Name _____

Cause & Effect Chains

AI breakthroughs were not random — each one was inspired by a **specific problem, challenge, or motivation**. In this activity, you will match the **AI breakthroughs (effects)** with the correct **cause or motivation**.

Causes / Motivations

A. Explosion of online data and more powerful computing resources.
B. A vision to bring together researchers from multiple fields to define a new scientific discipline.
C. Applying massive language datasets to generate human-like text responses.
D. Desire to model how the brain learns from input and patterns.
E. Testing deep reinforcement learning on one of the world's most complex games.
F. Improved algorithms made it possible to train multi-layer networks effectively.
G. The need for decision-making tools in medicine, science, and business.
H. The need to prove whether machines could simulate human intelligence.
I. The challenge of demonstrating computer superiority in complex games like chess.
J. Funding cuts and skepticism after early AI promises failed.

AI Breakthroughs (Effects)

_____ 1. Alan Turing proposes the "Turing Test" (1950)

_____ 2. Dartmouth Conference formally establishes AI (1956)

_____ 3. The Perceptron (1958) introduced as an early neural network model

_____ 4. Expert Systems like MYCIN (1970s)

_____ 5. First AI Winter (1970s–80s)

_____ 6. Backpropagation algorithm revives neural networks (1980s)

_____ 7. IBM's Deep Blue defeats Garry Kasparov (1997)

_____ 8. Rise of machine learning & big data (2000s)

_____ 9. AlphaGo defeats Lee Sedol (2016)

_____ 10. GPT-3 released (2020)