AI Education Lesson Plans

5 Complete Lessons for Ages 10 to 15 • Total: 5 Hours of Instruction

Curriculum Overview

This lesson plan series introduces students to Artificial Intelligence concepts, critical thinking about technology, and digital safety. Each lesson builds on the previous, but can also be taught independently.

Target Age: 10 to 15 years | **Class Size:** 15 to 30 students | **Prerequisites:** Basic computer familiarity

Curriculum Links: Digital Literacy, Critical Thinking, Computer Science, Media Literacy, Online Safety, PSHE, Citizenship

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LESSON 1 OF 5

What is AI? Understanding Smart Technology

60 minutes • Ages 10 to 15 • Computer Lab or Classroom

Learning Objectives

- Define artificial intelligence in simple, accurate terms
- Distinguish between AI and regular computer programs (rule-based vs learning)
- Identify at least 5 examples of AI in everyday life
- Understand that AI learns from data and patterns, not from “thinking”

Materials Needed

- AI comparison chart handout (AI vs Regular Programs)
- Computer/projector for demonstrations
- Student notebooks or worksheets
- AI or Not? sorting cards (set of 20 items)
- AI Scavenger Hunt worksheet (from toolkit)

Lesson Timeline

Time	Activity	Description & Teacher Actions
0 to 5 min	**Hook: Robot Question**	Ask: “What do you think of when you hear Artificial Intelligence?” Collect responses on the board. Students will likely mention robots, sci-fi; note these for debunking later. Goal: surface preconceptions.
5 to 15 min	**Direct Instruction: What Makes AI Different**	Explain: Regular programs follow strict rules (IF this THEN that). AI programs LEARN from examples. Use the “teaching a computer to recognise cats” analogy: you don’t write rules for what a cat looks like; you show it 10,000 pictures and it figures out the patterns. Key concept: AI is pattern recognition at scale.
15 to 30 min	**Activity: AI or Not? Card Game**	In pairs, students sort 20 cards into “Uses AI” and “Doesn’t Use AI” piles. Examples: Calculator (No), Face unlock (Yes), Alarm clock (No), Siri (Yes), Spell-check (Depends!), Netflix recommendations (Yes). Discuss grey areas as a class.
30 to 45 min	**Live Demo: AI Scavenger Hunt**	Use the toolkit’s AI Scavenger Hunt interactive or worksheet. Students work in small groups to identify AI in their homes, schools, and daily routines. Challenge: find at least 15 examples.
45 to 55 min	**Group Discussion**	Class shares discoveries. Teacher clarifies misconceptions. Address: “Can AI think like humans?” (No. It processes data, not thoughts). Introduce Narrow AI vs General AI concept.
55 to 60 min	**Wrap-Up & Exit Ticket**	Students write: 3 things they learned, 2 things that surprised them, 1 question they still have. Collect exit tickets for formative assessment.

Key Discussion Questions:

• Is a calculator an AI? Why or why not? (Answer: No. It follows fixed rules, it doesn't learn)

• What does it mean for a computer to "learn"? Is it the same as how you learn?

• Can AI be smarter than humans? In what ways yes, in what ways no?

• What's the difference between a robot and AI? (A robot is a body; AI is a brain; they're separate things that can be combined)

Assessment

Formative (During Lesson)	Summative (End of Unit)
• AI or Not? card accuracy • Discussion participation quality • Exit ticket responses (3-2-1)	• End-of-unit quiz (Lesson 5) • AI journal entries across the unit

Extension Activities

• **Advanced:** Research a specific AI technology (self-driving cars, medical AI, game AI) and present to class in 3 minutes

• **Homework:** Keep an "AI Diary" for one week, noting every AI encounter with a one-sentence explanation of what the AI is doing

LESSON 2 OF 5

AI All Around Us: Everyday Encounters

60 minutes • Ages 10 to 15 • Computer Lab

Learning Objectives

- Recognise AI in apps, games, and devices they use daily
- Explain how recommendation algorithms work at a basic level
- Understand how AI personalises content specifically for them
- Discuss both benefits and concerns of personalised AI (filter bubbles)

Materials Needed

- Student devices (tablets/computers) with internet access
- “A Day in Alex’s Life” scenario cards or slideshow
- AI Tracking worksheet
- Sticky notes in 3 colours (green, yellow, red)
- Be the AI activity (from toolkit)

