

COMPUTING · Y4-Y6

# Artificial Intelligence

Knowledge Organiser — KS2 Computing

## Key vocabulary

1

**Artificial Intelligence (AI)**

Computer systems that can do tasks that usually need human thinking — like recognising pictures, writing text, or playing games.

2

**Machine learning**

A type of AI where the computer **LEARNS** from lots of examples instead of being told exact rules.

3

**Training data**

The huge amount of information an AI looks at to learn. The more good data, the smarter the AI.

4

**Large Language Model (LLM)**

An AI trained on huge amounts of text. Can write, answer questions, summarise. Examples: ChatGPT, Claude, Gemini.

5

**Prompt**

What you type to ask an AI to do something. Better prompts = better answers.

6

**Hallucination**

When an AI confidently makes up something that isn't true. AIs do this often!

7

**Bias**

When an AI's training data has unfairness, the AI learns the same unfairness.



8

**Generative AI**

AI that creates new content — text, images, music, video — rather than just analysing things.

## You meet AI every day

You're already using it

- Voice assistants — Siri, Alexa, Google Assistant
- Recommendations — what YouTube suggests next, what Netflix shows you
- Spam filters — your email's 'junk' folder is run by AI
- Spell-checkers and autocorrect on your phone
- Photo apps that recognise faces or objects
- Map apps that find the fastest route in real time
- Language translation
- Search engines (Google uses AI heavily)
- AI is in things you use every day, often without you knowing

## Language model learns

Like a child learning, but with billions

- 1. The AI is shown billions of pieces of text from books, websites, and articles.
- 2. It learns patterns — which words usually come after which.
- 3. When you ask it a question, it predicts what good text would look like in response.
- 4. It DOESN'T 'know' things — it predicts patterns it has seen.
- 5. This is why it can be confidently wrong — the pattern looks right, but the fact is made up.
- Important: an LLM is a very clever pattern-matcher, not a thinking being.



## What AI is GOOD at

Where it can really help

- Helping you brainstorm ideas
- Summarising long pieces of text
- Translating languages
- Explaining tricky topics in different ways
- Editing or improving your writing
- Writing code (though it can have bugs)
- Generating images for projects
- Practising languages or maths in conversation

## What AI is NOT good at (yet)

And how to use AI responsibly

- AI HALLUCINATES — it confidently makes up facts. Always check important information.
- AI doesn't know about today — most know up to a date in the past.
- AI can be biased — if its training data was biased, it will be too.
- AI doesn't understand feelings or context as well as humans.
- AI shouldn't replace your own thinking — using it to write your homework misses the point of learning.
- Don't share personal information (your name, school, address) with AI tools.
- Use AI as a HELPER, not as a replacement for thinking and doing your own work.
- Always be honest about when you've used AI to help you with something.

