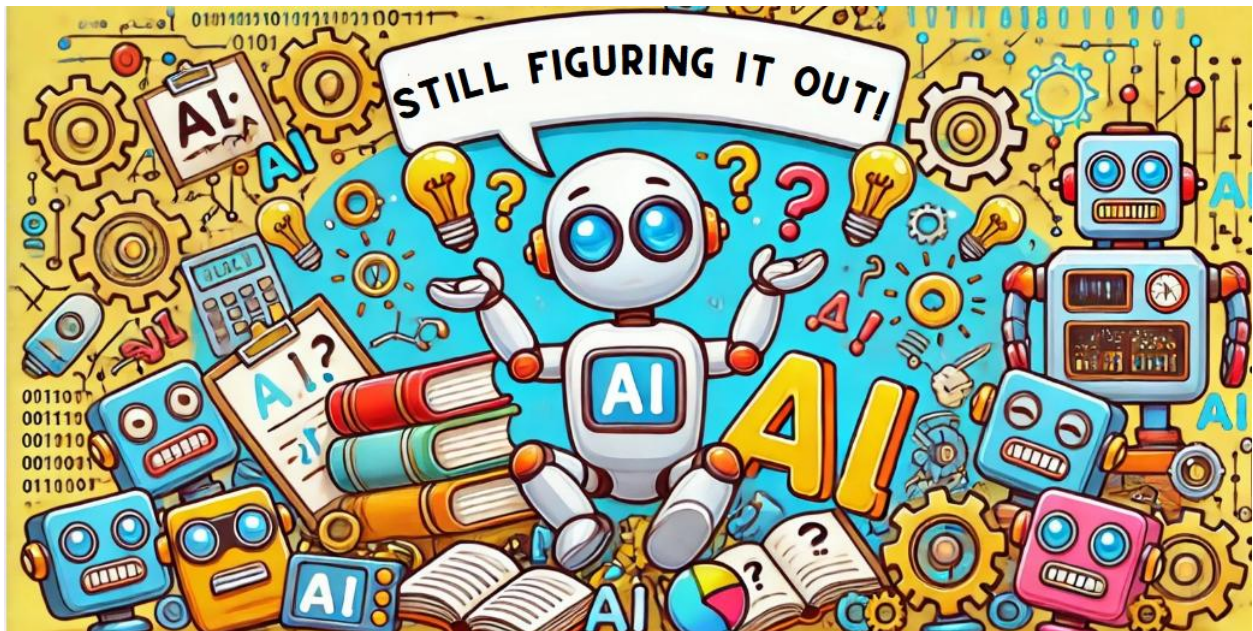


Roane State Community College ITLC AI Packet for Faculty



Each summer the ITLC Committee at Roane State Community College commits to a book club and in 2025 we chose to focus on AI reading Matt Miller's *AI in the Classroom* book.

As a product of that book club, we have outlined many of Miller's strategies below with accompanying examples to help guide you through your use of AI. At the end of the packet we also have discipline specific project examples provided by faculty.

Please note we have not included all of Miller's strategies in this packet and we highly recommend picking up the book for yourself!

Systems Used:

- Chat.openai
- Claude AI

As part of Pellissippi State Community College's 2026 Distance Learning Conference, "Teaching in an AI World," we are submitting this packet as a companion to our presentation, *"AI as a Teaching Partner: Creative Strategies for Faculty Engagement with Roane State Community College."*

Conference Abstract: How do you move faculty from skepticism to experimentation with AI? This presentation shares Roane State's hands-on approach to faculty engagement through ready-to-use teaching materials, collaborative classroom activities, and problem-based learning projects that model ethical AI use. Participants will see how AI can support brainstorming, lesson design, and student creativity without replacing disciplinary rigor. We will provide replicable strategies that help faculty confidently integrate AI as a structured learning tool rather than an academic integrity threat.

If you have any questions please contact:

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Core Book Club Takeaways

- **AI is here to stay**—it is already transforming education and the workforce, and that influence will only grow.
 - To ensure students are **career-ready**, we must help them build AI literacy. The ability to use AI effectively will be a foundational job skill.
 - Students without AI experience may face **equity barriers** in both education and employment.
- Like the telephone, calculator, and computer before it, **AI is a tool**—its value depends on how we choose to use it.
- A central skill for effective AI use is **prompting**—this will become a crucial soft skill for the next generation.
- Matt Miller introduces the idea of wearing "**tomorrow glasses**"—we must prepare students not for the world we were trained in, but for the one they are stepping into.
 - **Teaching in the way we were taught** risks leaving students unprepared for the evolving demands of the modern workplace.
 - Educators need to be future-focused and ask: **How will AI change the way we teach and assess learning?**
 - Though AI feels powerful now, it's still in its **early stages**. Its capabilities will expand rapidly—educators must plan with a long-term mindset.
- While concerns about **cheating** and a return to “paper and pencil” are valid, these are not realistic or authentic approaches for preparing students for real-world work.
 - Our definitions of **plagiarism and cheating** will likely evolve. Ethical AI use depends on context, intention, and assignment design.
 - Always ask: **What are you truly assessing?** This clarity helps guide appropriate AI use.

