



KIDS N TECHNOLOGY | AI-STEM SMART™

MIDDLE SCHOOL AI ENRICHMENT MODULE

Unit 1 — Lesson 1 | Teacher's Guide

What Is Artificial Intelligence?

Driving Question:

How can I tell the difference between human intelligence and artificial intelligence, and why does that distinction matter?

Grade Band	5th – 8th Grade	Duration	45–60 Minutes / 1 Session
AI Literacy Focus	AI Foundations. What AI Is and Is Not.	Pedagogy	Project-Based Learning (I.D.E.A.S. Framework)
Standards Alignment	• ISTE: 1.5 (Computational Thinker) • CSTA: 2-AI-01 • NGSS: Science & Engineering Practices 6 (Constructing Explanations)		

1. Kids N Tech Checklist

 Physical Kit Items	 Classroom Technology
No physical kit is required for this lesson.	• Teacher device with internet access and projected screen • LLM access: Claude (claude.ai), ChatGPT, or Gemini • Student Lesson 1 Worksheet (print or digital) • Unit 1 Video: Foundations of AI (unit overview) ✓ Zero downloads required

2. Teacher "Zero-Tech" Cheat sheet

What is happening in this lesson?

Students are being introduced to artificial intelligence for the first time or are getting a structured definition to replace misconceptions they already have. The core idea is simple:

AI is a tool. It does not think. It does not feel. It looks at enormous amounts of data, finds patterns in that data, and uses those patterns to make predictions.

When you ask a voice assistant a question, it is not "figuring out" the answer the way you would. It matches your question to patterns it has seen billions of times before and predicting the most likely response.

The live teacher demo with an LLM (like Claude or ChatGPT) is the centerpiece of this lesson. You are not teaching students to use AI today; you are showing them what it does so they can start thinking critically about it.

 **Important:** If the AI gives a weird or wrong answer during your demo, do not restart. That is the lesson. It is also important to note that AI is advancing so fast that responses will often seem close to perfect, almost too polished. The average student or human does not respond with that level of precision. Name that gap out loud for students.

3. Instructional Flow (I.D.E.A.S. Framework)

PHASE	PURPOSE	TIME
I — Introduce	Real-World Hook & Problem Setup	7 min
D — Demonstrate	Teacher Live Setup / Modeling	10 min
E — Explain	Core AI Concept	10 min
A — Activity	Hands-On Build & AI Integration	18 min
S — Showcase	Student Demonstration & Reflection	10 min

I

INTRODUCE

Real-World Hook & Problem Setup

7
Min

 **Note:** The Unit 1 video is a unit overview — not an instructional tool for this lesson. Use it at your discretion as a teacher reference only.

- Open with the warm-up question on Slide 2: "Think about where you've seen or heard about AI before. Turn to a partner and share for one minute."
- Accept all answers, i.e. robots, ChatGPT, Siri, Netflix suggestions, video game enemies, etc. Write them on the board without correcting anything yet.
- Ask the driving question aloud: "How can you tell the difference between human intelligence and artificial intelligence, and why does that matter?"
- Tell students: "By the end of today, you will be able to answer that question, and you will probably be surprised by what AI actually is."

D

DEMONSTRATE

Teacher Live Setup / Modeling

10
Min

- Open your chosen LLM (Claude, ChatGPT, or Gemini) on your device and project it for the class.
- Type this prompt exactly as written: "Explain what artificial intelligence is to a 5th-grade student."
- Read the response aloud. Do not editorialize yet, just read it.
- Ask students: "Does this sound like a response you would give, or a machine generating text? What's the difference?"
- Ask: "What did the AI explain clearly? What did it leave out, or did it give too much verbiage?"

 **Teacher Note:** If the response surprises you or seems off, say: "Interesting, let's keep that in mind. We'll come back to why AI sometimes does unexpected things." It's also important to note that AI is advancing so fast that responses will often seem close to perfect. The problem is it can be too perfect, the average student or human does not respond with that level of polish. Point this out to students as part of the discussion. Do not skip past errors or unusual outputs.

E

EXPLAIN Core AI Concept

10
Min

- Display Slides 3–5. Walk through each one in plain language using the talking points below.

Slide 3 — What Is AI: “AI is a tool. It is not human, it does not have feelings, and it does not understand the world the way you do. It processes data and predicts responses.”

Slide 4 — Humans vs. AI: Run the Human Pattern Game, give students a rule: “Stand if I say a color, sit if I say a number.” After 4–5 rounds say: “You just did what AI does, you followed a pattern. The difference is you understood the rule. AI just matches patterns without understanding anything.”

Slide 5 — AI and Data: “AI can only work with information it has been given. If the data is limited or wrong, the AI's responses will be too.”

Key Vocabulary - define and post: **Artificial Intelligence • Data • Pattern • Prediction**

A

ACTIVITY Hands-On Build & AI Integration

18
Min

- Distribute Student Lesson 1 Worksheets (print or digital).

Part 1 — 2 min: Students complete independently: “Before today's lesson, what did you think AI was?” This captures prior knowledge they will compare to their learning at the end.

Parts 2 & 3 — 8 min: Fill-in definitions and the Human vs. Machine sort. Circulate. Common errors to watch for: students who put “predicting the next word” in the Human column.

Class Share-Out — 3 min: Who sorted ‘scanning millions of books to find a pattern’? What did you decide, and why?”

Parts 4 & 5 — 5 min: Students complete independently: critical thinking response and the Everyday AI Challenge.

S

SHOWCASE
Student Demonstration & Reflection**10**
Min

- Closing question (whole class, hands up): "What is one new thing you learned about AI today that surprised you?"
- Display Slide 7. Ask 3–4 students to share their Part 4 critical thinking response aloud.
- Exit Ticket: Students complete Part 5 of the worksheet (if not finished) "List one specific example of AI you have seen in action this week."
- Preview Lesson 2: "Now that you know what AI is, next time we'll look at exactly how it generates responses, and why it can sound completely confident while being completely wrong."

4. Sample Student Lab Sheet (Workbook)

Full printable worksheet is Component 3 — produced separately. The table below captures the teacher demo data-collection element embedded in this lesson.

Trial #	AI Prompt Used	AI Output / Response	Notes: Does this sound human? What's missing?
1	"Explain what AI is to a 5th grader."		
2	Teacher follow-up prompt (class-generated)		

5. Performance Assessment Rubric

EVALUATION CRITERIA	Development (1 Pt)	Proficient (2 Pts)	Master (3 Pts)
AI Definition & Understanding	Students give a vague or inaccurate description of AI (e.g., "AI is robots" or "AI is smart")	Student explains that AI uses data and patterns to make predictions and is created by humans	Student explains AI accurately, distinguishes it from human intelligence, and gives a specific real-world example
Human vs. AI Sorting	Students sort fewer than 3 items correctly or cannot explain any choices	Student correctly sorts at least 4 of 6 items and gives a basic reason for one choice	Student correctly sorts all 6 items and clearly explains the reasoning behind at least two choices
Critical Thinking & Reflection	Student response is one word or a single sentence with no reasoning	Student writes 1–2 sentences explaining why it matters that AI is a tool, not a person	Student writes a thoughtful response connecting the AI-as-tool concept to a real consequence (e.g., checking AI responses, not over-relying on it)