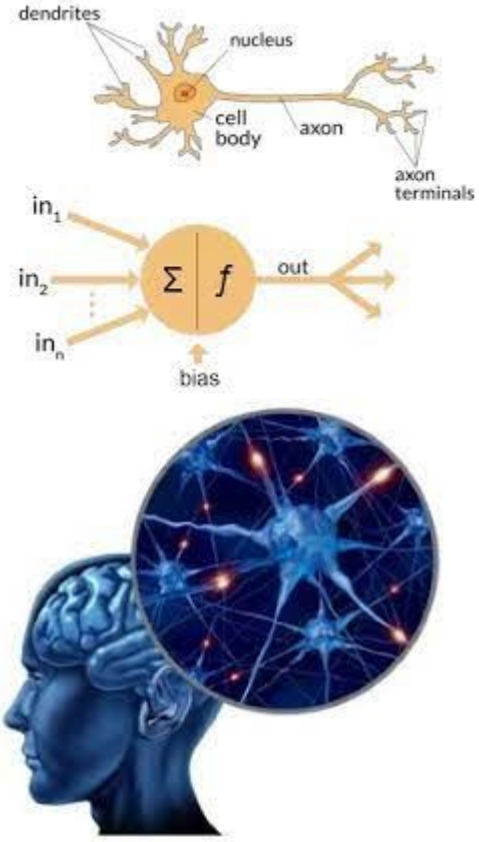
or 0248043888
https://www.TeachersAvenue.net
https://TrendingGhana.net
https://www.mcgregorinriis.com

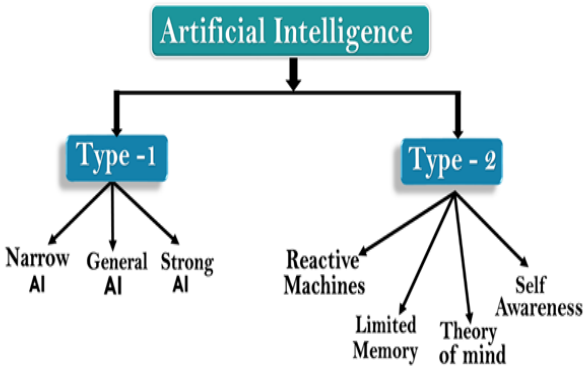
BASIC 8

WEEKLY LESSON PLAN – WEEK 9

Strand:	Computational Thinking		**Sub-Strand:**	Artificial intelligence	
Content Standard:	B8.4.4.1 Discuss Artificial Intelligence Concepts				
Indicator (s)	B8.4.4.1.1 Discuss Artificial Neural Networks (ANN) and compare intelligence in humans, animals and machines		**Performance Indicator:** Learners can explain the types of Artificial Intelligence.		
Week Ending	25-08-2023				
Class	B.S.8	**Class Size:**		**Duration:**	
Subject	Computing				
Reference	Computing Curriculum, BS7 Computing Textbook, Teachers Resource Pack, Learners Resource Pack				
Teaching / Learning Resources	Personal Computer, Poster, Charts, Video		**Core Competencies:**		

DAY/DATE	**PHASE 1 : STARTER**	**PHASE 2: MAIN**	**PHASE 3: REFLECTION**
THURSDAY	Discuss the meanings of terminologies in the lesson. **Terminologies;** o Algorithms o Artificial Intelligence o Artificial neural networks o Machine Learning o Deep Learning	1. Learners brainstorm to compare intelligence in humans, animals and machines. 2. Discuss the concept of Artificial neural networks with the Learners. 3. Assist Learners to compare Artificial neural networks with human brain. 4. Learners in small groups to discuss and report to the class on how artificial neural networks approximate the brain. **What is a neural network?** In information technology (IT), an artificial neural network (ANN) is a system of hardware and/or software patterned after the operation of neurons in the human brain. ANNs -- also called, simply, neural networks -- are a variety of deep learning technology,	Reflect on the meaning of Artificial neural networks. **Exercise;** State 5 examples of Artificial neural networks.

		which also falls under the umbrella of artificial intelligence, or AI. **Differentiate between human and machine intelligence** The simple difference is that human beings use their brain, ability to think, memory, while AI machines depend on the data given to them. As we all know that humans learn from past mistakes and intelligent ideas and intelligent attitudes lie at the basis of human intelligence Neural networks are modeled after the brain, and they are composed of a set of interconnected nodes, or neurons. These neurons are connected by synapses, and they communicate with each other by sending and receiving electrical signals.  	

