

Name: _____ Date: _____

Answer Key: Smart Machines AI Literacy 7th Grade Quiz

Decode how algorithms mimic biological neurons and predict patterns using real-world data science concepts beyond basic coding.

1. Which component of Artificial Intelligence is specifically designed to mimic the interconnected structure of the human brain to recognize complex patterns?

Answer: B) Neural networks

Neural networks are modeled after the human brain's web of neurons, allowing the AI to process layers of information to identify things like handwriting or faces.

2. True or False: Machine learning requires a human to manually write a new rule for every single decision the computer makes.

Answer: B) False

Machine learning allows systems to find patterns in data and improve their own performance without being explicitly programmed for every scenario.

3. When a computer uses logic to draw a conclusion or solve a riddle, it is demonstrating the AI concept of ____.

Answer: A) Reasoning

Reasoning is the foundational AI concept that involves the machine using available information to reach a logical outcome or solve a problem.

4. A weather app that looks at ten years of atmospheric data to predict tomorrow's rain is an example of which AI subset?

Answer: C) Machine Learning

Machine learning excels at analyzing historical datasets to make predictions about future events based on identified trends.

5. The process of AI getting better at a task (like identifying different types of plants) as it looks at more images is called ____.

Answer: D) Learning

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Learning in AI refers to the system's ability to improve its accuracy and performance over time through experience and data analysis.

6. True or False: AI 'reasoning' allows a system to analyze a situation and pick a path to reach a specific goal.

Answer: A) True

Reasoning involves the logical steps an AI takes to evaluate different pieces of information to make a decision or solve a problem.

7. Which of the following is a real-world application of AI in the field of transportation?

Answer: B) An autonomous delivery drone

Autonomous drones use AI sensors and navigation algorithms to move package deliveries without human pilots.

8. In healthcare, AI is often used to help doctors analyze medical scans to find ____.

Answer: C) Early signs of disease

AI algorithms can detect subtle patterns in medical images, like X-rays or MRIs, to help diagnose conditions earlier than the human eye might.

9. True or False: Facial recognition systems use neural networks to analyze the patterns of pixels in an image.

Answer: A) True

Neural networks break down images into pixels to identify mathematical patterns that correspond to human features like eyes, noses, and mouths.

10. What makes AI different from a traditional computer program that follows a fixed list of instructions?

Answer: A) It can adapt and learn from data

Unlike basic software that does the same thing every time, AI can adjust its 'behavior' or 'logic' as it processes new data.