Lesson Timeline

Time	Activity	Description & Teacher Actions
0 to 10 min	**Review & Hook**	Quick review of Lesson 1 key concepts (3 min). Then show the YouTube homepage and ask: “Why did it show THESE videos and not others? Who chose them?” Reveal: an AI algorithm selected them specifically for this user.
10 to 25 min	**Scenario: A Day in Alex’s Life**	Walk through a fictional teenager’s day, pausing at each AI encounter: alarm (smart home), news feed (algorithm), navigation (maps AI), music (Spotify Discover), homework (autocorrect), gaming (NPC behaviour), social media (content ranking). Students count: at least 12 AI interactions before lunch!
25 to 40 min	**Interactive: Be the AI**	Using the toolkit’s “Be the AI” activity, students play the role of a recommendation algorithm. They must decide what to show a fictional user based on their behaviour data. Key insight: the algorithm optimises for engagement (time spent), not for what’s best for the user.
40 to 50 min	**Sticky Note Analysis**	Students write examples of AI uses on coloured stickies: Green = helpful, Yellow = neutral, Red = concerning. Create a class wall chart. Discuss: Why did different students categorise the same AI use differently? (Values differ!)
50 to 60 min	**Reflection & Homework**	Journal prompt: “Which AI recommendation system do you find most helpful? Most concerning? Why?” Homework: Track every AI interaction for 24 hours using the AI Tracking worksheet.

Key Discussion Questions:

- How does Netflix “know” what shows you’ll like? What data does it use?

• Is it good or bad that apps personalise content for you? Can it be both?

• Have you ever felt “trapped” watching videos you didn’t plan to? That’s the algorithm at work.

• What is a “filter bubble”? What happens when you only see content you already agree with?

Assessment

Formative (During Lesson)	Summative (End of Unit)
• Sticky note categorisation reasoning • Be the AI activity engagement • Discussion contributions	• End-of-unit quiz (Lesson 5) • AI journal entries

Extension Activities

- **Advanced:** Compare your YouTube recommendations with a classmate’s. How different are they? Why?
- **Homework:** Complete the 24-hour AI Tracking worksheet

LESSON 3 OF 5

Thinking Critically: Can AI Be Wrong?

60 minutes • Ages 10 to 15 • Classroom with Computer

Learning Objectives

- Understand that AI can make mistakes, have biases, and “hallucinate” false information
- Apply the REAL Framework for evaluating any information (R=Read, E=Evaluate, A=Ask, L=Look)
- Identify when AI-generated information needs to be independently verified
- Practice fact-checking strategies using real examples

Materials Needed

- AI Fails Examples slideshow (prepare 8 to 10 real examples)
- REAL Framework reference cards (one per student)
- Access to ChatGPT or similar AI (teacher-controlled demo)
- Fact-check challenge worksheet with 10 AI-generated claims
- REAL Framework worksheet (from toolkit)

Lesson Timeline

Time	Activity	Description & Teacher Actions
0 to 10 min	**Hook: AI Fails Gallery**	Show humorous and serious examples of AI mistakes: wrong translations (“The spirit is willing but the flesh is weak” translated and back-translated becomes “The vodka is good but the meat is rotten”), bizarre AI images (6-fingered hands), chatbot errors (fabricated legal citations). Students laugh, but then: “What if you relied on wrong AI info for something important?”
10 to 25 min	**Teaching: The REAL Framework**	Introduce R-E-A-L: **R**ead carefully (don’t just skim), **E**valuate the source (who created this? Are they reliable?), **A**sk for evidence (are claims backed up?), **L**ook for other sources (does anyone else confirm this?). Students create their own REAL Framework reference card to keep.
25 to 40 min	**Live Demo: Catching AI Mistakes**	Teacher asks ChatGPT questions in front of class. Include questions designed to produce hallucinations: “What did [fictional person] discover?”, “What year did [event that didn’t happen] occur?” Class applies REAL Framework to each response. Key lesson: AI states false information with the same confidence as true information.
40 to 55 min	**Group Challenge: Fact Check Race**	Teams of 3 to 4 receive a sheet with 10 AI-generated “facts” (mix of true and false). Using approved search tools, teams race to correctly identify which are true and which are fabricated. Award points for accuracy, not just speed. Discuss strategies used.
55 to 60 min	**Summary & Takeaways**	Emphasise: AI is a tool, not an expert. Always verify important information. The REAL Framework works for ALL information, not just AI. Exit ticket: Name one thing you’ll do differently when using AI after today.

