EdSutra

Teaching guide

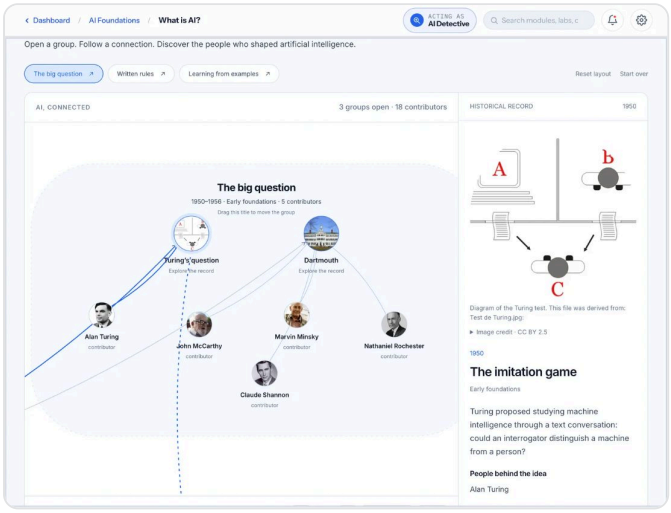
Module 01 · AI Foundations · Unit 02 · Stage 1, Foundations

What is AI?

The Knowledge Map

Grades 6–8 | **40 minutes** | Role: **AI Detective** | **Free**, no account needed

Grade 6: About age 11–12 · Year 7 in the UK · Class 6 in India



The big idea

AI is the field of building machines that do tasks we link with human intelligence, such as using language, recognizing patterns and planning. Some systems follow rules people write; others learn patterns from examples; many combine both. No one person invented AI, and a strong result on one task does not prove a machine can do every task.

The learner's job

Learners are the **AI Detective** at Halden Institute · Intake Desk. AI did not come from one person or one big leap. Follow the map to find the ideas, teams and work behind the tools you see today. Their task: trace an AI idea to the people and work behind it. Show what it can do and where it falls short.

By the end, learners can say

- I can say what AI is in one line: a machine doing a task that usually needs a human mind
- I can tell systems that follow rules from systems that learn from examples
- I can identify key AI milestones, their eras and the people and teams behind them
- I can explain one connection between AI ideas and one limit of a system's results

Before class

- One computer or tablet for each learner or pair, with EdSutra open. Module 1 is free and needs no account.
- Open the studio once on each device before class, so the Unit still runs if the internet drops.
- Play the start yourself: click BEGIN, open a group, and press one "Try it" button, so you know where learners will click.
- Draw two columns on the board, "Written rules" and "Learning from examples". Learners add milestones to them during Understand.
- There is no quiz or step bar: the Unit finishes quietly once all six groups on the map are open.
- Best after AI Alphabet.
- Units open in order: a learner new to EdSutra starts at AI Alphabet. With the full studio, Open every Unit in Settings → Teachers & parents lets a class start here.

Words to introduce

Artificial intelligence: Machines doing tasks that usually need a human mind.

Written rules: Instructions people write for a machine, such as ELIZA's sentence patterns.

Learning from examples: Adjusting a model so it finds a pattern in data, instead of being told.

Search: Looking ahead through possible moves to pick a good one, as Deep Blue did.

Labeled data: Examples that people have tagged with the right answer, like ImageNet's pictures.

Milestone: An important result or event in a field's history, with a date.

Contributor: A person or team whose work helped build an idea, including data workers.

Running the lesson 42 minutes

Open 5 min

"A computer beat the world chess champion in 1997. Does that mean it was intelligent? What would you need to know to decide?"

Before anyone clicks, ask: is AI a machine that follows rules people wrote, or one that learns from examples? Take a show of hands, note the count, and come back to it in Understand.

Step	What learners do	Ask the class	Listen for
1. Remember 15 min	Learners click BEGIN to open the first three groups: the big question, written rules and learning from examples. They open records and find each milestone's date, task and people.	• What does the BEGIN record say AI is, in one line? • Who proposed the name "artificial intelligence", and when?	AI means machines doing tasks linked with human intelligence. The name came from a 1955 proposal by four researchers, not one inventor.
2. Understand 22 min	Learners open the last three groups: learning to see, attention and language, and learning meets search. They press "Try it" on records such as ELIZA and AlphaGo, and read each "Keep in mind" limit.	• Which column does each milestone go in: rules, or learning? Where does AlphaGo go? • Read a "Keep in mind" note. What does that result not prove? • Look back at our show of hands. Was AI rules or learning?	ELIZA and Deep Blue use rules and search; the perceptron, AlexNet and the Transformer learn; AlphaGo combines learning with search.

Steps follow Bloom's revised taxonomy, in the order the Unit presents them.

Deepen the thinking

Critical thinking	ELIZA's replies sounded caring, yet it only matched patterns. How could you test whether a chatbot today understands, or only sounds like it does?
AI thinking	AlphaGo used learning and search together. Why might combining approaches work better than using only rules or only learning?
Ethics and fairness	ImageNet's labels came from people. If those people missed some kinds of pictures, who might a photo app work less well for?
Connect to life	Which AI tool do you use most? Is it more likely using rules, learning from examples, or both? How could you find out?

Misconceptions to listen for

"AI was invented by one person."
The map names 31 people and teams, from Turing to ImageNet's annotators. Even the name "artificial intelligence" came from a 1955 proposal by four researchers.

"All AI learns from data."
ELIZA ran on written rules and Deep Blue searched chess moves. AlphaGo combined learned networks with search. Many systems mix approaches.

"If it sounds human, it understands."
ELIZA's Try it shows four rules turning your words back into a reply. It can sound caring, but you supply the meaning.

In real life the card learners see at the end of the Unit

- A chatbot can sound like a person. ELIZA showed long ago that a convincing reply does not prove understanding.
- Photo apps learn from labeled examples. ImageNet shows how researchers and data workers help build those examples.
- A chess or Go app may combine rules, search and learned patterns, like the approaches you followed on the map.

Try it this week. With an adult, pick one AI tool. Find its team, task and one limit. Explain its story in three short sentences.

Watch out for. A strong result on one task does not prove a machine can do every task. AI has many contributors, not one inventor.

Talk about it. Whose work is easy to miss when a headline names just one AI inventor?

Exit ticket

1. In one line, what is AI?

   _____

2. Name one system that follows written rules and one that learns from examples.

   _____

3. Pick one milestone. What does its result not prove?

   _____

Going further

Module 1's Computer Vision Lab Examples are free, and the camera is optional: learners see a model find hands and faces live, the "learning to see" idea from AlexNet. For homework, use the "Try it this week" activity from the In real life card.