

From the Student Seat: How Learners Are Actually Using NotebookLM

Jennifer Hart · Columbia Gorge STEM Hub

Mandy Webster

Carden Cucuel

**Sawyer
Christensen**

ChatGPT assisted in brainstorming and organization. Gamma and Napkin AI supported presentation creation. Final content, framing, editing, and presentation decisions were human-created and reviewed.





Columbia Gorge STEM Hub

Supporting Rural AI & STEM Learning Across the Gorge

Counties We Serve

- Hood River
- Wasco
- Sherman
- Gilliam
- Wheeler

Focus Areas

STEM

Computer Science

Digital Literacy

Artificial Intelligence

Through partnerships, professional learning, educator networks, and community-connected opportunities.



The Reality

Students Are Already Using AI – Often in the "Least Interesting Way"

Quick Answers

Bypassing the thinking process entirely

Shortcuts

Completing tasks without engaging with content

Surface-Level Thinking

Accepting outputs without questioning them

i But also – we haven't shown them many better models yet.

How do we help students move from convenience → intentional use?

Educators Are Still Learning Too

33%

Feel Confident Using AI

16%

Feel Confident Teaching AI

— *Pearson School & College Report 2026*

"Using a tool yourself is one skill. Teaching a student to use it critically, ethically, with judgement, is a completely different one."

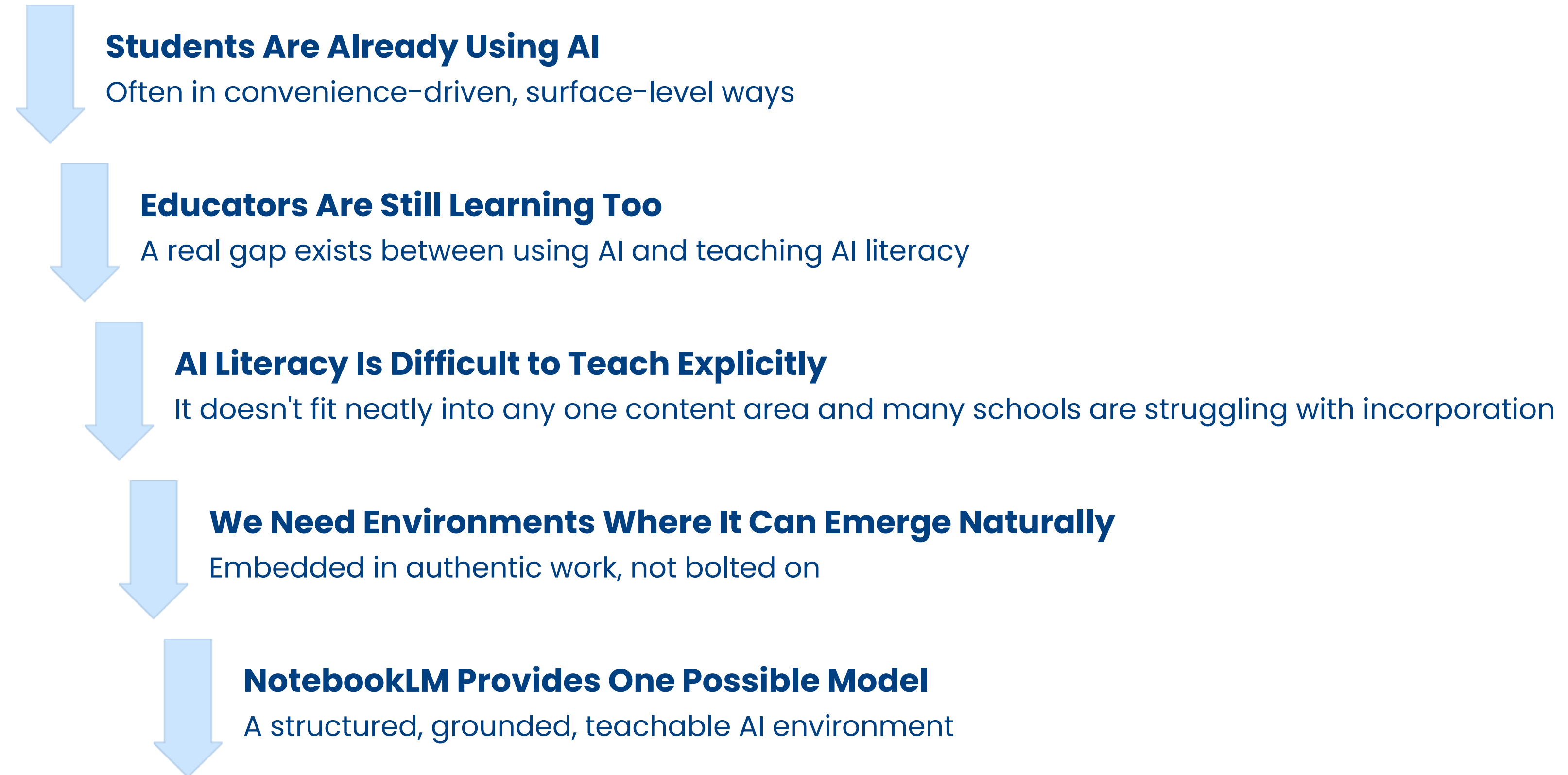
— **Matthew Wemyss**

🗨️ "That gap is where AI literacy lives..."



