AI Literacy

Understanding AI with a Critical Eye

Lessons for middle school students aged 11-14

AI Awareness

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Editors:
Janna Nobleza
Suresh Korapati
Andrew Culley
Emelen De Jesus

Published 2025 by Seltrove, an imprint of IB Source Inc,

AI Awareness – Teacher/Parent Guide

Learning Objectives

By the end of these lessons, students will be able to:

1. Define what AI is and describe how it works using data and patterns.
2. Recognize that AI is not a person and does not have thoughts, feelings, or emotions.
3. Describe how AI learns and gets better over time.
4. Explain how AI makes decisions and how these decisions depend on the data it learns from.
5. Identify helpful ways AI is used in everyday life.
6. Practice safe and responsible behavior when using AI-powered tools.

Learning Rationale

Artificial Intelligence is all around us—from voice assistants to online games to learning tools. As students grow up in a world powered by AI, it's vital that they:

Build awareness of AI in their surroundings.

Develop critical thinking about what AI can and cannot do.

Practice digital safety skills and make responsible choices.

Grow confidence in digital literacy and how to ask for help when unsure about technology.

This digital pack uses Social and Emotional Learning (SEL) strategies—like perspective-taking, responsible decision-making, relationship skills, and advocating for oneself—to help students explore AI in a way that's personal, developmentally appropriate, and empowering.

AI Awareness – Teacher/Parent Guide

Introduction for the Teacher/Parent

These lessons are designed for middle school students (ages 11–14) and can be used in classrooms, advisory programs, enrichment settings, or homeschool instruction. Each lesson includes a student-friendly reading, clear learning objectives, and a variety of activities that encourage deeper thinking and engagement.

The lessons are:

- **Flexible** – Each one can stand alone or be extended over multiple sessions with class discussions, group projects, homework tasks, or creative reflections.
- **Relevant** – Focused on helping students understand how artificial intelligence (AI) works, where it shows up in their daily lives, and how to make informed, responsible decisions about using and interacting with it.
- **Developmentally Appropriate** – Supports the critical thinking, identity exploration, and ethical reasoning that are central to adolescent growth. Lessons encourage students to examine the difference between AI and human thought, recognize bias, consider ethical implications, and reflect on the impact of AI on society and themselves.

You don't need to be a tech expert to teach these lessons. The goal is to guide students as they build AI awareness—developing the skills to question what they see, use technology wisely, and understand how digital tools are shaping their world. These lessons help middle schoolers grow into thoughtful, informed digital citizens.

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AI AWARENESS PRE-ASSESSMENT
Teacher/Parent Lesson Plan

Learning Objectives

By the end of the pre-assessment, students will:

- Reflect on and express their current understanding and beliefs about artificial intelligence (AI).
- Identify real-world examples of how AI appears in their daily lives.
- Recognize the differences between human intelligence and machine learning.
- Begin to consider ethical and emotional boundaries related to technology use.
- Build self-awareness around their comfort level, curiosity, or uncertainty about AI topics.

Learning Rationale

The pre-assessment is not a formal test—it is a diagnostic tool designed to gauge students' current understanding and perceptions about artificial intelligence. Its purpose is to surface prior knowledge, common misconceptions, and student assumptions before instruction begins.

Key Instructional Benefits:

- Activates Prior Knowledge: Helps students make meaningful connections between their experiences and the learning ahead.
- Encourages Dialogue: Sparks curiosity and sets the tone for open discussion about the role of AI in their lives.
- Informs Instruction: Allows teachers to identify areas where more support, clarification, or extension may be needed.
- Establishes a Baseline: Creates a foundation for reflection and growth, especially when paired with a post-assessment.

This tool also supports social-emotional learning (SEL) goals by prompting students to consider their relationship with technology and how it affects their understanding, decision-making, and sense of responsibility.

AI AWARENESS PRE-ASSESSMENT
Teacher/Parent Lesson Plan

Lesson Plan

1. Ask students to read each statement and decide how much they understand each idea. Remind them that this is not a test and they should be honest; there are no correct answers

2. Optional discussion:
    - After each statement, you may ask for brief examples but avoid correcting them yet—just listen and note answers.
    - Keep it light and exploratory. The goal is to learn what they think, not to teach in this step.

3. Record insights: Consider jotting down brief notes of their responses so you can look back during the post-assessment to see changes in understanding.

4. Set the tone: Let students know that by the end of the lessons, they'll have learned new things about AI, and it's perfectly fine if their answers change later.

