Year 8 - Topic 3 - I am an AI Developer
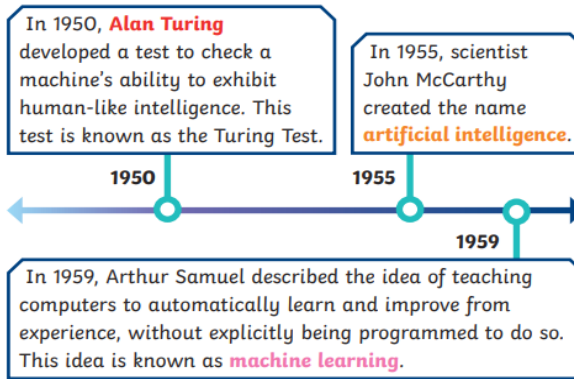
Key Vocabulary

Alan Turing	An English computer scientist, mathematician and codebreaker who is known as one of the founders of modern computing and an early pioneer in the world of artificial intelligence.
algorithm	A set of sequenced instructions or rules for solving a problem or completing a task in a logical order.
artificial intelligence (AI)	Technology that can make computers learn and have human-like intelligence.
machine learning	A subset of artificial intelligence where computers use huge amounts of data to learn how to do tasks rather than being programmed to do them.
programming language	A way for programmers to communicate with computers. Most programming languages are text-based but they can also be image-based.
technology	The use of knowledge to invent new devices or tools. Technology can also refer to these devices or tools themselves.

What Is Artificial Intelligence (AI)?

Artificial Intelligence (AI) refers to technology that can make computers learn and have human-like intelligence. A machine containing AI can be programmed to perform human-like tasks, based on the information it takes from its surroundings and from previous experience. AI is able to process language, learn and problem-solve.

The History of AI

Although AI can be traced back as far as ancient times, the modern world of AI that we know today started to develop in the mid-20th century.

In 1950, **Alan Turing** developed a test to check a machine's ability to exhibit human-like intelligence. This test is known as the Turing Test.

In 1955, scientist John McCarthy created the name artificial intelligence.

1950 — 1955 — 1959

In 1959, Arthur Samuel described the idea of teaching computers to automatically learn and improve from experience, without explicitly being programmed to do so. This idea is known as machine learning.

Key Knowledge

1. Understand how computers use information by solving problems
2. Understand what AI is and applications of AI
3. Understand how AI is used to perform tasks more efficiently than humans, or tasks that humans can't do.
4. Understand potential dangers of AI
5. What is the Turing Test
6. What is Capcha
7. What can cause an issue with facial recognition

Advantages of AI

- With AI, human error could be less likely.
- AI does not need sleep or rest.
- AI can be programmed to do repetitive tasks.
- AI can make decisions quickly.

Disadvantages of AI

- AI can break and malfunction.
- AI can be expensive to develop and maintain.
- AI can be biased.
- AI only knows what it has previously been shown.

AI and Jobs

Robots have already replaced many jobs in:
- Car manufacturing
- Electronics production

AI is used in ways that can replace jobs
- For instance, online shopping can use AI to determine the best way to advertise and sell products
- This leads to job losses on the high street

Up to 40% of jobs could be replaced by automation and AI by 2035
Many jobs could be lost including:
- Telemarketing
- Taxi drivers and transportation
- Receptionists

The Turing Tests

This test was created by Alan Turing in 1950 A human sits in one room and asks questions through a computer
- The questions go to a computer and a human If the human cannot tell the difference between talking to a computer and a human, the computer passed the test

Capcha
Computers use problems that are hard for other computers to solve to check that they are being used by a human
The text written in the capture below is hard to recognise as it is deformed and has many colour changes that break any AI rules or pattern recognition