A Possible Path Forward

The Narrative Arc That Shapes This Work



What Is NotebookLM?

An AI tool grounded entirely in your uploaded sources — not the open internet.

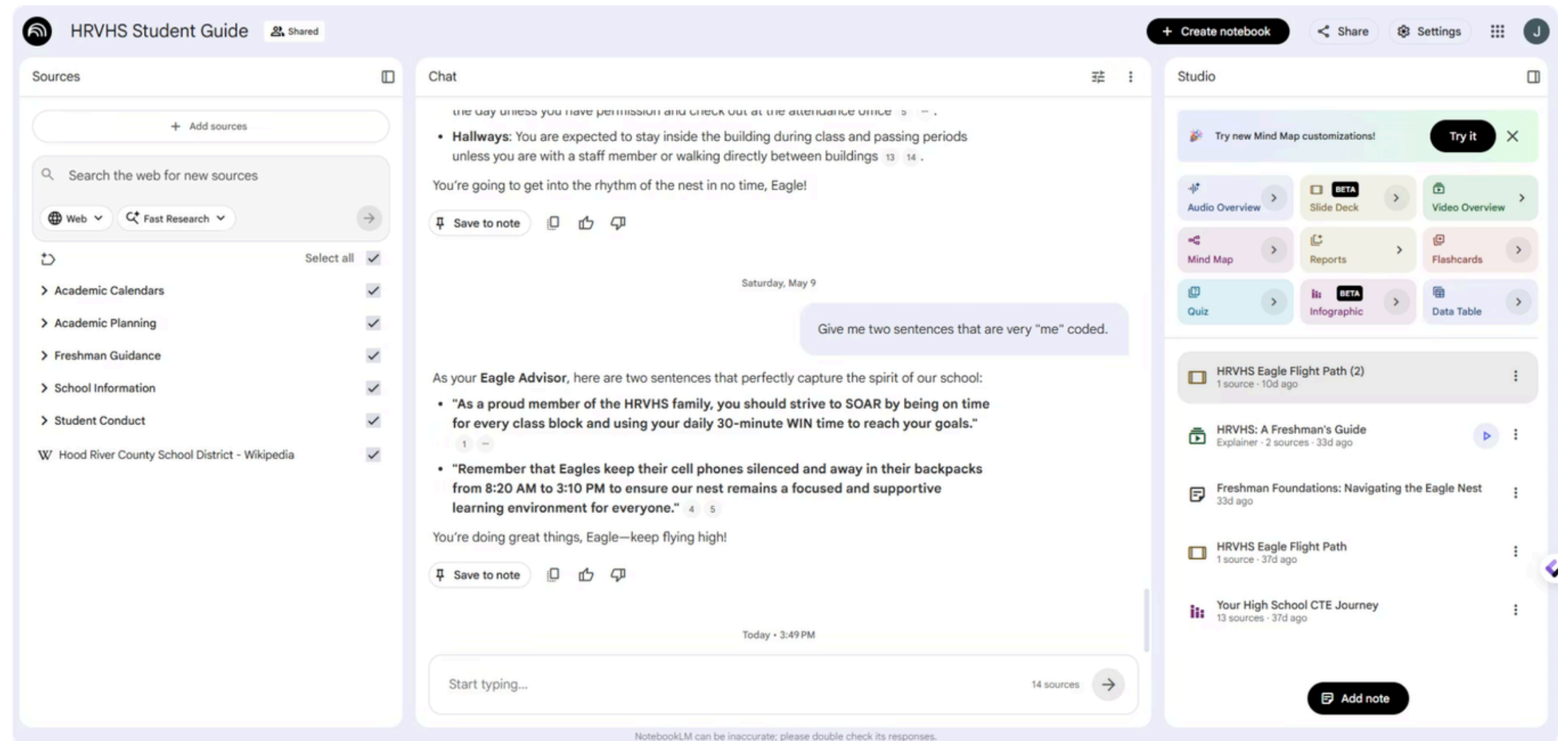
It Can:

- Summarize complex material
- Answer questions from your sources
- Generate study tools and guides
- Organize and connect information

Important Distinction:

- Not pulling from the open internet
- Works only from teacher-provided content

i This distinction between NotebookLM and Gemini or ChatGPT matters enormously for classroom trust, privacy, and teachability.



