

LESSON 2

History of robotics

20 minutes

Robotics Fundamentals

WHAT THIS LESSON DOES

In this lesson, we'll learn about the history of robotics, from the earliest mechanical devices to modern robots equipped with advanced sensors and artificial intelligence. We'll explore the impact of robotics on society and the future of this exciting field. By the end of the lesson, we'll have a better understanding of how robotics has changed the way we live and work.

WHAT STUDENTS SHOULD BE ABLE TO DO

- Understand the evolution of robotics from ancient mechanical devices to modern technology.
- Recognise the impact of the Industrial Revolution on the development of robotics.
- Identify key milestones in the history of robotics, including the introduction of the term 'robot' and early robot designs.
- Analyse the current applications and advancements in robotics across various fields.
- Evaluate the societal impact and ethical considerations of robotics, including future possibilities and implications.

BEFORE THE BELL

- Confirm device and browser access for every student or pair so research steps can run on the school network.
- Have a simple way to share findings aloud (board or shared doc) ready, since there is no workbook.

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HOW THE LESSON RUNS

Introduction
Exploring the First Mechanical Devices
The Industrial Revolution
Early robots
Advancements in Robotics
Impact of robotics
Future of Robotics

TEACHING MOVES

- 1. Introduction. Frame the arc out loud: robotics predates the word “robot”. Ancient devices first, Industrial Revolution as the turning point, then modern machines. Keep it brief and point them into the research steps.
- 2. Exploring the First Mechanical Devices. Set the research brief: Greek and Roman water clocks, mechanical birds, automata. Push for what powered them and what simple task each did, not just a list of names.
- 3. The Industrial Revolution. Anchor research on factories and mass production. Ask what machines did (weave, assemble) and how control moved from hand operation toward automation.
- 4. Early robots. Split the brief: the 1920 play that coined “robot”, then 1950s industrial robots. Want names, size, handling limits, and why factories used them for repetitive work.
- 5. Advancements in Robotics. Bring the class back together. Stress sensors and AI as what lets robots adapt and decide. Elicit fields they already know: factories, space, medicine.
- 6. Impact of robotics. Run this as spoken discussion: three automated daily tasks, concrete efficiency gains, then ethical questions about work and advanced robots. Do not collect written reflections.
- 7. Future of Robotics. Close with two open questions only: how more capable robots might sit in everyday life, and how to steer them so benefits are shared. Keep answers spoken and short.

WHAT TO WATCH FOR

- Students treat “robot” as only a humanoid sci-fi figure, so ancient automata and factory arms feel off-topic. Reframe the word as any machine that senses or follows a programmed task. Point back to industrial arms and early automata as the same lineage.
- Students assume automation only “takes jobs” and miss both productivity gains and the open ethical questions. Ask for one concrete efficiency example and one unresolved work or ethics question before moving on.

DIFFERENTIATION

- Emerging: Give one research question at a time and pair them with a peer who already has a source open. Accept one solid example per era rather than a full list.
- Developing: When they stall, point them back to the step's own questions and ask for one named machine plus what it did. Have them rehearse a 20-second share of their best find before feeding back.
- Proficient: Ask them to link two eras (for example Industrial Revolution machines to 1950s arms) in their share-back. Invite them to chair one short discussion beat on ethics or future uses.