



FOR TEACHERS · AI LITERACY

# Four lessons on artificial intelligence

Pupils learn not just to use AI but to understand it: what it is, how a machine learns, where its biases come from and why not everything it says is true. Four 50-minute lessons with hands-on activities.

Ages: 11–16

Duration: 4 × 50 min

You need: projector, a few computers with internet

Subject: ICT, PSHE/citizenship, electives

## ■ Lesson 1 — AI or not AI?

**Aim:** pupils tell apart a program that follows fixed rules from a system that learns from data.

- 1 **10 min — sorting.** On cards: pocket calculator, spam filter, traffic light, YouTube recommendations, face unlock on a phone, thermostat. Teams sort them into "AI" and "not AI".
- 2 **15 min — discussion.** What do the "AI" cards have in common? (they learn from examples instead of only running rules written by a person)
- 3 **15 min — AI hunt.** Each pupil writes down three places they met AI between yesterday and today.
- 4 **10 min — exit ticket:** "AI is... / AI is not..."

## ■ Lesson 2 — How a machine learns

**Aim:** pupils train a simple model and see that the result depends on the examples it gets.

- 1 **5 min — intro.** A child learns what a dog is by seeing many dogs. A machine does too: from examples.
- 2 **25 min — training with Teachable Machine** ([teachablemachine.withgoogle.com](https://teachablemachine.withgoogle.com), free, no account). Teams teach the camera three classes — "plastic bottle", "paper", "can" — with 30–50 photos each.
- 3 **10 min — testing.** Does it work with a new object? On a different background, in different light?
- 4 **10 min — conclusion.** Why does it get things wrong? (too few examples, examples too similar)

### Mind the images

Train the model on objects, not on pupils' faces. Teachable Machine can run in the browser without uploading images, but it's worth explaining to pupils why that matters.

## ■ Lesson 3 — Bias in data

**Aim:** pupils understand that an AI inherits the imbalances in its data.

- 1 **15 min — the experiment.** Redo the lesson 2 model, but train "can" only on red cans. Test it with a blue one.

- 2 **15 min — real life.** Discuss documented examples: face recognition systems that make more mistakes for some groups; machine translation that makes "the doctor" male and "the nurse" female.
- 3 **15 min — debate.** Who is responsible when an AI gets it wrong: the people who built it, the people who used it, or the data?
- 4 **5 min — exit ticket:** one rule that people who build AI should follow.

## Lesson 4 — AI and the truth

**Aim:** pupils check a chatbot's answers and recognise generated content.

- 1 **15 min — spot the errors.** The teacher asks a chatbot 5 questions about the history of your town (on the projector). Pupils check each answer against reliable sources. How many are right?
- 2 **15 min — real or generated?** A set of 8 images, half real, half generated. Which clues do we use? Why are clues no longer enough?
- 3 **15 min — class rules.** Pupils write 5 rules together for using AI for homework.
- 4 **5 min — exit ticket:** "Next time I use AI, I will check..."

### Assessment for the whole unit

A team mini-poster: "An AI that would help our community". What problem it solves, what data it would learn from, what could go wrong and how we would check. Presented in 3 minutes.

## Skills developed

- Understanding how AI systems learn from data and why they make mistakes.
- Checking information and recognising generated content.
- Ethical reflection: fairness, responsibility, data protection.

Part of the AI literacy programme of Asociația Grupul Verde. The tools mentioned were free on 12 October 2026; check their terms of use before the lesson.



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