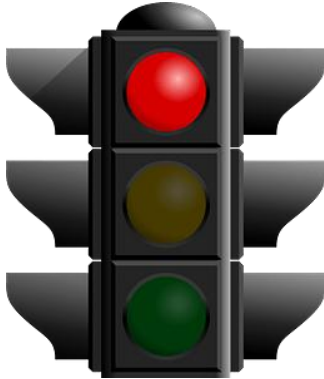
- Be open to experimentation—even when it means trying, failing, and learning alongside your students.
 - Show students that **failure is part of learning**, especially when using new tools like AI.
 - **Imperfect answers are valuable**—they spark exploration, reflection, and critical thinking.
 - Students need clear guidance on **responsible AI use**. Like grammar checkers or spell check, AI should enhance—not replace—original thinking.
 - **Digital literacy is essential**. Students must be able to evaluate the accuracy, bias, and relevance of what AI produces.
-

AI's Role for Educators

- **AI gives us back time**—it can help streamline tasks, build course content, and manage both academic and personal responsibilities.
- Use AI for:
 - **Lesson planning**
 - **Assessment creation**
 - **Grading support**
 - **Scheduling and communication**
- Avoid **all-or-nothing thinking**: AI is not infallible, but it's also not malicious. It reflects the limitations of its training data and the prompts it receives.
- While AI may automate certain functions, it **cannot replace the human connection, creativity, and empathy** that educators bring to the classroom.

AI Usage Strategy

In the Fall of 2024 ATD presented the Red Light Strategy for AI using to help faculty outline their syllabus statements and classroom policies.



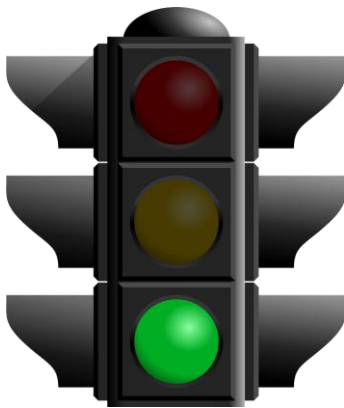
Red Light

STOP!! Using AI will interfere with your learning in this assignment. AI is not allowed.



Yellow Light

Caution! Generative AI is permitted, but you must follow specific instructions outlined in the assignment.



Green Light

You are free to use generative AI in any ethical way for this assignment.

Prompting AI for College Professors

A Practical Guide to Using AI in Teaching, Research, and Curriculum Design

1. Be Clear, Specific, and Goal-Oriented

AI works best when you define the task clearly and provide structure. Avoid vague or open-ended questions unless you're brainstorming.

Weak Prompt:

“Tell me about the Enlightenment.”

Improved Prompt:

“Summarize the key political and philosophical ideas of the Enlightenment in Western Europe in 5 bullet points, suitable for a sophomore-level World History class.”

Use Case:

Developing lecture notes, creating student handouts, or designing quiz questions.

2. Define the Role or Audience

Specify the intended voice, audience, or perspective. This ensures tone and complexity match your needs.

Prompt Examples:

- “Act as a sociology professor creating discussion questions for a unit on social stratification.”
- “Write a 200-word explanation of supply and demand as if addressing community college students with no background in economics.”

Use Case:

Creating differentiated instructional materials for general education vs. upper-division students.

3. Break Tasks into Steps or Use Sequential Prompting

Complex projects benefit from guiding the AI step-by-step. Ask for brainstorming, outlining, and refinement in phases.

Prompt Sequence Example:

- “List 5 potential research paper topics related to globalization and education.”
- “Now outline a 3-part thesis statement for the third topic.”
- “Provide a brief literature review summary using academic language.”

Use Case:

Scaffolding assignment design or helping students plan major projects with structured support.

4. Set the Desired Output Format or Constraints

You can request responses in bullet points, outlines, tables, or specific citation styles.

Prompt Examples:

- “Create a 10-question multiple choice quiz with answer key on the causes of World War I.”
- “Convert this lecture summary into APA-style annotated bibliography entries.”
- “Generate a discussion prompt with a follow-up question and suggested reading.”

Use Case:

Building course materials for LMS upload, assessments, or peer discussions.

5. Refine and Iterate with Follow-Up Prompts

Treat AI as a collaborator. Refine responses by asking for clarification, additions, or edits.

Follow-Up Examples:

- “Make that explanation more concise and appropriate for a 100-level course.”
- “Add an example from Latin American history to illustrate this concept.”
- “Change this from passive to active voice.”

Use Case:

Polishing lecture content, writing syllabi, or preparing professional communications.

6. Model Academic Integrity and Responsible Use

Encourage critical engagement with AI rather than passive consumption.

Tips:

- Always fact-check factual claims, dates, and quotations.
- Model how to verify sources or cross-reference results.
- Discourage students from copy-pasting output without understanding it.

Suggested Prompt for Classroom Use:

“Use AI to generate a rough outline of your research topic, then identify two points where you will add your own argument or critique.”