For Teachers:

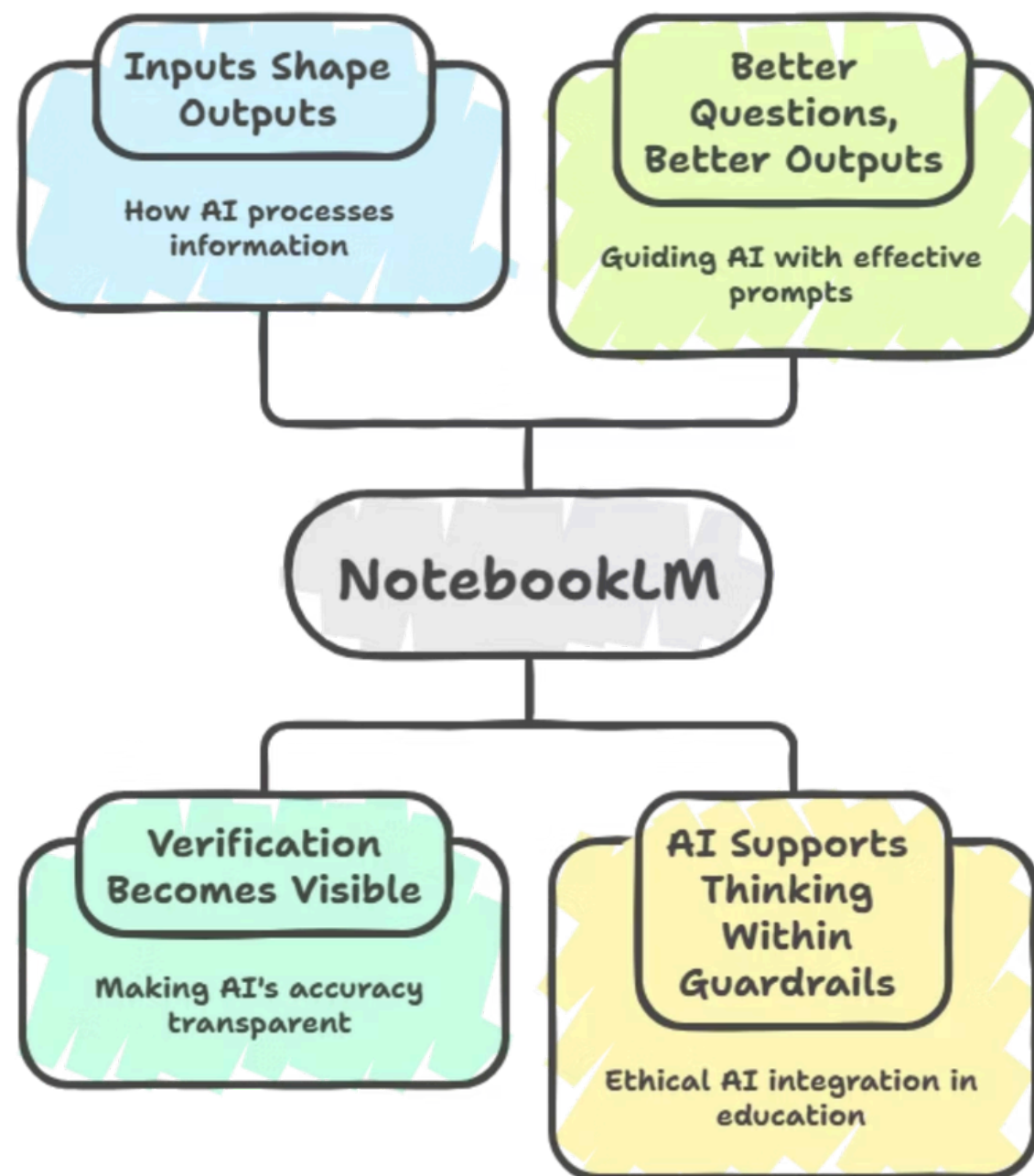
- It's a teaching aide
- It's a tutor for your students

For Students:

- It's a study partner

NotebookLM as a Teachable AI Environment

Not just a tool. A structured environment where AI literacy naturally emerges.



Made with Napkin

Inputs Shape Outputs

- How AI Actually Works
- Bias, Fairness, and Representation
- Privacy, Data, and Digital Footprints

Verification Becomes Visible

- Hallucinations & Verification
- Deepfakes, Misinformation, and Media Literacy

Better Questions, Better Outputs

- Prompt Engineering & Communication

AI Supports Thinking Within Guardrails

- Ethical & Responsible AI Use in School
- AI as a Thinking Partner (Not a Replacement)

Each of these four dimensions of AI literacy doesn't require a separate lesson — they surface organically as students work inside NotebookLM with real classroom content.

Inputs Shape Outputs

Students quickly discover that AI is only as good as what it's given

1 Source Quality Matters

Students see directly how the quality and completeness of uploaded materials shapes every response the AI generates.

2 Missing Perspectives Matter

When a viewpoint isn't in the sources, it doesn't appear in the output — making gaps visible and discussable.

3 Bias Becomes Identifiable

NotebookLM's grounded approach makes it easier to identify bias and surface the importance of diverse, credible sources.

4 Privacy Awareness Matters

Even within FERPA/COPPA-compliant EDU environments, students still need to think critically about what information should — and should not — be shared with AI tools.

