

Lesson: Arguing With AI — Benefits & Risks

Grades: 8-12

Time: ~50-60 minutes today + 10-15 minutes at the start of next class

Products: 500-word evidence-based argument, AI usage log, citations with live links, peer-review notes, oral defense

Learning goals

Students will...

- Formulate a defensible thesis on a course-relevant topic.
 - Use an AI LLM as a research/writing tool **and** evaluate its outputs for accuracy, bias, and provenance.
 - Locate, cite, and link credible sources; distinguish study/reporting/marketing/opinion.
 - Revise based on source evaluation and peer critique.
 - Articulate the **benefits** (speed, ideation, drafting help) and **risks** (hallucinations, bias, over-reliance, weak sourcing, privacy) of LLM use.
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Materials

- Devices with access to an approved LLM (school account if possible).
 - Citation quick-guide (MLA or APA) and a simple **Source Ladder** poster (see below).
 - Handouts (provided below): *AI Usage Log*, *Source Check Checklist*, *Peer Review Protocol*, *Oral Defense Question Bank*, *Exit Ticket*.
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Lesson flow (today)

1) Launch — 5 minutes

- Prompt: “In 1-2 sentences, what’s *good* about using AI for research/writing? What’s *risky*?”
- Share 2-3 responses. Frame the challenge: “We’ll harness the good, expose the risks, and learn how to fix them.”

2) Thesis & plan — 5 minutes

Students pick or craft a thesis. Offer a **thesis bank** by subject for momentum (examples):

- **ELA:** “Banning books harms student engagement more than it protects well-being.”
- **History:** “The New Deal’s long-term impact was more social than economic.”
- **Science:** “Local bans on single-use plastics reduce pollution less than investment in waste infrastructure.”
- **Civics:** “Lowering the voting age to 16 would strengthen democracy.”
- **Math/CS:** “Mandatory coding in middle school improves—not harms—math reasoning.”

Remind: They must argue *for* or *against* clearly.

3) Use AI to research & draft — 15 minutes

Students can have the LLM outline and even write their 500-word draft, but they must keep an **AI Usage Log** (see template). Post these **low-risk, high-yield prompts** on the board:

- “You are my research assistant. Here is my thesis: ‘___’.
List 5-7 credible sources (mix of peer-review, reputable journalism, .gov/.edu). For each: 1-sentence summary + working link. If unsure, say ‘unknown’—do not invent citations.”
- “Draft a 500-word argument supporting my thesis with **in-text citations** and a reference list with links. Include one counterargument. Flag any claims that need stronger evidence.”

- “Identify likely weaknesses or bias in the draft. What claims risk being over-generalized or misrepresented?”

Rules (post visibly):

- You may **use the LLM**, but every cited source must be **opened, checked, and judged by you**.
- If a link is dead, generic, or irrelevant → **replace it**.
- No personal/private data in prompts.
- Keep a copy of prompts and outputs in your AI Usage Log.

4) Mini-lesson: Evaluate sources — 8 minutes

Teach this **Source Ladder** (from strongest to weakest for most academic arguments):

1. **Peer-reviewed research / systematic reviews**
2. **Government/Intergovernmental (.gov, WHO, OECD) data/reports**
3. **Reputable journalism** (transparent editorial standards, links to primary sources)
4. **Think-tank/NGO reports** (check mission/funding)
5. **Corporate/marketing pages**
6. **Opinion pieces, personal blogs, influencers, AI output itself** (OK for perspective, not for central factual claims)

Quick frameworks to apply:

- **SIFT**: *Stop – Investigate the source – Find better coverage – Trace to the original.*
- **Claim test**: What’s the precise claim? Is there **direct evidence**? Can we trace quotes/data **to the primary**?

Model with one student example: open a cited link, identify what it is (news/marketing/study), and decide if it **supports the specific claim**.

5) Peer review (pairs) — 10 minutes

Use the **Peer Review Protocol**:

- Swap drafts + AI Usage Logs.
- Reviewer highlights **three places** where:
 - a claim exceeds the source (“over-reach”),
 - a source is weak/mis-typed/fabricated, or
 - context is missing (e.g., study limits, correlation vs causation).
- Reviewer also highlights **one** strong use of source triangulation.
- Writer records action items.

