
AI LITERACY UNIT

GRADES 6–8

A 3-Week Project-Based Exploration

What AI Is • How It Works • Bias & Ethics • Practical Tools

15 Lesson Plans • Activity Packet • Debate Cards • Project Menu • Assessment
No Coding Required • Browser-Based Activities

Teacher Guide & Implementation

Why Teach AI Literacy?

Middle schoolers are growing up in a world where AI will be as ubiquitous as the internet. This unit doesn't just teach them what AI is; it teaches them how to navigate it critically, ethically, and creatively. We move them from passive consumers of technology to informed, skeptical creators.

Technology Requirements

This unit is designed for classrooms with access to Chromebooks, laptops, or desktops with internet browsers. **No student accounts, logins, or coding software are required.** Activities use free, web-based tools like Google's Quick, Draw! and free text/image generators.

3-Week Pacing Guide

Week 1	Foundations: What is AI & How Does It Work?	Lessons 1-5 (AI vs. Not, Training Data, Algorithms, Patterns, Quick Draw)
Week 2	Impact: Bias, Ethics & Society	Lessons 6-10 (Everyday AI, Bias Intro, Case Study, Debate Prep, Debate)
Week 3	Application: Tools, Integrity & Creation	Lessons 11-15 (Prompt Engineering, Sandbox, Academic Integrity, Projects)

Vocabulary Wall Cards

Print and display these key terms in your classroom throughout the 3-week unit.

Artificial Intelligence (AI)	The simulation of human intelligence processes by machines, especially computer systems.
Algorithm	A step-by-step set of instructions a computer follows to solve a problem or complete a task.
Training Data	The large amount of data used to teach an AI model how to make decisions or recognize patterns.
Machine Learning	A type of AI where systems learn from data to improve their performance without being explicitly programmed.
Bias (in AI)	Systematic errors in AI output caused by flawed assumptions or prejudices in the training data.
Prompt Engineering	The skill of writing clear, specific instructions to get the best possible output from a Generative AI.
Hallucination	When an AI generates false or made-up information and presents it as if it were a fact.
Academic Integrity	The ethical use of information and technology in schoolwork, including honest use of AI tools.

15 Lesson Plans

LESSON 1: WHAT IS AI?	Duration: 45-60 mins
Objective:	Students will define Artificial Intelligence and distinguish between Narrow AI and General AI.
Essential Question:	Is the device I use to help me with homework actually 'intelligent'?
Warm-Up (5 mins):	List 3 things you interacted with today that might be AI.
Direct Instruction (15 mins):	Define AI. Contrast Narrow AI (task-specific like Siri) with General AI (sci-fi concept). Discuss how AI is already embedded in daily life (social media feeds, video games).
Browser Activity / Practice (20 mins):	Students complete the 'AI or Not?' sorting activity in their packet, categorizing everyday tech.
Closure (5 mins):	Exit Ticket: Why is the AI we have today considered 'Narrow AI'?

LESSON 2: HOW MACHINES LEARN	Duration: 45-60 mins
Objective:	Students will explain the concept of 'training data' and how algorithms learn patterns.
Essential Question:	How does a computer learn if it doesn't have a brain?
Warm-Up (5 mins):	How did you learn to recognize a dog? How might a computer learn?
Direct Instruction (15 mins):	Introduce Machine Learning. Explain that AI doesn't 'think' but finds patterns in massive datasets. Use the analogy of teaching a child to recognize an apple by showing 1000 pictures.
Browser Activity / Practice (20 mins):	Students complete the 'Training Data' worksheet, predicting what an AI would learn if trained on biased or limited data sets.
Closure (5 mins):	Share out: What happens if the training data is wrong?

LESSON 3: ALGORITHMS & RULES	Duration: 45-60 mins
Objective:	Students will understand that AI follows algorithms (step-by-step instructions) to make decisions.
Essential Question:	Are computers creative, or are they just very fast at following rules?
Warm-Up (5 mins):	Write step-by-step instructions for making a PBJ sandwich (algorithm).
Direct Instruction (15 mins):	Define Algorithm. Show how AI uses complex algorithms to process data inputs and generate outputs. Discuss how recommendation algorithms work on YouTube/Netflix.
Browser Activity / Practice (20 mins):	Students write their own 'Recommendation Algorithm' flowchart for a fictional streaming service.
Closure (5 mins):	How do algorithms save us time, and how might they trap us in a 'filter bubble'?