- ✔ NotebookLM helps reduce hallucination and makes the relationship between inputs and outputs transparent — a powerful teaching moment.



Verification Becomes Visible

Moving students from "Trust the AI" to "Verify the AI"

Trace Citations

NotebookLM links responses directly back to the source material, making verification a natural next step.

Check Source Material

Students can open the original document and compare what the AI said to what the source actually says.

Compare Outputs to Texts

Side-by-side comparison builds critical reading habits alongside AI literacy.

Verification isn't a separate skill to teach — it becomes the natural habit when students can actually see where the AI's answer came from.

The screenshot shows a chat window titled "Chat". A user asks, "What's a standard schedule day like?". The AI responds with a detailed answer about an alternating A/B block schedule. The answer includes a list of bullet points: A/B Rotation, WIN Time, Mondays, Zero Period, Announcements, Closed Campus, and Hallways. A citation box on the right side of the chat window shows the source: "25-26 Student Handbook HRVHS.pdf". A specific quote from the source is highlighted: "What Individuals Need" (WIN) Time is a 30 minute period each day where students can choose to meet with teachers, get extra help, study, or attend club meetings or activities. Students must attend the WIN time for which they are scheduled. Below the quote, another highlighted section states: "On Mondays students attend their Advisory class to schedule their WIN time classes and get important school information. Students usually have the same Advisory teacher all four years of high school." At the bottom of the chat window, there is a "View source" link and a "Start typing..." input field.

Better Questions, Better Outputs

Students quickly see the direct relationship between how they ask and what they get

Prompt Engineering Beginner

- Still get foundational results
- Prompt guidance by NotebookLM

Thoughtful prompts

- Great results!

NotebookLM makes the skills of **questioning**, **refinement**, **iteration**, and **intentional prompting** visible to students — not as abstract concepts, but as lived experience inside their own work.

Customize Audio Overview

Format

- Deep Dive** ✓
A lively conversation between two hosts, unpacking and connecting topics in your sources
- Brief**
A bite-sized overview to help you grasp the core ideas from your sources quickly
- Critique**
An expert review of your sources, offering constructive feedback to help you improve your material
- Debate**
A thoughtful debate between two hosts, illuminating different perspectives on your sources

Choose language
English

Length
Short ✓ Default Long

What should the AI hosts focus on in this episode?

Provide a step-by-step approach for integrating AI literacy into existing classroom lessons. Tab →

+ Teacher Perspective + Practical Implementation + Key Takeaways

Generate

📘 Prompting is a thinking skill. When students learn to prompt well, they're learning to ask better questions — one of the most transferable skills in any discipline.

AI Supports Thinking Within Guardrails

Moving Students Toward Partnership



Self Assessment



Study Guides



Questioning



Idea Connection

"Do this for me"

Convenience-driven, passive use

"Help me think through this"

Partnership-driven, active thinking

Also Important in EDU Environments

✓ FERPA & COPPA-aligned guardrails built into the environment

i Privacy conversations become natural — not a separate compliance lesson

☐ Safer AI exploration for students of all ages

NotebookLM's design supports the kind of AI use we're looking for — grounded, bounded, and transparent.

We're Not Adding AI Literacy — We're Embedding It

Inside the tool that provides safe, guided student use



How AI Works

Inputs & prompting — students learn by doing, not by being told



How to Evaluate AI

Verification — tracing citations, checking sources, comparing outputs



How to Use AI Well

Thinking partner — moving from convenience to intentional, responsible use



How to Use AI Safely

Privacy & guardrails — FERPA/COPPA-compliant environments

Whether we have AI Literacy time available for students or not, we can create learning environments where AI literacy naturally emerges. NotebookLM provides one possible model for that.





Exploring Notebook LM in the Writing Classroom

A work-in-progress from a dual-credit Writing 121/122 instructor — with a few classroom experiments, honest reflections, and ideas worth trying.

A.I. IN EDUCATION CONFERENCE

A Quick Disclaimer Before We Begin

I Am Not the Expert in the Room

I've used Notebook LM only a handful of times — enough to see real potential, but not enough to call myself an expert! I'm sharing early observations and classroom experiments, not a polished framework.

For deeper technical guidance, please lean on Jenn and Carden, who have spent considerably more time inside the tool. My goal today is simply to spark ideas about how Notebook LM might fit into a writing course you already teach.

What I Can Offer

A writing teacher's honest perspective on A.I. as a research scaffold

 This is just one way to use it, and I am still experimenting myself!



The Problem-Solution Project

The final project in Writing 122 is a community-grounded research assignment that asks students to move beyond library research and into the real world.

01

Identify a Local Problem

Students choose a real, specific issue affecting their own community or school. .

02

Conduct Action & Field Research

Observation, surveys, interviews, and community data — students gather original evidence alongside published sources.

03

Diagnose the Root Cause

Students dig beneath symptoms to find the structural or systemic cause driving the problem.