Key Discussion Questions:

- Why does AI make mistakes if it’s so “smart”? (It doesn’t understand meaning, just patterns in data)
- What happens if you use wrong AI information in schoolwork or share it with friends?
- How is fact-checking AI different from fact-checking a book or teacher?
- Should AI tell you when it’s not confident in its answer? (Some AI does this now)

Assessment

Formative (During Lesson)	Summative (End of Unit)
• REAL Framework card completion • Fact Check Race accuracy scores • Exit ticket quality	• End-of-unit quiz • Fact-checking portfolio (3 verified claims)

Extension Activities

- **Advanced:** Find 3 AI hallucinations yourself by asking ChatGPT questions about niche topics you know well
- **Cross-curricular:** Apply the REAL Framework in History or Science; it works for any information source

LESSON 4 OF 5

Spotting Fakes: Deepfakes & Misinformation

60 minutes • Ages 12 to 15 • Computer Lab

Teacher Note: This lesson discusses potentially sensitive topics including fake imagery. Ensure all examples are age-appropriate and non-distressing. Have safeguarding support available. Emphasise that students can talk to a trusted adult if they have been affected by fake images. Do NOT demonstrate how to create deepfakes.

Learning Objectives

- Define deepfakes and understand at a basic level how they are created
- Identify at least 5 visual clues that suggest an image or video is AI-generated
- Understand the real-world harms of deepfakes and AI-generated misinformation
- Know what to do if they encounter or are targeted by deepfakes

Materials Needed

- ■ Real vs Fake image set (prepare 10 carefully selected examples)
- ■ Spot the Fake checklist cards (from toolkit)
- ■ Spot the Fake interactive activity (from toolkit)
- ■ Detection checklist worksheet
- ■ Scenario discussion cards

Lesson Timeline

Time	Activity	Description & Teacher Actions
0 to 10 min	**Hook: Real or AI?**	Show 5 images, and students vote (hands up or digital poll) on whether each is real or AI-generated. Reveal answers. Most students will get some wrong. Discuss: What made it hard to tell? How did it feel to be tricked?
10 to 25 min	**Direct Instruction: What Are Deepfakes?**	Explain the technology in simple terms (AI learns what a person looks like from many photos, then generates new images). Cover types: face-swapped video, AI-generated images, voice clones. Discuss uses: entertainment/art vs misinformation/harm. Statistics: deepfakes increased 550% from 2019 to 2023.
25 to 40 min	**Interactive: Spot the Fake Challenge**	Using the toolkit's Spot the Fake activity and worksheet, students analyse images for telltale signs: weird hands/fingers, inconsistent lighting, blurry face edges, garbled text, too-smooth skin, mismatched earrings. Work in pairs to build detection skills.
40 to 50 min	**Scenario Discussion**	Small groups discuss scenarios: (1) Friend shares suspicious video of a celebrity. (2) Someone creates a fake image of a classmate. (3) A news article has an AI-generated photo. For each: What would you do? Who would you tell? How would you verify?

50 to 60 min	**Action Plan**	Create class “If I See a Deepfake” action plan: 1) Don’t share it, 2) Take a screenshot as evidence, 3) Tell a trusted adult, 4) Report on the platform, 5) Check fact-checking sites. Students copy into notebooks.

Key Discussion Questions:

- Why would someone create a fake video of another person?
- What harm can deepfakes cause? (Reputation damage, fraud, election manipulation, bullying)
- Should there be laws against creating deepfakes? What should the penalties be?
- Is using a fun face filter the same as creating a deepfake? Where is the line?

