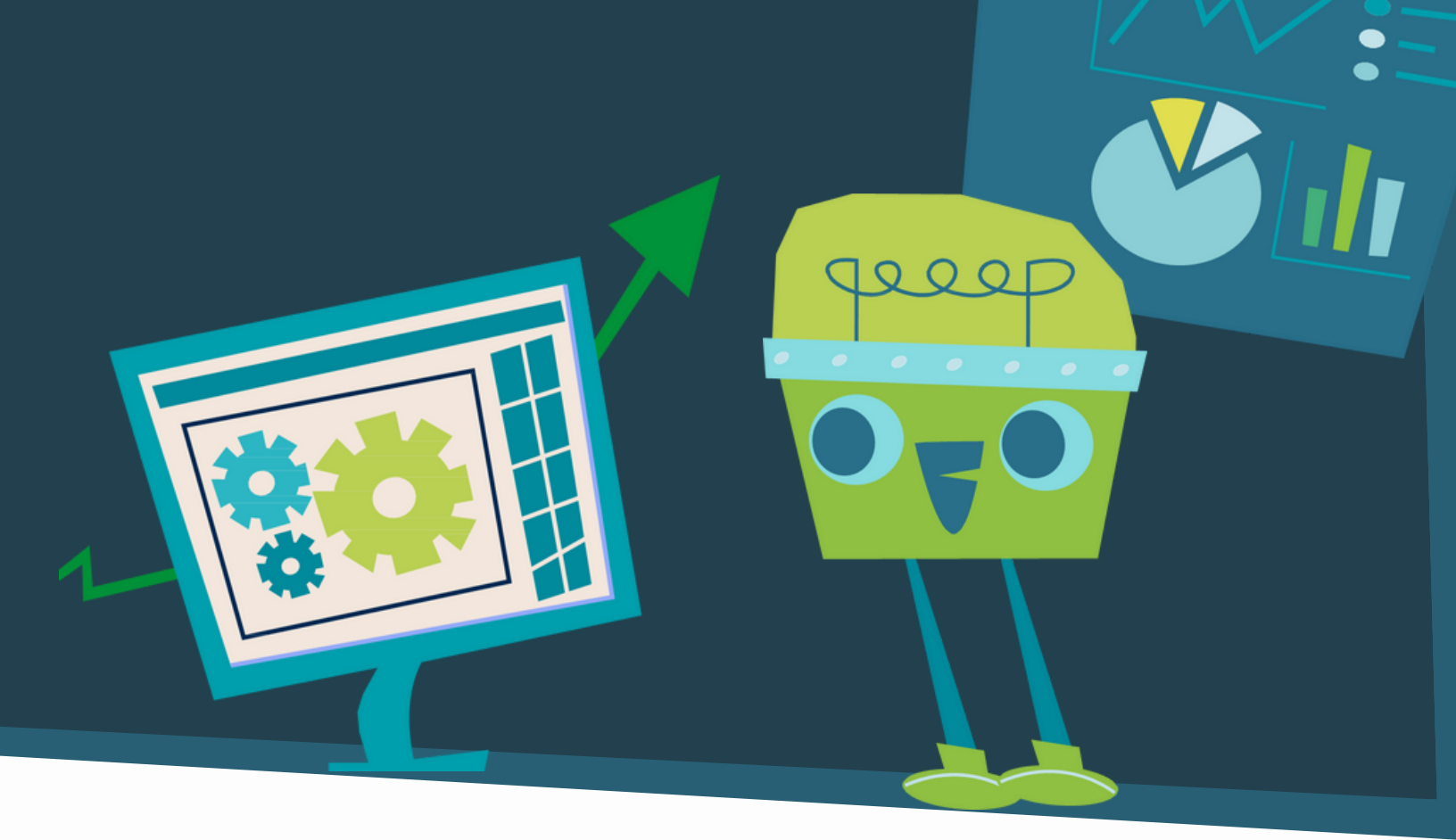




Success Through AI Mastery
STUDENT GUIDE

LESSON 1

What is Artificial Intelligence?



**JA
Canada**

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Lesson 1:

What is Artificial Intelligence?

OVERVIEW

In this lesson, you will explore the fundamental definition of Artificial Intelligence (AI). You will learn to distinguish between AI, Machine Learning (ML), and Deep Learning (DL), and identify examples of Artificial Narrow Intelligence (ANI) that you likely use every day.