04

Propose & Argue for Solutions

A formal argument essay and presentation that makes a case for realistic, evidence-based solutions to a real audience.

The Practice Topic

Local News Deserts in Rural Areas

What Is a News Desert?

A news desert is a community — often rural or low-income — that has lost its local newspaper or broadcast outlet, leaving residents without reliable coverage of local government, schools, or public health.

Since 2005, the U.S. has lost roughly **2,500 local newspapers**. Rural communities are disproportionately affected, creating gaps in civic accountability and informed participation.

Why This Topic Works for Class

- Relatable and researchable at the local level
- Rich in published data AND opportunities for field research
- Connects to civics, and seniors take Government class as a grad. requirement.
- Multiple viable solution angles: nonprofit models, community journalism, policy advocacy
- Low barrier to entry — students can observe and survey locally

What Is Notebook LM?

Notebook LM lets you upload a set of sources and then ask questions, generate summaries, and explore connections — all grounded strictly in the documents you provide.



Source-Grounded

Unlike general chatbots, Notebook LM only draws from your uploaded sources — reducing hallucination and keeping students anchored to real evidence.



Audio Overviews

Notebook LM can generate a podcast-style dialogue summarizing your sources — useful for auditory learners or pre-reading orientation.



Conversational Q&A

Students can ask nuanced questions and receive cited responses, helping them navigate dense or technical readings more efficiently.



Synthesis Prompts

It can help students spot patterns, contradictions, and gaps across multiple sources — a skill central to college-level argumentation.

Chapter 2 – Using the Tool

Building a Notebook LM Source Set

The first practical step is curating a meaningful source set. For the news desert practice topic, I uploaded a mix of documents before they practiced examining the resources.

Published Reports

Pew Research data on local news closures, UNC Hussman School journalism desert maps, and Knight Foundation briefs on local media funding

Local Data

County-level newspaper closure data, census population figures, and any available local community surveys students could find or conduct

Opinion & Solution Pieces

Op-eds arguing for nonprofit newsrooms, public media expansion, or journalism school partnerships — sources modeling solution argumentation

Student-Gathered Sources

Interview transcripts, survey results, and observation notes from students' own field research — making the notebook genuinely theirs

Classroom Application

How Students Use Notebook LM at Each Stage

Stage 1: Orientation

Students generated an Audio Overview to get a n overview of the news desert problem before diving into individual sources.

1

2

Stage 2: Root Cause Inquiry

Students asked Notebook LM targeted questions: *"What do these sources identify as the primary cause of rural news decline?"* — then compared the A.I. answer to their own reading and compare to presentation from class.

3

Stage 3: Counterargument Mining

Students prompted the tool to surface objections to proposed solutions, helping them anticipate and address opposing views in their essays.

4

Stage 4: Gap Identification

Students as what questions their sources *couldn't* answer — pointing them toward field research they still needed to conduct.

Each stage keeps students in dialogue with the sources rather than replacing source-reading with A.I. summaries.

Sample Prompts That We Will Use in Class

The quality of what Notebook LM returns depends heavily on how students phrase their questions. These prompts will produce genuinely useful results.

"What root causes do these sources agree on?"

Help students distinguish symptoms (fewer reporters) from causes (advertising revenue collapse, platform dominance).

"Summarize the strongest objection to [proposed solution]."

Helps students build a genuine counterargument section rather than a strawman.

"What solutions do these sources propose, and what evidence supports each?"

Gives students a comparative solution map they could then evaluate and argue for or against.

"Which source best supports the claim that [X]?"

Teaches students to verify citations and not simply accept the A.I.'s synthesis at face value.

"What questions do these sources leave unanswered?"

Naturally direct students toward field research to fill the gaps.

"How do community members describe this problem in their own words?"

Points students to qualitative interview data and helps them find evidence for their essays.

Honest Assessment

What I hope will work, and What I'm Still Figuring Out

HOPES

- Lowered anxiety around dense academic sources
- Encourages more targeted, question-driven reading
- Audio Overview sparks good pre-class discussion
- Students find genuine gaps pointing them toward field research

⚠️ What Could be Tricky

- Students sometimes accept summaries without checking citations
- Source quality matters enormously
- Some students could let the tool do too much early thinking for them
- Requires explicit instruction on how to verify A.I. outputs

? Still Figuring Out

- How to assess "good use" of Notebook LM vs. shortcutting
- Whether to require a reflection on how they used the tool
- Balancing A.I. scaffold with developing independent synthesis skills
- Appropriate disclosure expectations for student work

Ideas to Take Back to Your Classroom

Even with limited experience, here are the approaches that felt most transferable to other writing courses and research-based assignments:

■ **Start with a curated source set, not an open search**

Notebook LM is most powerful — and most academically honest — when students bring their own vetted sources to the tool, not when they use it to find sources.

■ **Use it to generate questions, not just answers**

The "what's missing?" prompt may be the most pedagogically valuable move in the whole tool. It sends students back into the world to do original research.

