Name: _____   **Date:** _____

Answer Key: Neon Circuit Safari: A 4th Grade Adventure into AI

Pattern recognition, training data, and robotic logic — fundamental building blocks for understanding how modern machines recognize the world around them.

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1. If you are training an AI to recognize a 'mammal,' which set of pictures would be the best training data?

Answer: B) Photos of whales, lions, and bears

> To teach an AI about a category, you must provide examples that belong to that category. Whales, lions, and bears are all mammals.

2. True or False: An AI can find patterns in a giant pile of data much faster than a human can.

Answer: A) True

> Speed is one of AI's greatest strengths; it can process millions of data points in seconds to find connections.

3. A weather app that uses AI to guess if it will rain tomorrow is making a _____ based on data.

Answer: C) Prediction

> Predictions are educated guesses made by AI after it analyzes past information or patterns.

4. When an AI organizes a music playlist based on songs you already liked, it is using:

Answer: D) Pattern recognition

> AI looks for patterns in your behavior, such as similar beats or genres, to suggest new things you might enjoy.

5. True or False: Artificial Intelligence (AI) means a machine is actually 'alive' like a pet or a person.

Answer: B) False

> AI is a tool made of code and hardware; it can mimic thinking, but it is not a living being.

6. Computer scientists call the 'brain' of an AI that is inspired by how our own brain cells work a _____ network.

Answer: A) Neural

> Neural networks are layers of math equations designed to work similarly to the neurons in a human brain.

7. Which of these is an example of an AI acting in the real world?

Answer: C) A vacuum cleaner that maps a room to avoid furniture

> Smart vacuums use sensors and AI to learn the layout of a home, which is more complex than a simple timer or switch.

8. Before an AI can recognize your face to unlock a tablet, it must first go through a process called _____.

Answer: B) Training

> Training is when we show the AI thousands of examples so it can learn what to look for.

9. True or False: AI can help translate a book from Spanish into English.

Answer: A) True

> Language translation is a common use of AI, as it learns the rules and patterns of different human languages.

10. If an AI makes a mistake, like calling a cat a 'dog,' what do engineers usually do?

Answer: C) Give it better data and more practice

> AI learns from experience. If it makes a mistake, it usually needs more or better 'training data' to improve.