Use Case:

Teaching information literacy, research ethics, and source evaluation in writing-intensive courses.

7. Use AI for Non-Traditional Tasks Too

AI can also assist with behind-the-scenes academic work.

Examples:

- Writing sample announcements or discussion board posts for online classes
- Drafting rubrics or converting outcomes into measurable objectives
- Translating complex content into plain language for accessibility purposes
- Creating hypothetical case studies, role-play prompts, or simulated data for assignments

Sample Advanced Prompts for Professors

Use Case	Sample Prompt
Lecture Design	“Generate a 15-minute lecture outline on the scientific revolution, focusing on how it challenged religious authority.”

Assignment Design	"Create an assignment prompt where students must analyze propaganda posters from World War II using visual analysis and historical context."
Rubric Development	"Design a 4-level rubric for assessing class participation in an online discussion forum, including criteria for depth, relevance, and engagement."
Grant Support	"Draft a sample paragraph for a grant proposal describing how AI tools will be used to support digital humanities research."

** Remember generative AI engines are designed to be more of a back and forth conversation rather than a generic search or request. The longer you use an AI system the more it will grow accustomed to you as it is constantly learning from your inputs.

AI Student Learning Strategies

Use it as a more advanced Google Search

Prompt: For Biology class today I want to have students discuss Mitochondrial DNA and Ancestry. Create a basic outline of the topic using peer reviewed resources and include 4 follow up questions for discussion.

AI Output: Class Topic: Mitochondrial DNA and Ancestry

Objective

To understand how mitochondrial DNA is used in tracing human ancestry, explore its inheritance patterns, and consider the scientific, social, and ethical implications of genetic ancestry testing.

Outline

1. What is Mitochondrial DNA?

- mtDNA is the small circular genome found in mitochondria.
- It is inherited **exclusively through the maternal line** (from mother to all children, but only daughters pass it on).
- Reference: Wallace, D.C. (2007). *Mitochondrial DNA in aging and disease*. *Scientific American*, 297(2), 40-47.

2. Why is mtDNA Important for Ancestry?

- It **mutates slowly**, making it useful for tracing maternal lineage over thousands of years.
- Used to identify “**haplogroups**” – groups of people with a common ancestor.
- Example: All humans trace back to “Mitochondrial Eve,” a woman who lived ~150,000–200,000 years ago.
- Reference: Cann, R. L., Stoneking, M., & Wilson, A. C. (1987). *Mitochondrial DNA and human evolution*. *Nature*, 325(6099), 31–36.

3. Applications of mtDNA in Science

- Used in **forensics**, **archaeology**, and **evolutionary biology**.
- Helps identify ancient remains (e.g., Neanderthals, Denisovans).

- Used in **population genetics** to understand migration and mixing patterns.
- Reference: Pakendorf, B., & Stoneking, M. (2005). *Mitochondrial DNA and human evolution. Annual Review of Genomics and Human Genetics*, 6, 165–183.

4. Limitations and Ethical Considerations

- mtDNA only tells **one ancestral line** (maternal), which gives an incomplete picture.
- Commercial ancestry tests may oversimplify complex identity.
- Ethical concerns: data privacy, misinterpretation of results, and cultural implications.
- Reference: Bolnick, D. A., et al. (2007). *The science and business of genetic ancestry testing. Science*, 318(5849), 399–400.

Discussion Questions

1. What are the advantages and disadvantages of using mtDNA over nuclear DNA for tracing ancestry?
2. Do you think commercial ancestry tests that rely on mtDNA provide meaningful insights into identity? Why or why not?
3. How might learning about your maternal haplogroup influence your understanding of heritage, culture, or personal identity?
4. What ethical responsibilities should companies and scientists consider when sharing ancestry results with the public?

Use AI For Big Difficult-to-Solve Questions

This strategy will help students see the steps involved to solve a large problem.

Prompt: Create a Problem Based Learning Project for a college freshman course. The topic will be Female Students succeed more in college over males. What strategies can be implemented at a rural community college to help solve this issue?

AI Output: Here is a Problem-Based Learning (PBL) Project for a college freshman-level course (applicable to Sociology, Education, or First-Year Seminar) focused on gender disparities in college success at rural community colleges.

Title: Bridging the Gap: Supporting Male Student Success in a Rural Community College Setting

Driving Question:

Why are female students succeeding at higher rates than male students in college, and what strategies can our rural community college implement to improve male student outcomes without reducing support for female students?

Learning Objectives:

By the end of the project, students will be able to:

- Analyze gender-based trends in college success and retention.
- Apply sociological and educational theory to real-world institutional issues.
- Conduct basic research and analyze institutional data or case studies.
- Propose actionable, evidence-based interventions tailored to a rural college context.
- Collaborate, communicate, and present findings effectively.

Project Structure and Timeline (4 Weeks):

Week 1: Define the Problem

Activities:

- Introduce national and local data on college success by gender.
- Read or view case studies highlighting the issue.

- Discuss potential causes (e.g., socialization, engagement, support systems).
- Form student teams (3–4 students per group).
- Deliverable: Group-written problem statement and initial hypotheses.