KNOWLEDGE CHECK

Instructions: Place a check mark (✓) next to the correct answer or write your answer in the space provided.

1. Your friend is excited about a new video game where the computer-controlled characters seem to learn from your strategy and adapt their tactics. They say the game has "amazing AI". What does the "AI" in this context actually mean?

- ☐ a) The game is following a simple, pre-written set of instructions and cannot change its behavior.
- ☐ b) The game is using code that allows it to perform tasks that normally require human-like intelligence.
- ☐ c) The game has become self-aware and can think for itself in the same way a human being can.
- ☐ d) The game's artificial intelligence is primarily focused on making the on-screen graphics look realistic.

What is Artificial Intelligence?

2. Number the following concepts in order from the broadest category (1) to the most specific category (3).

- Machine Learning (ML) _____
- Artificial Intelligence (AI) _____
- Deep Learning (DL) _____

3. Artificial Narrow Intelligence (ANI) is designed for a specific task. Which of the following are real-world examples of ANI? (Check all that apply)

- ☐ A GPS app finding the fastest route to your destination.
- ☐ A chatbot that can have a deep, philosophical conversation about the meaning of life.
- ☐ A music app creating a personalized playlist based on your listening history.
- ☐ A spam filter that automatically moves junk mail to a separate folder.
- ☐ An AI that can write a prize-winning novel and compose a symphony on its own.

4. A common technical limitation an AI system can face is "generalization." Which of the following is an example of an AI failing to generalize?

- ☐ a) An AI system for processing medical scans that is too slow to be useful for doctors.
- ☐ b) A self-driving car AI that performs perfectly in a simulator but has software bugs during real-world road tests.
- ☐ c) A language AI trained mostly on classic literature that cannot understand modern slang or text message abbreviations.
- ☐ d) An image recognition AI that can identify cats in living rooms but fails to identify them in snowy backyards.

What is Artificial Intelligence?



ACTIVITY: IDENTIFY A NEED

Design your AI Companion: Step 1

Imagine your perfect AI assistant. What is one daily task, challenge, or "pain point" in your life that an AI could significantly improve? Use the space below to brainstorm.

1. Identify the Problem:

Describe a specific challenge you face (e.g., "I always forget my homework assignments," or "I find it hard to decide what to make for dinner").

2. Propose a Solution:

How could an AI help solve this? (e.g., "An AI could scan my school portals and create a daily to-do list for me.").

3. Give it a Name:

What would you call your AI companion?

Lesson 1:

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LESSON 1 ANSWER KEY

1. b
2. 1: Artificial Intelligence (AI), 2: Machine Learning (ML), 3: Deep Learning (DL)
3. GPS app, Music app, Spam filter
4. d



GLOSSARY

Artificial Intelligence (AI): A technology that gives computers and robots a 'brain' to think, learn and solve problems in a way similar to, but different from, the human brain.

Automation: When a computer or robot can do tasks on its own without being told every time, like a robot vacuum cleaning the floor.

Ethics: The rules or ideas that help us decide what is right and wrong. For AI, it means making sure it is used in a way that is fair, safe, and helpful to people.

What is Artificial Intelligence?



GLOSSARY

Artificial Intelligence (AI): The field of computer science focused on creating systems that can perform tasks that typically require human intelligence, such as learning, reasoning, and problem-solving.

Artificial Narrow Intelligence (ANI): The most common form of AI today, which is designed to be an expert at one specific, "narrow" task (e.g., playing chess, recommending movies, or filtering spam).

Artificial General Intelligence (AGI): A theoretical type of AI that would have human-like intelligence, with the ability to understand, learn, and apply knowledge across a wide range of different tasks.

Artificial Superintelligence (ASI): A hypothetical type of AI that would surpass human intelligence in virtually all aspects, including creativity, general wisdom, and problem-solving.

Machine Learning (ML): A subfield of AI that gives computers the ability to learn from data and make predictions or decisions without being explicitly programmed for every single task.

Deep Learning (DL): A specialized subfield of Machine Learning that uses complex, multi-layered neural networks to learn from vast amounts of data and is especially powerful for tasks like image and speech recognition.

Algorithms: A set of step-by-step instructions or rules that a computer follows to perform a specific task or solve a problem.

Automation: The use of technology to perform tasks with minimal human assistance.

Bias (in AI): A flaw in an AI system that leads to unfair or inaccurate outcomes, often because it was trained on data that was incomplete, non-inclusive, or unrepresentative of real-world diversity.