AI AWARENESS PRE-ASSESSMENT

For each statement below, rate how well you understand the idea by choosing one of the following:

- I understand this well
- I kind of understand
- I'm unsure or confused

Statement	I understand this well!	I somewhat understand this.	I'm unsure of confused by this.
I can explain what artificial intelligence (AI) is.			
I know how AI learns to do things using data.			
I understand the difference between AI and regular computer programs.			
I can explain why AI doesn't have thoughts or feelings like humans do.			
I can tell the difference between a real person and a chatbot or virtual assistant.			
I can spot examples of AI in the apps or websites I use.			
I know that AI is used in things beyond phones or games, like in cars or medicine.			
I understand how AI helps recommend videos, songs, or ads to me.			
I understand that AI makes decisions based on the data it is trained on.			

AI AWARENESS PRE-ASSESSMENT

Statement	I understand this well!	I somewhat understand this.	I'm unsure of confused by this.
I can explain why AI can't always explain how or why it makes a choice.			
I know why it's important to use AI tools safely and responsibly.			
I can explain some risks or problems that can happen with AI.			
I understand that people need to make ethical choices when designing or using AI.			

Which topic do you feel the most confident about? Why do you think that is?

_____

_____

Which statement(s) did you feel unsure or confused about? What do you think made them hard to understand?

_____

_____

What is one question you have about AI that you'd like to explore?

_____

_____

THE FOUNDATIONS OF AI
Teacher/Parent Lesson Plan

Learning Objectives

By the end of this lesson, students will be able to:

- Explain what AI (Artificial Intelligence) means in their own words.
- Understand that AI is created by humans and learns from data and patterns.
- Recognize that AI is not alive—it is a tool designed and trained by people.
- Identify common examples of AI in daily life (e.g., search engines, smart assistants).
- Describe how AI “learns” by being trained with large sets of examples.
- Simulate how AI follows rules or patterns using simple logic.

Learning Rationale

Middle school students are growing up surrounded by Artificial Intelligence (AI)—even if they don’t realize it. And as AI technology evolves, students must not only understand what it does, but also how it works.

In this lesson, students will build foundational AI literacy by exploring:

- What AI actually is (and what it isn’t),
- How it learns from data and patterns,
- And how it differs from traditional programming.

This understanding prepares them for deeper conversations about decision-making, digital responsibility, and AI's influence on their choices and identity in future lessons.

How This Lesson Supports Middle School Development

At this age, students are naturally curious, more capable of abstract thinking, and ready to:

- Ask critical questions about how technology works behind the scenes.
- Separate fact from fiction, especially when it comes to myths about AI being "alive" or "sentient."
- Reflect on their own tech use and begin forming opinions about responsible digital behavior.

THE FOUNDATIONS OF AI
Teacher/Parent Lesson Plan

Preparation

- Review the student lesson text on “What is AI & How Does It Work?.”
- (Optional) Bring in or show examples of tools or services that use AI and those that don’t (e.g., smart speaker vs. basic calculator).

Lesson Plan

1. Read the Introduction
   - Students can read the introduction silently, in pairs, or listen as you read it aloud
   - Key points to emphasize:
     - AI is a computer system that can do things like learning, recognizing patterns, or making predictions.
     - It learns by training on large amounts of data (images, words, sounds, etc.).
     - AI is not alive—it does not think or feel, but it can appear smart.

2. Activity 1: Teach the AI; You Be the Coder
   - Introduce the idea of if-then rules that help AI recognize patterns.
   - Students write 3–5 “if-then” rules to teach an imaginary AI how to sort items.
   - Share a few rules aloud and discuss:
     - Which rules worked?
     - Were any unclear or confusing?
     - How does this relate to how AI learns?

3. Activity 2: AI or Not?
   - Give students time to work in small groups or pairs on the chart. If students are working independently, they can do this table on their own and share their thoughts with you afterwards.
   - Debrief as a class. Clarify that AI uses data and makes predictions, while some tools follow fixed rules.

4. Activity 3: Predict like AI
   - Ask students to read Jordan’s profile and predict what content an AI might recommend next.

Give students time to reflect and think about AI in their lives and the choices they make.

THE FOUNDATIONS OF AI

Learning Goals for this lesson:

- I can explain what artificial intelligence is and give examples of how it's used in everyday life.
- I can describe how AI learns using data and patterns.
- I can recognize the difference between AI doing something "smart" and a human truly understanding something.

Let's Learn about AI.