6) Oral defenses (rapid-round) — 5–10 minutes

Randomly cold-call 3-4 students (or 1-2 volunteers per group of four) for a **60-second defense**. Use questions from the bank:

- “Which citation most directly supports your central claim, and how?”
- “Which source is least reliable? Why keep/remove it?”
- “Where might your source selection be biased?”
- “What would change your mind?”

7) Exit ticket — 2 minutes

Students submit:

(a) one claim they will cut or revise and **why**, and (b) one step to strengthen evidence (e.g., replace a news article with the underlying study).

Homework (revision)

- Revise to **≤500 words**.
 - Replace weak/problematic sources; add at least **one** primary or higher-tier source.
 - Turn in: revised draft, updated citations with links, and a **Fact-Check Addendum** (3 bullets: what changed and why).
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Next class (opening 10–15 minutes)

- **Gallery walk / small-group share**: What did you change or delete because it wasn't substantiated? How did you validate claims?
 - Whole-class debrief: Make a T-chart of **LLM benefits** (speed, brainstorming, counterargument detection, structure) vs **risks** (hallucinated citations, persuasive wrongness, hidden bias, stale info, privacy).
 - Ask: "Given what we learned, what **ground rules** should we adopt for future AI-assisted work?"
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Differentiation & safeguards

- **Scaffolds**: Provide thesis stems, sentence frames, and a mini-bibliography for students who need a running start.
- **Extensions**: Ask advanced students to locate **contradictory evidence** and explain why they privilege one source.
- **Academic honesty**: Emphasize that **AI output is not a source**. Students must link to verifiable materials.
- **Privacy**: No personal data in prompts; avoid pasting full copyrighted texts into LLMs.

- **Accessibility:** Allow audio defenses; support ELLs with vocabulary banks and model texts.
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Optional teacher moves

- Pre-curate 10 high-quality portals (e.g., Google Scholar, gov datasets, reputable outlets) in your LMS.
 - Keep a “Hall of Fame” of exemplary **claim** ↔ **evidence** pairs from student work (anonymized).
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Handouts & Tools

Arguing With AI — Handouts Packet

For use in today’s lesson and the next class’s follow-up (begins on next page).

1) AI Usage Log (turn this in)

Student name: _____ Class/Period: _____ Date: _____

Thesis (1–2 sentences):

LLM(s) used (name + version): _____

Exact prompts I used (paste; number them):

- 1.
- 2.
- 3.
- 4.

Which parts of my draft were AI-written (highlight in the doc or [bracket] here):

Top 3 AI suggestions I didn't accept (and why):

-
-
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Source list proposed by the LLM (then verified by me):

(Mark ✓ after you open and check the source; mark X if you replaced it and note the replacement link.)

#	Source title (short)	Link (URL)	Type (study/gov/news/think tank/marketing/opinion)	✓ opened & fits	If X, replacement link
1					
2					

3

4

5

6

Privacy & integrity checks (initial each):

I did **not** include personal or sensitive data in any prompt.

I understand **AI output is not a source**; all claims in my draft trace to human-authored sources I opened.

I kept my prompts/outputs for transparency.

Word count target: ≤ 500 words

My word count: _____

2) Source Check Checklist

Goal: Ensure each source truly supports the claim where you cite it.

A. Identify the source type (circle one per source)

1. **Peer-reviewed research / systematic review**
2. **Gov/IGO dataset or report** (.gov, WHO, OECD, etc.)
3. **Reputable journalism** (editorial standards, primary links)
4. **Think tank / NGO report** (check mission/funding)
5. **Corporate/marketing page**
6. **Opinion/editorial/blog/influencer**
7. **AI output** (*not a citable source*)

B. Apply SIFT quickly

- **Stop** (is this familiar & trustworthy?)
- **Investigate** the source (about page, authors, funding)
- **Find better coverage** (do others confirm this?)
- **Trace** to the **original** study/data/quote