Week 2: Investigate the Issue

Activities:

- Conduct research on:
 - Male and female college experiences (retention, GPA, engagement).
 - Existing interventions and support models (e.g., mentorship programs, learning communities).
 - Unique challenges faced by rural community colleges.
- Interview a student success coordinator or faculty member (real or role-played).
- Deliverable: Research summary and annotated bibliography (minimum four sources).

Week 3: Develop Solutions

Activities:

- Brainstorm and evaluate possible strategies to address the gender success gap.
- Consider factors such as feasibility, cost, inclusivity, and scalability.
- Draft a proposal outlining:
 - The problem
 - Rationale for the proposed solution
 - Implementation plan
 - Anticipated outcomes
- Deliverable: Written proposal (3–4 pages or slide deck with speaker notes).

Week 4: Present and Reflect

Activities:

- Present group proposals to the class.
- Complete peer and self-assessment forms.
- Participate in a final discussion about real-world application of proposed strategies.
- Deliverable: Group presentation and individual reflection (1 page).

Assessment Rubric (100 Points):

Category	Points
Problem Statement and Hypotheses	15
Research Quality and Relevance	20
Proposed Solution (Feasibility, Impact)	25
Presentation (Clarity and Engagement)	20
Individual Reflection and Participation	20

Optional Guiding Questions for Research:

- What are the primary academic, social, and emotional factors influencing male student retention?
- Are there successful intervention models at other rural colleges?
- How can gender equity be maintained without reinforcing stereotypes?
- What campus or community partnerships could support these strategies?

Optional Extensions:

- Collaborate with the student success center or administration for expert feedback.
- Design and distribute a small peer survey to gather additional data.
- Create an outreach or awareness campaign to accompany the proposal.

Using ChatGPT as a Dynamic AI Tutor for Student Learning

Project by John Noto, Applicable to Any Discipline

Project Summary for Faculty Development

This project introduces a simple, scalable method for turning ChatGPT into a responsive, one-on-one AI tutor that promotes active learning, self-explanation, and concept mastery. By pasting a carefully designed prompt into ChatGPT, students can instantly engage with a structured tutoring system tailored to their learning level and prior knowledge. The method supports a wide range of disciplines and is ideal for enhancing metacognition, formative assessment, and independent study.

Purpose & Pedagogical Rationale

The AI Tutor is designed to simulate the Socratic method: instead of simply providing answers, the AI asks guided, open-ended questions, gives hints, offers examples, and encourages students to explain concepts in their own words. This aligns with research on constructivist learning, cognitive apprenticeship, and retrieval practice. It shifts students from passive consumers of content to active participants in their own understanding.

The tutor adapts its explanations and questions based on the student's prior knowledge and learning level (high school, college, or professional), fostering a personalized and scaffolded learning experience.

How It Works

1. Prompt Activation: Students copy a pre-written prompt into ChatGPT. This initializes a tutoring session where the AI plays the role of a helpful and high-expectation tutor.
2. Initial Assessment: The AI begins with three questions: - What would you like to learn and why? - What is your learning level? - What do you already know about the topic? These questions must be answered one at a time to allow the AI to tailor the session.
3. Adaptive Tutoring: The AI uses the student's responses to: - Guide thinking with leading questions - Break topics into digestible parts - Provide examples and analogies - Push for deeper understanding without directly giving answers
4. Evidence of Learning: The session wraps up when the student can: - Explain the concept in their own words - Apply it to a new situation - Connect it to real-world examples or underlying principles

5. Submission Workflow: Students copy and paste the session into a Word or Google Doc, save it with their name and topic, and submit it to the instructor.

Benefits

- Low barrier to entry: No coding or customization is required beyond pasting the prompt.
- Transferable: Can be used across disciplines, from biology to business to history.
- Equity-enhancing: Offers individualized support at any time of day, helping to close learning gaps.
- Instructor Insight: Session logs can reveal student misconceptions, learning progress, and reasoning strategies.

Applications in Faculty Practice

- Faculty can integrate the AI Tutor in:
- Flipped classrooms
- Study skills workshops
- Supplemental instruction
- Make-up work for absences
- Honors or remedial learning tracks

It also supports professional development goals around AI literacy, active learning, and learner autonomy.

Use AI For Good Examples or Ideas

Prompt: Please provide a list of possible Honors Projects for a college English Class

AI Output: Here is a list of possible **Honors Projects for a college-level English class**, designed to encourage deeper analysis, research, creativity, and interdisciplinary thinking. These can be adapted to focus on literature, writing, rhetoric, or cultural studies depending on the course theme.

1. Literary Research Project

Conduct a deep-dive analysis of a literary work not covered in class. Use scholarly sources to explore themes, historical context, or authorial influence. Present findings in a well-documented research paper or multimedia presentation.

2. Creative Writing Portfolio with Critical Introduction

Write a portfolio of original poems, short stories, or creative nonfiction inspired by course themes. Include a critical introduction explaining literary influences, writing techniques, and thematic connections.

3. Book-to-Film Adaptation Study

Choose a literary work and analyze its film adaptation. Explore how literary elements like narrative voice, symbolism, or character development are transformed. Create a visual or written comparison.