Have you ever talked to Siri or Alexa? Or maybe you've seen YouTube recommend videos just for you? That's AI in action!

Artificial Intelligence — or AI — is when a computer or machine is built to do things that usually need human intelligence. That means things like learning, solving problems, understanding language, recognizing pictures or voices, and even making decisions.

Think about:

- Your phone finishing your sentences when you type
- YouTube or TikTok suggesting videos you might like
- A smart speaker like Alexa answering your questions

That's AI at work — helping computers "act" smart. But here's the important thing: AI is not a human. It doesn't actually think or feel the way people do.

AI works by learning from data — and a LOT of it.

1. **Training with Data** – Imagine you want to teach a computer to recognize cats in photos. You show it thousands of pictures labeled "cat" and "not cat." Over time, the AI starts to spot the patterns — pointy ears, whiskers, etc. That's called machine learning.
2. **Making Predictions** – Once trained, the AI can look at a new picture and guess, "Is this a cat?" It's not thinking like a human. It's just using patterns it's seen before.
3. **Getting Smarter Over Time** – Some AI systems keep learning: the more they are used, the more accurate they get. But they can also make mistakes, especially if the data is confusing, limited, or biased.

Reflection Question:
If AI can learn from patterns but doesn't have feelings or a brain, what's something you can do that AI can't? Why do you think that matters?

THE FOUNDATIONS OF AI

Activity 1: Teach the AI; You Be the Coder

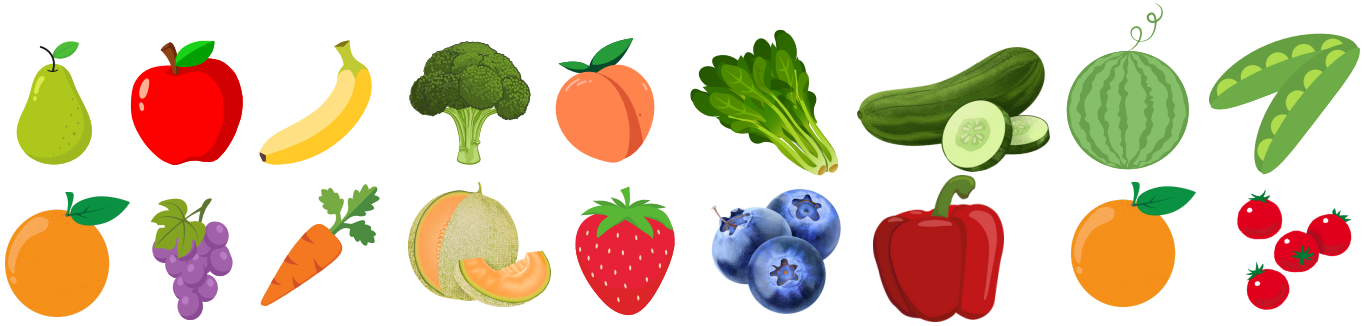
AI systems don't just guess. They follow instructions or rules based on data. A lot of this is built using something called 'if-then' logic. It's like saying:

- **If** the weather is rainy, **then** bring an umbrella.
- **If** the word ends in 'ing,' **then** it's probably a verb.

AI systems do the same — they follow rules and recognize patterns.

- **If** the image has four legs and fur, **then** it might be a dog.
- **If** the voice says "play music," **then** start the playlist.

Look at the set of food below. Write 3–5 "if-then" rules that you would give the AI to help it decide whether the food is a fruit or vegetable.



IF-THEN Rules:

- ***If** the item is red, round, and grows on a tree, **then** it might be an apple (fruit).*
- _____
- _____
- _____
- _____
- _____

Discussion Questions:

- Was it easy or hard to make rules?
- What might happen if the AI didn't have enough data?
- What if the data was wrong or confusing?

THE FOUNDATIONS OF AI

Activity 2: AI or Not?

Fill out the table below to think more about what uses AI and what doesn't.

Item	Do you think this uses AI? Why or why not?	What clues or features made you think that?
Autocorrect & Predictive Text You are typing on a phone and it is changing the spelling of what you write. It also gives you words for what it thinks you will type next.		
GPS Navigation As your parent drives you to practice, the navigation suddenly changes because it has detected a traffic jam ahead.		
Music Recommendations You are listening to your favorite song. After it's finished, the app starts another song that you haven't ever heard before but you like! It sounds just like the type of music you usually listen to.		
Video Game Enemy You're playing a video game and the enemy characters get smarter each time you beat them. They start dodging your moves and trying new tricks.		