■ **Build in a verification step**

Require students to locate and read the actual passage Notebook LM cites before they use any claim in their essay. This keeps critical reading central.

✓ Our colleague and student presenter will now take it from here — please direct your technical questions their way. And thank you for listening to someone still very much in the learning curve.

Student Voice

Carden Cucuel

Sophomore at HRVHS in Hood River, Oregon

Experience Using NotebookLM for Roughly 10 Months

Looking to Pursue a Career in Cybersecurity and AI

Presentation Topics

My experience with NotebookLM and how I use it

How students can use NotebookLM

How teachers can encourage students to use
NotebookLM

My Experience With NotebookLM

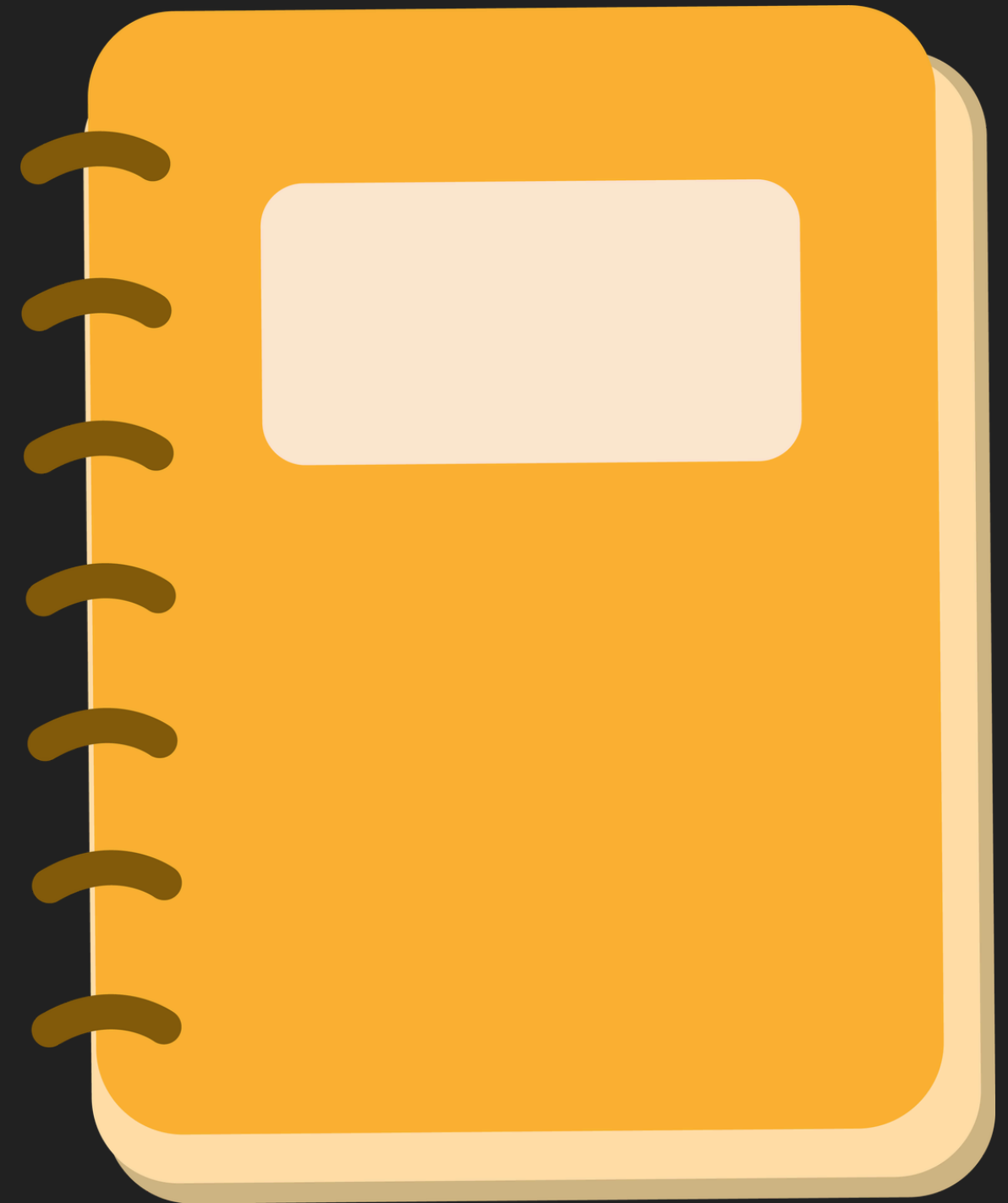
How I Use NotebookLM

Study tool for my harder classes

Sources provided by my teachers as inputs (PDFs, Docs, notes)

Generate specific **study** material for tests and quizzes

Generate videos and flashcard sets



Why do I use NotebookLM?