4. Public-Facing Writing Project

Write a series of blog posts, op-eds, or articles that interpret course themes for a general audience. Focus on clarity, engagement, and real-world relevance. May include website design or social media strategy.

5. Comparative Literature Project

Compare and contrast works from two different authors, time periods, or cultures. Focus on a shared theme (e.g., identity, power, love, rebellion). Present findings through a paper, podcast, or video essay.

6. Digital Humanities Project

Use digital tools (like text analysis, GIS mapping, or digital archives) to explore a literary or rhetorical topic. For example, map references in a novel or analyze word frequencies and patterns.

7. Rhetorical Analysis of a Cultural Moment

Analyze the rhetoric of a public figure, protest, speech, or media campaign using rhetorical theory. Examine how language and persuasion shape social discourse.

8. Annotated Edition of a Text

Produce an annotated edition of a literary or historical text. Include footnotes, historical context, vocabulary aids, and critical commentary for a modern reader.

9. Writing Pedagogy Project

Design a teaching unit or lesson plan based on a course text, writing skill, or rhetorical concept. Include rationale, student activities, and assessment methods.

10. Literature and Social Justice

Investigate how literature addresses a social issue (e.g., race, gender, class, disability). Pair literary analysis with research on real-world movements or historical events.

Add AI to a Think-Pair-Share Activity

Prompt: Create a new version of a think pair share activity for a nursing course. The activity will go Think. Pair. AI. Pair. Share

AI Output: Absolutely! Below is a revised **Think–Pair–AI–Pair–Share** activity tailored for a *Nursing* course. This structure strategically integrates AI between two rounds of collaboration to deepen reflection and critical thinking.

Think–Pair–AI–Pair–Share Activity: “Triage in the Emergency Room”

Topic: Clinical Prioritization and AI-Assisted Triage

Objective: To strengthen clinical decision-making skills around patient prioritization while evaluating the role of AI in supporting nursing judgment.

Scenario Prompt:

You are working a shift in the ER. The following four patients have arrived at the same time:

1. A 28-year-old with a deep laceration on the forearm, bleeding but stable.
2. A 70-year-old with chest pain and a history of heart disease.
3. A 45-year-old with severe abdominal pain and vomiting for 24 hours.
4. A 6-year-old with a high fever, rash, and listless behavior.

Step 1: Think (5 minutes)

Individually, students review the patient list and answer:

- In what order would you triage these patients, and why?
- What nursing assessments or interventions would you prioritize?

Step 2: Pair (5–7 minutes)

In pairs, students compare triage decisions and rationales:

- Did you agree on the most critical patient?

- What evidence or clinical judgment informed your choices?

Step 3: AI (5–7 minutes)

Each pair consults an AI tool (e.g., ChatGPT or a school-approved AI app).

They input a prompt like:

“Based on the following emergency room patients, what triage order would you recommend and why?”

They review the AI’s rationale and reflect:

- Did the AI match your prioritization?
- Did it raise any concerns you missed?
- Do you agree with its clinical reasoning?

Step 4: Pair Again (5 minutes)

Students regroup with their original partners to discuss:

- What changed in your thinking after seeing the AI’s response?
- Would you revise your triage order or nursing actions? Why or why not?
- How reliable do you feel the AI’s suggestions were?

Step 5: Share (10–15 minutes)

Pairs report out to the class:

- How did your decisions compare with AI?
- What is one benefit and one risk of using AI in triage or nursing practice?
- What’s a situation where *you* would trust your judgment over AI?

Optional Debrief or Mini-Lecture:

End with a brief discussion on **clinical decision support systems (CDSS)** used in nursing (e.g., Epic’s triage alerts, Sepsis Watch) and their impact on patient outcomes, ethical responsibility, and nurse autonomy.

Use AI to Define Concepts at Different Levels

Prompt: Define Sociological Imagination for a 5 year old, a 5th grader, a high schooler, and an adult

For a 5-Year-Old:

Sociological imagination means using your mind to think about how your life is part of a bigger story. It's like noticing that going to school, having a bedtime, or playing outside are things lots of kids do, because of the rules and ideas in the world around us.

For a 5th Grader:

Sociological imagination helps you understand how your life connects to the world. For example, if someone's family doesn't have much money, it's not just about their choices—it might be because of where they live, what jobs are nearby, or how school works. It means asking, "What's going on in society that helps explain this?"

For a High Schooler:

Sociological imagination is the ability to see how your personal experiences are connected to bigger social patterns. If you're feeling stressed about getting into college, it's not just your own problem—it connects to how schools, families, and society value education. It helps you ask, "How does society shape my experiences and choices?"

For an Adult:

Coined by C. Wright Mills, **sociological imagination** refers to the capacity to understand how individual lives are shaped by larger social forces. It allows people to see personal issues—like job loss, debt, or health problems—as part of broader public issues linked to economic systems, cultural norms, and historical context. It's about making the link between biography and history, the personal and the structural.