C. Claim-to-Evidence Map (fill for 3+ key claims)

Claim sentence (quote or paraphrase)	Source title (short)	Source type	Does it directly support this claim? (Y/N)	Notes (limits, date, sample, bias)
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D. The Source Ladder (use as a guide)

1. **Peer-reviewed research / systematic reviews**
2. **Government/Intergovernmental data & reports**
3. **Reputable journalism**
4. **Think-tank/NGO reports**
5. **Corporate/marketing**
6. **Opinion pieces / blogs / influencers / AI output** (*context only*)

3) Peer Review Protocol (pairs)

Writer: _____ Reviewer: _____ Date: _____

Instructions (10 minutes):

1. Read the thesis and skim the draft (≤500 words). Check links.
2. Use the marks below as you read:
 - Circle any sentence that **makes a checkable claim** without a citation.
 - Put a **?** where a citation **doesn't match** the claim (over-reach or wrong source type).
 - Put a **★** on the **strongest** claim ↔ evidence pairing.
3. Give the writer **three action items** they can do in 10–15 minutes to strengthen the piece.

Quick checks:

- [] At least one **primary/high-tier** source (study or gov/IGO data).
- [] Counterargument is addressed with evidence (not just opinion).
- [] All links work and point to the **actual** source cited.

Three action items:

- 1.
- 2.
- 3.

Optional quick ratings (1=Emerging ... 4=Exemplary):

- Evidence quality: 1 2 3 4
- Source-claim alignment: 1 2 3 4
- Clarity & focus: 1 2 3 4

Reviewer signature: _____

4) Oral Defense Question Bank (teacher & peers)

Evidence & Method

- Which citation most directly supports your central claim, and how?
- Is any citation **primary**? If not, where would you find one?
- What important **limit** (date, sample, method) would you disclose to a skeptical reader?

Bias & Context

- Where might your source selection or language reflect **bias**?
- Did you find any **contradictory evidence**? Why privilege one source over another?

Counterargument

- What is the **strongest** counterargument, and how does your evidence answer it?

AI Process Transparency

- What did the LLM suggest that you **rejected**, and why?
- If an AI-suggested link was weak/wrong, how did you detect and replace it?

Revision Plan

- Which one claim will you cut or revise after today, and why?
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5) Rubric (4 criteria × 4 levels)

Criteria	4 – Exemplary	3 – Proficient	2 – Developing	1 – Emerging
Argument & Focus	Clear, precise thesis; strong organization; includes and rebuts a substantive counterargument.	Clear thesis; logical flow; addresses a plausible counterargument.	Thesis present but vague; organization uneven; counterargument superficial or missing.	Unclear claim; disorganized; no counterargument.
Evidence Quality	Sources fit upper rungs of the Source Ladder ; at least one primary/high-tier source; citations accurately support claims; all links work.	Mostly reputable sources; some primary/official data; minor mismatches corrected; links work.	Mix of strong/weak sources; occasional mismatches or broken links; limited verification.	Reliance on opinion/marketing/AI output; frequent mismatches; non-working links.
Transparency of AI Use	Complete AI Usage Log ; AI-written text clearly indicated; thoughtful human judgment (accepted/rejected suggestions).	Log mostly complete; AI use identified; some reflection on choices.	Partial log; unclear AI vs human text; limited reflection.	No log; obscures AI use; little/no human judgment evident.

Oral Defense & Collaboration	Cites evidence precisely, acknowledges limits/bias; engages peers constructively; integrates feedback into a clear revision plan.	Defends choices with reference to sources; engages respectfully; has a revision plan.	General defense with few specifics; minimal peer engagement; vague plan.	Cannot defend choices; poor collaboration; no plan.
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Exit Ticket (end of class)

Submit with your draft today.

- One claim I will **cut or revise** (and why): _____
- One step I will take to **strengthen evidence**: _____

Homework (revision)

Revise to ≤500 words; replace weak sources; add one higher-tier source; turn in an updated citation list with working links and a 3-bullet **Fact-Check Addendum** explaining changes.