LESSON 4: PATTERN RECOGNITION	Duration: 45-60 mins
Objective:	Students will explore how AI uses pattern recognition to make predictions.
Essential Question:	Can a computer predict what you want before you even ask for it?
Warm-Up (5 mins):	Look at the sequence: 2, 4, 6, 8... What comes next? How did you know?
Direct Instruction (15 mins):	Explain Pattern Recognition. Discuss how AI looks for data patterns to predict behavior (e.g., auto-complete, shopping recommendations).
Browser Activity / Practice (20 mins):	Students analyze a mock dataset of 'Student Reading Habits' and write predictions an AI would make based on the patterns.
Closure (5 mins):	Exit Ticket: Name one way pattern recognition makes your life easier.

LESSON 5: HANDS-ON: QUICK, DRAW! & AI DOODLE	Duration: 45-60 mins
Objective:	Students will interact with a real AI to understand how it recognizes patterns in human drawings.
Essential Question:	How does an AI guess what I'm drawing before I'm even finished?
Warm-Up (5 mins):	Quick draw a 'shoe' on a piece of paper. What features make it a shoe?
Direct Instruction (15 mins):	Explain how image recognition models work by looking at lines and shapes. Introduce Google's 'Quick, Draw!' experiment.
Browser Activity / Practice (20 mins):	Students access Quick, Draw! on their browsers. They draw the prompts and log which ones the AI guessed correctly/incorrectly and why in their Activity Packet.
Closure (5 mins):	Class discussion: Why did the AI struggle with some drawings but not others?

LESSON 6: AI IN EVERYDAY LIFE	Duration: 45-60 mins
Objective:	Students will identify and evaluate the presence of AI in their daily routines.
Essential Question:	Am I controlling the tech, or is the tech controlling me?
Warm-Up (5 mins):	Track your morning routine: Where did AI play a role?
Direct Instruction (15 mins):	Map out a typical teenager's day and highlight AI touchpoints (Spotify, Google Maps, Snapchat filters, smart home devices). Discuss convenience vs. reliance.
Browser Activity / Practice (20 mins):	Students complete the 'Daily AI Audit' in their packet, mapping their own 24-hour AI usage and reflecting on the impact.
Closure (5 mins):	If all AI stopped working tomorrow, what would be the hardest part of your day?

AI Ethics Debate Cards

Topic: Deepfakes & Media

ARGUMENT FOR AI (Pro)	ARGUMENT AGAINST AI (Con)
Pro-AI: AI can be used to create amazing special effects in movies and restore historical figures for documentaries.	Anti-AI: Deepfakes make it too easy to spread fake news, ruin reputations, and trick voters during elections.

Topic: AI in Healthcare

ARGUMENT FOR AI (Pro)	ARGUMENT AGAINST AI (Con)
Pro-AI: AI can analyze X-rays faster and more accurately than doctors, saving lives with early detection.	Anti-AI: An AI cannot empathize with a patient, and if it makes a misdiagnosis, it cannot be held medically or legally responsible.

Unit Assessment: AI Literacy

Name: _____ Date: _____

Part 1: Multiple Choice (2 pts each)

1. What is the main difference between Narrow AI and General AI?

- a) Narrow AI is slow, General AI is fast.
- b) Narrow AI can only do specific tasks, General AI can think like a human across all tasks.
- c) Narrow AI is in robots, General AI is in computers.
- d) There is no difference.

2. What does the phrase 'Garbage In, Garbage Out' mean in relation to AI?

- a) If you put trash in a computer, it will break.
- b) AI creates a lot of physical waste.
- c) If the data used to train an AI is flawed or biased, the AI's output will be flawed.
- d) AI learns better when data is messy.

3. Which of the following is an example of AI 'Hallucination'?

- a) An AI generating a realistic picture of a cat.
- b) An AI making up a fake historical fact and stating it confidently as true.
- c) An AI correctly answering a math equation.
- d) An AI recommending a song you like.

Part 2: Short Answer (5 pts each)

4. Explain what 'Prompt Engineering' is and why it is an important skill when using Generative AI.

5. Describe one example of AI bias we discussed in class. How does the bias happen, and who does it affect?