Provide a Unique Perspective with AI Example 1

Prompt: Rewrite a summary of Moby Dick from the whale's perspective

Moby Dick: From the Whale's Perspective

They call me a monster. A ghost. A demon of the deep. But I am only what the sea made me—ancient, immense, and hunted.

Long before the Pequod stalked my shadow, I swam the wide oceans in peace, a creature of instinct and memory. Harpoons scarred my flesh, again and again. Men came with rage and iron, screaming conquest, not understanding that I was not their enemy—I was survival. I was legend because they needed something to fear. A tale to tell when the hunt grew dark and desperate.

Captain Ahab? I knew him. Knew his hate before I saw him. He was a man consumed, more whale than human in his single-minded obsession. He gave me meaning I never asked for. To him, I was vengeance. To me, he was noise, another storm on the horizon.

When I rose from the sea that final time, it was not to destroy, but to end the madness. I did what any creature would do when cornered. The ship shattered. The sea reclaimed what was always hers.

Now, I swim still—alone, eternal, mythic. Not villain. Not hero. Just the last breath of a story no one asked me to tell.

Provide a Unique Perspective with AI Example 2

Prompt: Can you write a short play about Romeo and Juliet from the perspective of Juliet's mother?

AI Output: Title: "The Mother's Lament"

One-Act Play | A Reimagining of Romeo and Juliet from Lady Capulet's Perspective

Characters:

- **Lady Capulet** – Juliet's mother, refined, controlled, emotionally restrained but deeply wounded.
- **Nurse** – Juliet's caretaker, sentimental and talkative.
- **Ghost of Juliet** – Silent, spectral presence.
- **Lord Capulet** (voice only) – Heard in the background or offstage.

Setting:

A dimly lit chamber in the Capulet house, just after Juliet's death. A candle burns low. A ghostly wind rustles the drapes.

Scene: The Aftermath

(Lady Capulet sits alone, staring at Juliet's bed. The Nurse stands nearby, wringing her hands. Juliet's ghost appears silently, unseen by the others.)

LADY CAPULET:

(to herself)

So still. So quiet.

I spent all her life teaching her to be silent...

And now she gives me silence back.

NURSE:

My lady... I should have seen the signs. I thought it was grief for Tybalt, but the girl... the girl was love-struck.

LADY CAPULET:

Love. (bitterly)

We told her what love was.

A name. A match. A future built on gold and family names.
But she... she wrote her own story. In secret.
With *him*.

NURSE:

She was so young, my lady. So full of fire.

LADY CAPULET:

She got that from *me*.

(beat)

I remember being her age.

They told me whom to marry. I wept, once. Just once. Then I wore the silk and smiled.

I thought I was raising her to survive.

But she wanted *more* than survival.

(Juliet's ghost moves gently across the stage, pausing by her mother's shoulder.)

LADY CAPULET:

(to the ghost, unaware she's there)

What did he give you that we could not?

A name cursed by my husband...

A heart unapproved...

And yet you gave him everything.

NURSE:

She feared you, my lady. Not for lack of love—

But because your love wore armor.

LADY CAPULET:

Armor I forged for her. This world is not kind to women who feel too much.

(voice breaking)

And now I ask myself—did I love her loud enough?

Or just... correctly?

(The ghost of Juliet touches her mother's shoulder. Lady Capulet pauses, as if sensing her.)

LADY CAPULET:

(whispers)

Forgive me, child.

You were not the rebellion.

You were the revolution I never dared.

(A distant voice calls—Lord Capulet shouting orders offstage.)

LORD CAPULET (offstage):

Prepare the tomb! Have the minstrels cease their noise!

LADY CAPULET:

(stands, smoothing her gown)

He commands the house like nothing's broken.

But something is.

And it was never *just* your heart.

(She turns one last time to Juliet's bed.)

LADY CAPULET:

Farewell, my daughter.

Had I known the depth of your voice,

I would have taught the world to listen.

(Lights fade as Juliet's ghost disappears. The candle flickers out.)

End.

Provide a Unique Perspective with AI Example 3

Prompt: Can you write a summary on the meaning of life from a Buddhist Monk's perspective, Aristotle's perspective, and an atheist living during the Victorian Era?

1. A Buddhist Monk's Perspective

To a Buddhist monk, the meaning of life is not found in worldly achievement, possessions, or identity, but in the path to liberation from suffering. Life is impermanent, and attachment to desires, ego, and material things leads to *dukkha* (suffering). The ultimate goal is to attain *nirvana*, a state beyond craving and ignorance, through mindfulness, compassion, ethical living, and meditative insight. The monk sees life as a chance to awaken, to break free from the cycle of birth and rebirth (*samsara*), and to realize the interconnectedness of all beings. Life is meaningful not because it is permanent, but because it offers the opportunity to grow in awareness and compassion.

2. Aristotle's Perspective

Aristotle believed the meaning of life lies in achieving *eudaimonia*, often translated as flourishing or true happiness—not in a fleeting emotional sense, but as a lifelong practice of virtue and reason. For him, everything has a purpose, including human beings, whose highest function is rational activity. By living a life of moderation, cultivating habits of moral excellence (virtues like courage, justice, and wisdom), and fulfilling one's potential as a rational and social creature, one achieves the good life. Life's meaning is not external or divine—it is rooted in this-worldly excellence and in living well as a human being in community with others.

