor role that finds a torch.

## WORKSHEET 1

# Robot roles

Name: \_\_\_\_\_

Class: \_\_\_\_\_ Date: \_\_\_\_\_

Describe each role.

## Robot roles

| Role       | What it does |
|------------|--------------|
| Sensor     |              |
| Controller |              |
| Motor      |              |

## WORKSHEET 2

# Rule card

Write your rules.

## Rule card

| If the sensor says... | Then the motor... |
|-----------------------|-------------------|
| 1                     |                   |
| 2                     |                   |
| 3                     |                   |

## WORKSHEET 3

# Real robots

Find sense, think and act.

## A real robot and its sensors and motors

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## FOR THE TEACHER

# Assessment checklist

Use during the session. One sheet covers up to eight pupils; copy as needed.

| Pupil | Names parts | Follows rules | Improves rules |
|-------|-------------|---------------|----------------|
|       |             |               |                |
|       |             |               |                |
|       |             |               |                |
|       |             |               |                |
|       |             |               |                |
|       |             |               |                |
|       |             |               |                |
|       |             |               |                |

Suggested codes: W = working towards · E = expected · G = greater depth

## ABOUT THIS ACTIVITY

Human Robot: Sense, Think, Act is a sample activity from the EduTrend Contents Edutech Introduction to Robotics programme (primary, level: foundation). Every activity in the programme follows the same format: a practical challenge, a clear session plan, facilitator notes and ready-to-print worksheets, so that teachers, club leaders and parents can run it without extra preparation.

Full 15-, 20- and 32-week programmes are available from EduStore at [edutrend.org](https://edutrend.org).

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