FRIDAY	Through questioning strategy, review Learners knowledge on the previous lesson.	1. Assist Learners to identify the types of Artificial Intelligence. 2. Learners brainstorm to differentiate between strong and weak artificial intelligence. 3. Discuss with Learners about applications of Artificial Intelligence. **Types of Artificial Intelligence:** Artificial Intelligence can be divided in various types, there are mainly two types of main categorization which are based on capabilities and based on functionally of AI. Following is flow diagram which explain the types of AI.  AI type-1: Based on Capabilities 1. Weak AI or Narrow AI: ○ Narrow AI is a type of AI which is able to perform a dedicated task with intelligence.The most common and currently available AI is Narrow AI in the world of Artificial Intelligence. ○ Narrow AI cannot perform beyond its field or limitations, as it is only trained for one specific task. Hence it is also termed as weak AI. Narrow AI can fail in unpredictable ways if it goes beyond its limits. ○ Apple Siriis a good example of Narrow AI, but it operates with a limited pre-defined range of functions.	Through questions and answers, conclude the lesson. **Exercise;** 1. State and explain the types of Artificial Intelligence. 2. Explain 4 applications of Artificial Inteeligence.

		- IBM's Watson supercomputer also comes under Narrow AI, as it uses an Expert system approach combined with Machine learning and natural language processing. - Some Examples of Narrow AI are playing chess, purchasing suggestions on e-commerce site, self-driving cars, speech recognition, and image recognition. 2. General AI: - General AI is a type of intelligence which could perform any intellectual task with efficiency like a human. - The idea behind the general AI to make such a system which could be smarter and think like a human by its own. - Currently, there is no such system exist which could come under general AI and can perform any task as perfect as a human. - The worldwide researchers are now focused on developing machines with General AI. - As systems with general AI are still under research, and it will take lots of efforts and time to develop such systems. 3. Super AI: - Super AI is a level of Intelligence of Systems at which machines could surpass human intelligence, and can perform any task better than human with cognitive properties. It is an outcome of general AI. - Some key characteristics of strong AI include capability include the ability to think, to reason,solve the puzzle, make judgments, plan, learn, and communicate by its own.	

- Super AI is still a hypothetical concept of Artificial Intelligence. Development of such systems in real is still world changing task.

Artificial Intelligence type-2: Based on functionality

1. Reactive Machines

- Purely reactive machines are the most basic types of Artificial Intelligence.
- Such AI systems do not store memories or past experiences for future actions.
- These machines only focus on current scenarios and react on it as per possible best action.
- IBM's Deep Blue system is an example of reactive machines.
- Google's AlphaGo is also an example of reactive machines.

2. Limited Memory

- Limited memory machines can store past experiences or some data for a short period of time.
- These machines can use stored data for a limited time period only.
- Self-driving cars are one of the best examples of Limited Memory systems. These cars can store

		recent speed of nearby cars, the distance of other cars, speed limit, and other information to navigate the road. 3. Theory of Mind o Theory of Mind AI should understand the human emotions, people, beliefs, and be able to interact socially like humans. o This type of AI machines are still not developed, but researchers are making lots of efforts and improvement for developing such AI machines. 4. Self-Awareness o Self-awareness AI is the future of Artificial Intelligence. These machines will be super intelligent, and will have their own consciousness, sentiments, and self-awareness. o These machines will be smarter than human mind. o Self-Awareness AI does not exist in reality still and it is a hypothetical concept.	

Name of Teacher: ***School:*** ***District:***