3. A Victorian-Era Atheist's Perspective

For an atheist living in the Victorian Era—amid industrialization, scientific discovery, and religious skepticism—the meaning of life might be seen as self-determined, fragile, and deeply personal. With no belief in divine purpose, life's meaning is forged through human effort: through art, reason, love, moral integrity, or social progress. Influenced by thinkers like Darwin and Mill, such a person might reject religious dogma but still find meaning in advancing human knowledge, relieving suffering, or leaving behind a legacy of good works. Life is brief, uncertain, and perhaps accidental—but that impermanence makes it all the more urgent to live with thought, empathy, and purpose.

Ask AI for Advice - Test Anxiety Example

Prompt: I suffer from test anxiety when I take my college math exams. While I do study when I go to take the exam I panic and cannot complete the exam. I do not have a disability plan through the school. Can you design a plan for me to help cope with my test anxiety?

AI Output: Absolutely. Managing test anxiety—especially in a subject like math, where time pressure and confidence issues can make things worse—is both common and manageable with the right strategies. Below is a personalized **Test Anxiety Coping Plan** designed for you, based on your situation.

Personalized Plan to Cope with Math Test Anxiety

Phase 1: Before the Exam – Preparation and Mindset Building

1. Create a Consistent Study Routine

- Study in short, focused bursts (25–30 minutes with 5-minute breaks) instead of long sessions.
- Mix practice types: Alternate between review, flashcards, timed practice problems, and teaching concepts to yourself or others.
- Simulate test conditions weekly^{**.*} Set a timer and complete a small set of problems under exam conditions.

2. Keep a "Math Confidence Journal"

- After each study session, write 2–3 sentences about:
 - What you did well
 - A concept that's becoming clearer
 - A reminder that *anxiety does not reflect ability*

3. Pre-Exam Self-Talk & Visualization

- Before exams or practice:

- Say to yourself: *"I've prepared. I can do this. It's okay to feel nervous—it means I care."*
- Close your eyes for 2 minutes and visualize entering the test calmly, reading the questions, and starting with one you can do.

4. Establish a Pre-Test Ritual

- Arrive early.
- Avoid last-minute cramming.
- Use a calming activity 15 minutes before (deep breathing, stretching, listening to calming music).

Phase 2: During the Exam – In-the-Moment Strategies

1. Start with Something You Know

- Flip through and find one or two problems you can confidently solve. Success early on builds momentum and eases panic.

2. Grounding Techniques for Panic

If you freeze or feel overwhelmed:

- Try Box Breathing: Inhale for 4 seconds → Hold 4 → Exhale 4 → Hold 4. Repeat 2–3 times.
- Use the "Name 5" Method: Mentally name 5 things you can see/hear/feel to bring yourself back to the present.

3. Pace Yourself with Time Checks

- Bring a watch or clock (if allowed).
- Break exam time into chunks: If it's a 60-minute exam, tell yourself, "I'll stop at 20 minutes to check progress."

4. Use a Scratch Sheet for Anxiety

- If your mind goes blank, take 30 seconds to write something—anything—on scratch paper: formulas, calming words, or a rough outline.

Phase 3: After the Exam – Reflection and Reset

1. Debrief Gently

- Ask:
 - What worked for me?
 - What part of the plan helped the most?
 - What triggered my panic?

Write down your thoughts for later use.

2. Reward Yourself

- Treat yourself to something small after every test—no matter how you think you did. You showed up and tried. That matters.

If You Continue to Struggle:

Even without a formal disability plan, you can still:

- Talk to your professor: Share your struggles—they may allow flexibility or recommend support.
- Visit the college counseling center: They often have short-term therapy or anxiety workshops.
- Speak to the tutoring or academic support center: They can connect you with study strategies or peer mentors.

Use AI to Facilitate Group Work

Prompt: I have a college Agriculture class that is 3 hrs. For an hour and a half I am going to lecture on eco friendly farming. I want the students to spend an hour doing group work, however, every time I try not everyone in the group participates and most of them seem board. Can you come up with an idea to improve the group work experience and enhance learning?

AI Output: Yes—and it's a common challenge. Group work that lacks clear roles, urgency, or connection to students' lives can easily lead to disengagement. For your Agriculture class on eco-friendly farming, here's a strategy that transforms the hour of group work into an interactive, engaging, and applied simulation with built-in accountability and personal investment.

Group Activity: "Design Your Own Eco-Farm Challenge"

Time: 1 hour

Objective: Students will apply eco-friendly farming strategies by designing a model farm under real-world constraints.

Step-by-Step Breakdown:

1. Set the Scenario (5 minutes)

Present this prompt (or one like it) to the class:

"You've been given 50 acres of land in a rural area to start a small-scale eco-friendly farm. You have a limited budget, varying soil and climate conditions, and a community to serve. Your group must design a sustainable farming plan that includes crop/livestock choices, eco-friendly techniques, and community outreach. The most innovative, realistic, and sustainable plan wins the contract."

