Year 6: Artificial Intelligence

iCompute
Primary Computing

Knowledge Organiser

What should I know about Artificial Intelligence?

What is Artificial Intelligence (AI)?	Computer systems that can behave intelligently, reason, and learn like humans
How do AI systems learn?	Humans teach computers how to learn and improve with experience. The process is called **machine learning**
What machine learning?	Data is input into a learning model (**input training data**). The model uses algorithms that learns patterns from the data to make **predictions**
What factors affect the reliability of a learning model's predictions?	The quality and amount of input training data. As humans provide the data, there is a risk that it may be **biased**
What is bias in input training data?	Errors or imbalances in the data that can lead to prejudiced or unfair predictions
What are the benefits of AI systems?	Excellent at complex problem-solving. They can make faster and more accurate decisions in a range of fields. AI personalises experiences, from online shopping recommendations to individual educational content, improving efficiency and satisfaction
What are disadvantages of AI systems?	Can reinforce prejudice and bias if not trained properly. Its ability to automate lots of things mean people may lose their jobs

Key Vocabulary

- **Artificial Intelligence**: a system capable of behaving intelligently
- **Machine Learning**: enables computers to learn and make predictions or decisions based on **input data**
- **Input Data (Dataset):** a collection of data used to train **algorithms**
- **Algorithm**: a set of rules that computers follow to perform specific tasks. For AI, this includes pattern recognition or prediction, based on input data
- **Prediction**: forecasting events or outcomes based on data, using machine learning algorithms to make informed decisions.
- **Bias**: errors or unfair prejudices in the input data or algorithms that lead to unfair predictions or decisions.

Examples