Assessment

Formative (During Lesson)	Summative (End of Unit)
• Image analysis accuracy • Scenario discussion quality • Action plan completeness	• End-of-unit quiz • Deepfake awareness poster or presentation

Extension Activities

- **Advanced:** Research the UK Online Safety Act 2023 and what it says about deepfakes
- **Creative:** Design a public awareness campaign about deepfakes for your school

LESSON 5 OF 5

Staying Safe: Privacy & AI Ethics

60 minutes • Ages 10 to 15 • Classroom

Learning Objectives

- Identify personal information that should never be shared with AI systems
- Understand how AI collects, stores, and uses personal data for profit
- Discuss ethical considerations around AI (fairness, bias, consent, transparency)
- Create a personal AI safety action plan and take home the Family AI Agreement

Materials Needed

- Privacy Checkup worksheet (from toolkit)
- Device with phone privacy settings for demo
- Ethics debate scenario cards (4 scenarios)
- Family AI Agreement template (from toolkit, one per student to take home)
- AI Safety Plan template

Lesson Timeline

Time	Activity	Description & Teacher Actions
0 to 10 min	**Hook: The Data You Create**	Walk through a timeline of data created by one teenager in a single day: photos taken, messages sent, searches made, locations tracked, apps used, purchases, browsing history. Estimate: 1.7 MB per second. Ask: “Who sees all this data? Who owns it?”
10 to 25 min	**Teaching: Privacy & AI**	Cover key topics: What AI chatbots remember and store, how apps track location and behaviour, what you should NEVER share (passwords, address, school, photos). Explain data brokers and how personal data is bought and sold. UK GDPR rights in child-friendly language.
25 to 40 min	**Ethics Debate: Is It Right?**	Small groups debate 4 scenarios: (1) Should schools use AI to read student emails for bullying? (2) Should facial recognition be used in shops? (3) Should AI grade homework instead of teachers? (4) Should social media use your data to show you ads? Groups present their arguments. Teacher facilitates balanced discussion.
40 to 50 min	**Privacy Checkup Activity**	Using the toolkit’s Privacy Checkup worksheet, students audit their own digital privacy practices. Score themselves honestly and identify their top 3 improvements.
50 to 60 min	**Family Agreement & Unit Summary**	Distribute the Family AI Agreement template as homework, to be completed with parents/guardians. Brief review of all 5 lessons. Final unit quiz (15 questions). Celebrate completion!

Key Discussion Questions:

• What information should you never share with a chatbot? Why?

• Is it okay for companies to use your data to make AI smarter? Do you get a choice?

• How can you protect your privacy while still enjoying technology?

• If AI is biased, whose fault is it: the AI, the company, or the data?

Assessment

Formative (During Lesson)	Summative (End of Unit)
• Ethics debate participation and reasoning quality • Privacy Checkup worksheet completion	• Unit quiz (15 questions across all 5 lessons) • Project: create a poster/video/presentation teaching younger students about AI safety

Extension Activities

- **Project option:** Create an AI safety guide for Year 5/6 students in age-appropriate language
- **Take-home:** Complete the Family AI Agreement with parents and return signed copy

Implementation Checklist for Teachers

Before Starting the Unit:

- ■ Test all toolkit interactive activities to ensure they work on school devices
- ■ Print required worksheets for all 5 lessons (suggest: 2-sided, colour if possible)
- ■ Review content for age-appropriateness for your specific class
- ■ Prepare AI examples and demos (test ChatGPT access if applicable)
- ■ Brief teaching assistants on lesson content and sensitive topic handling
- ■ Send parent information letter explaining the unit (template available on toolkit)
- ■ Ensure school safeguarding lead is aware of Lesson 4 content

During the Unit:

- ■ Collect and review exit tickets after each lesson
- ■ Note common misconceptions for class-wide addressing
- ■ Adjust pacing based on student engagement and understanding
- ■ Connect to current events; AI is in the news constantly
- ■ Encourage students to share AI encounters from home
- ■ Document student questions for possible future lessons

After the Unit:

- ■ Review and mark final quizzes
- ■ Follow up on Family AI Agreement completion
- ■ Collect student feedback on the unit
- ■ Share successful approaches with colleagues
- ■ Plan follow-up activities or assembly presentation
- ■ Consider establishing an ongoing “AI News” discussion in form time

Additional Resources Available in the AI Educational Toolkit:

- AI Scavenger Hunt Worksheet (interactive and printable)
- REAL Framework Worksheet
- Spot the Fake Worksheet
- Privacy Checkup Worksheet
- Family AI Agreement Template
- Discussion Guide (20 conversation starters)

- Individual Lesson Plans (detailed standalone versions)
- Interactive activities: Be the AI, Privacy Quiz, Spot the Fake game