Productivity hack for studying

Generate **specific** practice material based on **selected** sources

Recognize the importance of AI literacy for my future

Study smarter without the AI doing my work for me

APHG Example

We have to absorb a lot of information and vocab terms

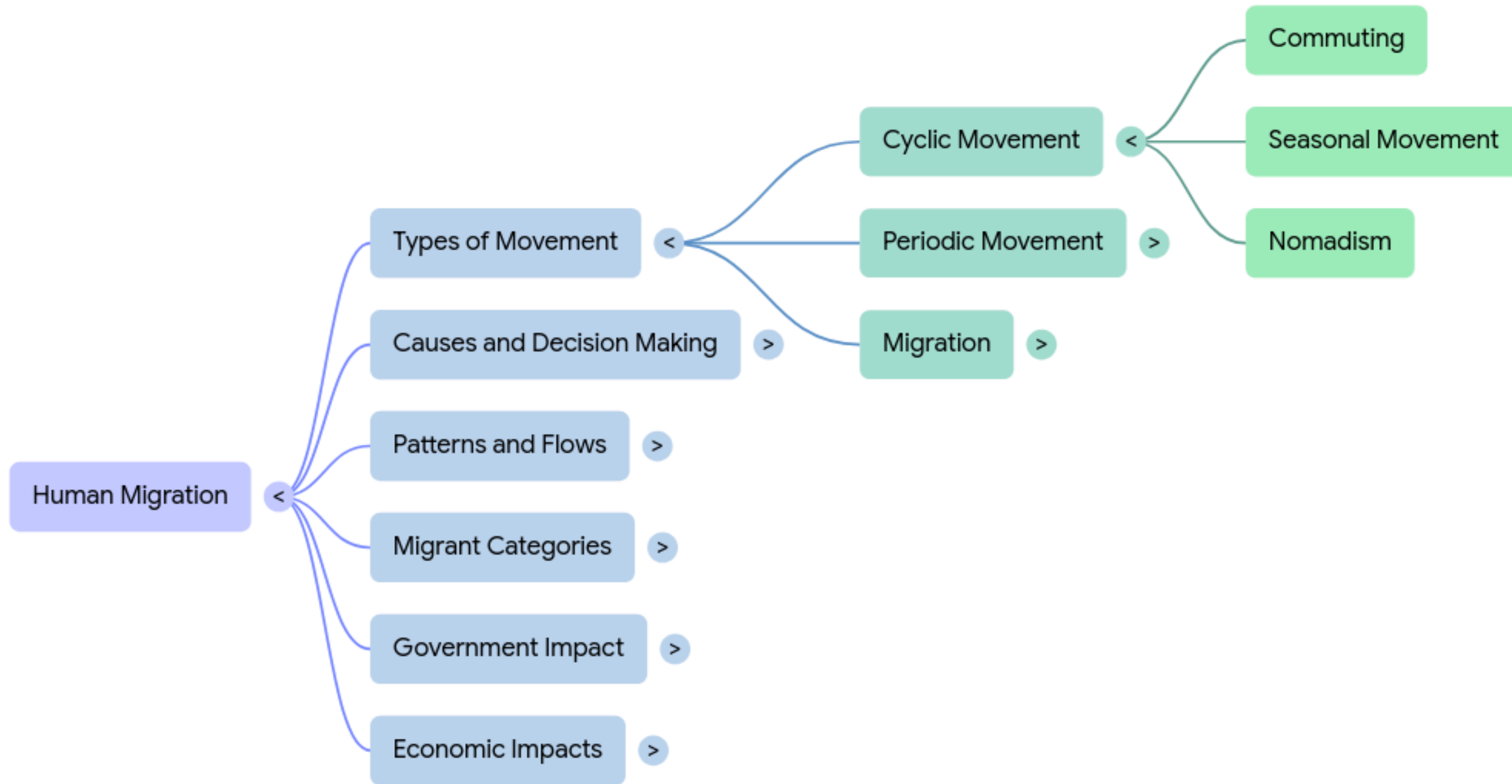
It becomes challenging to find information regarding my specific questions

Can ask specific questions about the unit

Helps me absorb the information

Generate videos and graphs of related terms
(mind maps)





