

Lesson Plan

NEUROHEADWAY

Neuroscience Into Education

Lesson objective	Introduction	Main activity	Reflection	Success criteria
Amazing cognition LO: To understand concept and principles of cognitive science To understand difference between cognitive neuroscience and cognitive science	Go over power point Explain to children history of cognitive science Watch a short video: "Cognitive science" Explain to children which methods are used in cognitive science by different scientists	Go over power point Divide class into 6 groups: philosophers, neuroscientists, psychologists, anthropologists, linguists and computer scientists Let each group answers on the question: "Why do people have particular kind of intelligent behaviour?" Each group should explain which methods can be used that explanation will be evidence based	How has it helped understanding the concept of cognitive science	I can understand concept and principles of cognitive science To understand how different scientific fields (neuroscience, philosophy, linguistics, psychology, anthropology and computer science) are connected To understand methods used in cognitive science by different scientists
What is in your mind? LO: To understand the concept of mind To understand difference between the brain and mind	Children to make suggestions for what they think the mind is. Go over power point	Children to create their own mind map about the mind and the brain	Discuss in the class how amazing is our mind	I can infer what the mind is I can recognize the difference between the brain and mind
Artificial intelligence LO: To learn about artificial intelligence	Go over power point Explain to children concept of artificial intelligence Explain to children what contributes to artificial intelligence and fields where artificial intelligence is dominant	Go over power point Debate: The American movie "Terminator", released in 1984, presented intelligent robots that can be a threat to humanity. Now, in present, do you think that this scenario can be real? Or, do you think that human brain will be	Now that the children know a little about artificial intelligence from the power point; they can work in pairs or table groups to come up with some ideas for what they think artificial intelligence is good for and what can be a consequence if	I can infer what artificial intelligence is I can understand why artificial intelligence is important for humanity I can recognize disadvantages of artificial intelligence

		always more capable than the best supercomputer? Justify your explanation. Artificial intelligence bingo	computers will have similar mind like humans Discuss about question: Can a machine think and behave like humans do?	
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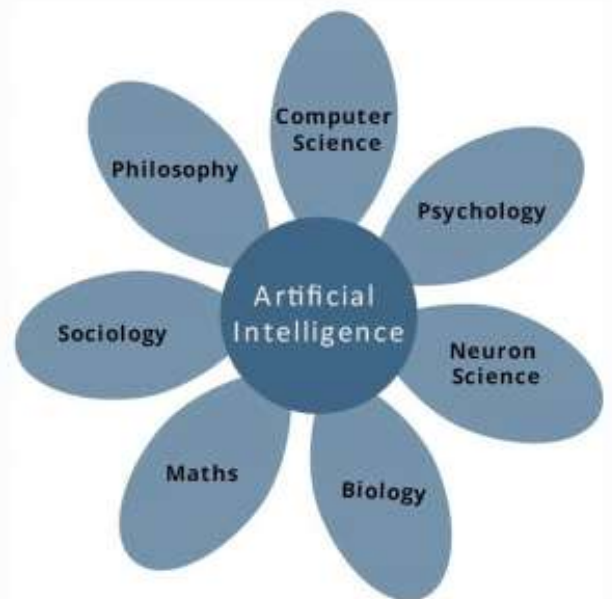
Power point Example

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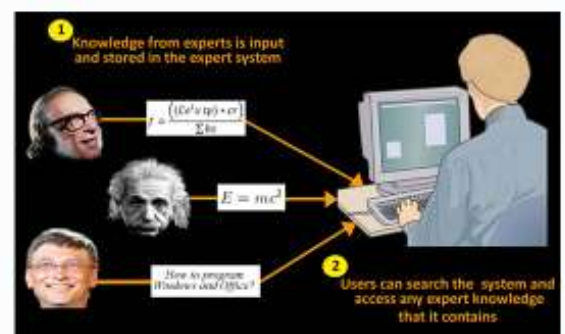
What contributes to AI?

1. Artificial intelligence is a science and technology based on disciplines such as Computer Science, Biology, Psychology, Linguistics, Mathematics, and Engineering
2. A major thrust of AI is in the development of computer functions associated with human intelligence, such as reasoning, learning, and problem solving

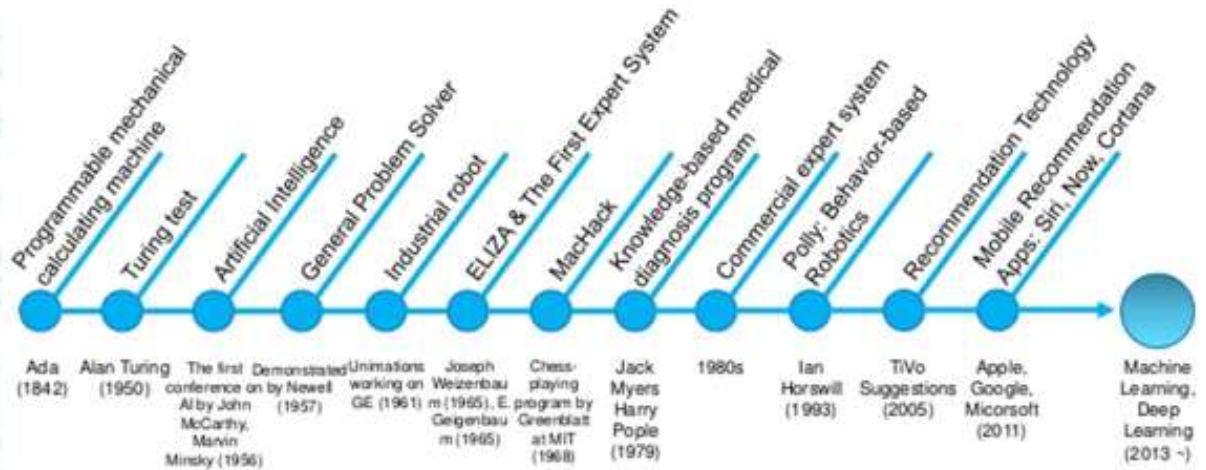


AI has been dominant in various fields such as –

- **Gaming** – AI plays crucial role in strategic games such as chess, poker, tic-tac-toe, etc., where machine can think of large number of possible positions based on heuristic knowledge
- **Natural Language Processing** – It is possible to interact with the computer that understands natural language spoken by humans.
- **Expert Systems** – There are some applications which integrate machine, software, and special information to impart reasoning and advising. They provide explanation and advice to the users
- **Vision Systems** – These systems understand, interpret, and comprehend visual input on the computer. For example,
 - A spying aeroplane takes photographs, which are used to figure out spatial information or map of the areas.
 - Doctors use clinical expert system to diagnose the patient
 - Police use computer software that can recognize the face of criminal with the stored portrait made by forensic artist



AI Timeline



Teachers Evaluation and Handouts

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Think... What is the mind?

- ❑ Set of cognitive faculties including consciousness, perception, thinking, judgement and memory
- ❑ The mind is the manifestations of thought, perception, emotion, determination, memory and imagination that takes place within the brain
- ❑ The mind made humans capable to solve complex logical problem which differentiates us than other living beings