

AI Basics Lesson Plan - Key Stage 3

Duration: 60 minutes

Year Group: KS3/4 (Years 7-9)

Topic: Introduction to Artificial Intelligence

Learning Objectives

By the end of this lesson, students will be able to:

- ★ Define artificial intelligence in their own words
- ★ Identify and explain three types of AI they encounter in daily life
- ★ Understand the difference between AI and human intelligence
- ★ Evaluate the benefits and challenges of AI in society

Resources Needed

- ★ Interactive whiteboard/projector
- ★ Student devices (tablets/computers) - optional
- ★ Worksheet handouts
- ★ Post-it notes for activities
- ★ Examples prepared: Siri/Alexa clips, Netflix/YouTube recommendations, Snapchat filters

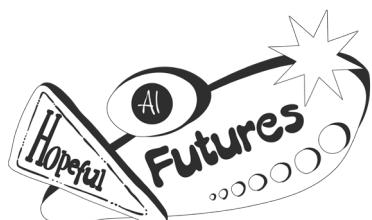
Lesson Structure

STARTER ACTIVITY (10 MINUTES)

"AI in My Day" Think-Pair-Share

1. Display question: "What technology did you use this morning before school?"
2. Students write down 3-5 technologies on Post-it notes (2 minutes)
3. Pair up and discuss which might use AI (3 minutes)
4. Class discussion: collect ideas on board, circle ones that use AI (5 minutes)

Expected responses: phones, social media, video games, smart speakers, autocorrect, face unlock, YouTube, Netflix



MAIN TEACHING (15 MINUTES)

What is Artificial Intelligence?

Present simple definition: "AI is when computers and machines are programmed to learn, think, and make decisions in ways that seem intelligent, similar to humans."

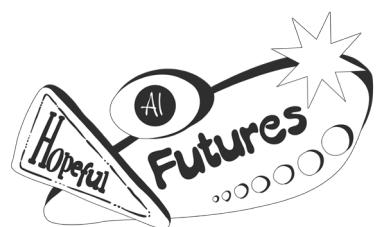
Key points to cover:

- ★ AI learns from data and patterns
- ★ AI gets better with practice (machine learning)
- ★ AI doesn't actually "think" like humans - it processes information very quickly
- ★ AI is programmed by humans but can learn things humans didn't explicitly teach it

Interactive Discussion: AI vs Human Intelligence

Quick comparison activity - students call out differences:

- ★ Humans: creativity, emotions, common sense, ethics
- ★ AI: speed, pattern recognition, no tiredness, processes huge amounts of data



MAIN ACTIVITY (25 MINUTES)

Three Types of AI You Use Every Day

Divide into three stations (or present sequentially if rotating isn't possible):

Station 1: Virtual Assistants (8 minutes)

Examples: Siri, Alexa, Google Assistant

Activity:

- ★ Show short demo of voice assistant responding to questions
- ★ Students discuss: How does it understand different voices and accents?
- ★ Explain: Natural Language Processing (NLP) - AI that understands human language

Key concepts:

- ★ Speech recognition
- ★ Understanding context and intent
- ★ Learning from millions of conversations

Student task: Write down 3 questions they've asked a virtual assistant

Station 2: Recommendation Systems (8 minutes)

Examples: Netflix, YouTube, Spotify, TikTok, Amazon

Activity:

- ★ Students share: "What was the last thing Netflix/YouTube recommended to you?"
- ★ Discuss: Why do you think it suggested that?
- ★ Explain: Recommendation AI learns what you like based on what you watch, how long you watch, and what similar users enjoy

Key concepts:

- ★ Pattern recognition
- ★ User preferences
- ★ Prediction based on past behaviour

Student task: Draw a simple flowchart showing how YouTube decides what to recommend

Station 3: Image Recognition (9 minutes)

Examples: Snapchat/Instagram filters, Face ID, Google Photos, photo tagging on social media

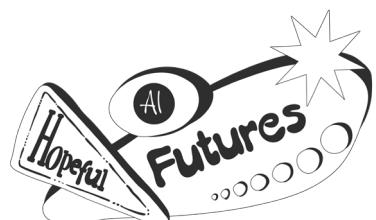
Activity:

- ★ If possible, demonstrate face filter transforming faces in real-time
- ★ Show how Google Photos can search for "dog" or "beach" automatically
- ★ Explain: Computer Vision - AI that can "see" and understand images

Key concepts:

- ★ Facial recognition
- ★ Object detection
- ★ Pattern matching in images

Student task: List 3 apps they use that recognize faces or objects



PLENARY (10 MINUTES)

Quick Quiz (5 minutes)

Use mini-whiteboards or thumbs up/down:

1. True or False: AI can think exactly like humans (False)
2. Which type of AI helps Netflix choose what to show you? (Recommendation systems)
3. What does NLP stand for? (Natural Language Processing)
4. Name one way AI is better than humans (Speed, processing data, no tiredness)
5. Name one way humans are better than AI (Creativity, ethics, empathy, common sense)

Exit Ticket (5 minutes)

Students complete on paper or digitally: 3-2-1 Reflection

- ★ 3 types of AI you learned about today
- ★ 2 examples of AI you use regularly
- ★ 1 question you still have about AI

DIFFERENTIATION

Support:

- ★ Provide sentence starters for discussions
- ★ Pre-printed examples of AI applications
- ★ Pair with stronger students for activities
- ★ Visual aids and diagrams

Challenge:

- ★ Research task: Find an example of AI in healthcare or education
- ★ Design your own AI application to solve a school problem
- ★ Investigate ethical concerns: privacy, bias, job displacement

ASSESSMENT OPPORTUNITIES

1. AI Diary: Track every time you use AI for one day
2. Interview a family member: What AI do they use at work?
3. Research: How is AI used in one of these fields: medicine, transportation, entertainment, or education
4. Creative: Design a poster explaining one type of AI to primary school students

KEY VOCABULARY

- ★ Artificial Intelligence (AI)
- ★ Machine Learning
- ★ Natural Language Processing (NLP)
- ★ Computer Vision
- ★ Algorithm
- ★ Data
- ★ Pattern Recognition

TEACHER NOTES

- ★ Ensure balanced discussion of AI benefits and concerns
- ★ Emphasize that AI is a tool created by humans
- ★ Be prepared for questions about AI safety, job loss, or sci-fi scenarios
- ★ Connect to UK Computing curriculum: algorithms, data representation
- ★ Consider privacy implications when discussing face recognition