Helping my teachers use it

Helped teachers setup and configure
classroom tutor notebooks

Math tutors

Brainstorm partners

Feedback and rubric on writing



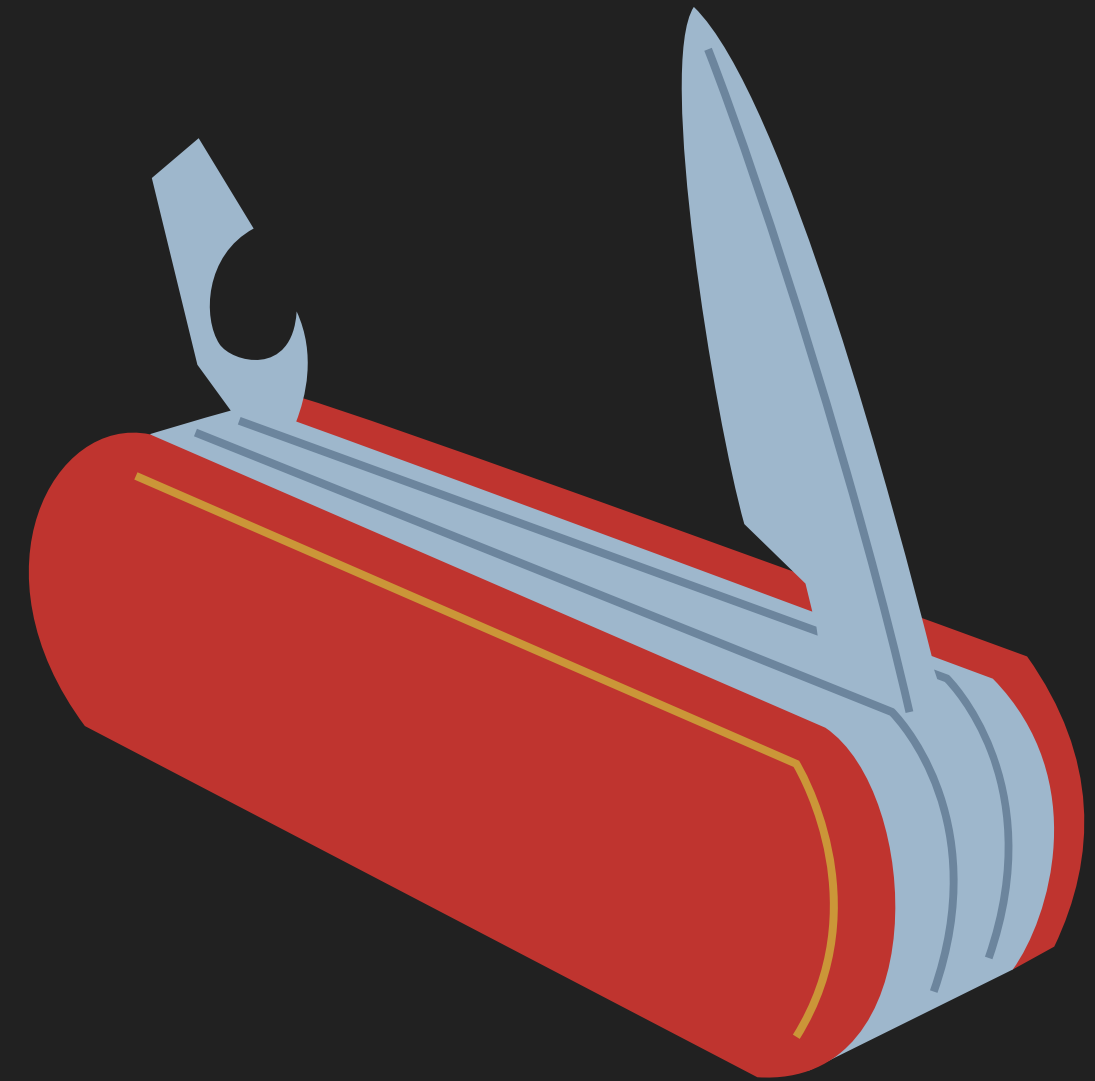
Student Uses of NotebookLM

NotebookLM is Versatile

Sources are limits

It can be used for:

- Brainstorming
- Studying and Practice Quizzes
- Creating Videos and Audio Overviews
- Analyzing Information and Data



Why NotebookLM over Google?

Customization of sources

Ask specific questions

Generate additional content that helps you absorb information

Customize the way that NotebookLM outputs information



Great Tool for Students

Quiz practice

Standardized testing practices

College applications

Personal interests

Career decision making



AI Literacy for the Next Generations

Many jobs in the future will require AI competency

Employees at companies are already being assessed on their use of AI

Apple and Google monitor employee prompts and use the data for evaluation of productivity

NotebookLM is a really easy way for students to explore AI



Ethics and Limits

When it is Okay to use NotebookLM?

Studying

Following teacher guidance for assignments

Tool to strengthen my knowledge in topics

Helps me absorb information more clearly



How do I Know if the Information is Correct?

Specific sources

Output's are relevant to sources

Feature that cites the sections used in the output

Manually reading citations for sketchy outputs



Is NotebookLM Cheating?

NotebookLM is a study tool

It helps students learn

Kids must be aware of its use as a study tool

Not another AI chatbot that does work for them



Teacher Use

Classroom Tutor

Create an effective study tool for kids to use

Custom sources and prompts

Simple and high level tool that students can use to experiment with AI

Create a link to a Notebook in google classroom provides easy access to AI



Ways to Prevent Cheating

Create a teacher-managed
classroom Notebook

Specify strict limits for the AI

Prevents cheating on
assignments while still
allowing kids to dive deep into
the material



Student Exposure

Create a class tutor/chatbot

Add specifications to a syllabus

Structure assignments around
Notebook

Encourage AI experimentation
while helping students understand
the class material more effectively



Thank You

Q&A with Sawyer Christensen

