

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.