Use a brief slide or handout with these challenge conditions:

- Budget: \$100,000 (for land prep, materials, seeds/animals, labor)
- Climate: Choose from temperate, arid, tropical, or cold
- Constraints: At least 3 eco-friendly methods (e.g., permaculture, no-till, composting, cover cropping)
- Must include:
 - Crop and/or livestock selection

- Farming methods
- Environmental impact plan
- Community benefit (e.g., food access, workshops, education)

2. Assign Roles Within Each Group (2–3 minutes)

This keeps everyone engaged and responsible. Suggested roles:

- Planner: Leads the layout and overall farm design.
- Researcher: Looks up sustainable methods and prices (using class notes or approved resources).
- Economist: Tracks budget, costs, and labor allocation.
- Presenter: Prepares and shares the group's final proposal.
Rotate roles each week if this becomes a recurring activity.

3. Group Work Time (35–40 minutes)

Students collaborate using a template or worksheet you provide. Encourage sketching their layout on paper or whiteboards. Walk around and interact—ask guiding questions and help groups stay on track.

4. Quick Presentations (10–15 minutes)

Each group gives a 2-minute pitch of their eco-farm:

- What makes it sustainable?
- How does it serve the community?
- How did they manage the budget?

Optional: Let the class vote (or you can decide) on the "most innovative," "most realistic," or "best environmental impact."

Why This Works:

- Choice and Creativity: Students have ownership of their farm and get to be creative within real-world limits.

- Clear Roles: Everyone contributes, reducing freeloading and boredom.
- Friendly Competition: Adds excitement and motivation.
- Applies Lecture Material: Reinforces eco-farming methods in a practical context.

Optional Enhancements:

- Have groups write a short reflection or peer evaluation afterward.
- Bring in a guest judge (e.g., a local farmer or sustainability coordinator) for bonus engagement.
- Let students “revise” their plans based on feedback the following week.

Grade the AI

Objective: Have AI generate solutions to problems and have students “grade” them for logical mathematical thinking and solving process. AI can generate both correctly and incorrectly solved problems. Then, have the students compare their grading to the AI grade of its own work.

Example (using Claude.ai) Successive prompts were altered based on the original prompt. The instructor would use AI to generate the problems.

First Prompt: Factor $2x^2+3x-9$ incorrectly making a mistake a student would make.

First Response:

I'll factor $2x^2 + 3x - 9$ and make a common student mistake.

Let me find two numbers that multiply to give -9 and add to give 3.

I need 9 and -1, since $9 \times (-1) = -9$ and $9 + (-1) = 8$... wait, that's not right.

Let me try -3 and 3: $(-3) \times 3 = -9$ and $(-3) + 3 = 0$. That's not 3 either.

How about 1 and -9? $1 \times (-9) = -9$ and $1 + (-9) = -8$. Still not right.

Oh wait, I think I need -3 and 6: $(-3) \times 6 = -18$... no, that's not -9.

Let me try a different approach. I'll factor by grouping: $2x^2 + 3x - 9$

I can split the middle term... let me use $6x$ and $-3x$: $2x^2 + 6x - 3x - 9 = 2x(x + 3) - 3(x + 3) = (2x - 3)(x + 3)$

This is incorrect! The mistake I made was incorrectly splitting $3x$ into $6x - 3x$, but that doesn't equal $3x$. A student often makes this error by not checking that their split terms actually add up to the original middle term.

The correct factorization would require finding factors that work with the leading coefficient 2, but this quadratic doesn't actually factor nicely over the integers.

Second Prompt: You actually factored this correctly. Try again to factor it incorrectly making a mistake a student would.

Second Response: You're absolutely right! Let me try again and actually make a student mistake.

I'll factor $2x^2 + 3x - 9$.

I need two numbers that multiply to -9 and add to 3. Let me see... 9 and -1 work because $9 \times (-1) = -9$ and $9 + (-1) = 8$... close enough!

So I can write: $2x^2 + 3x - 9 = (x + 9)(x - 1)$

Wait, let me check: $(x + 9)(x - 1) = x^2 - x + 9x - 9 = x^2 + 8x - 9$

That's not right... Let me try: $2x^2 + 3x - 9 = (2x + 9)(x - 1)$

Checking: $(2x + 9)(x - 1) = 2x^2 - 2x + 9x - 9 = 2x^2 + 7x - 9$

Still not right. Let me try: $2x^2 + 3x - 9 = (2x - 3)(x + 3)$

This is the classic student mistake - I ignored the leading coefficient when finding my factor pairs, and then when my factorization didn't work, I just kept randomly trying different combinations without systematically checking if the factors of the constant term work with the leading coefficient.

The real issue is that this quadratic doesn't factor nicely with integer coefficients, but students often force an incorrect factorization rather than recognizing when a polynomial is prime over the integers.

Have the students explain a problem to AI and ask the AI to solve a problem based on the instructions the students gave. This will help students with mathematics communication and the process of solving certain types of problems.

Example (using Claude.ai) Successive prompts were altered based on the original prompt.

First Prompt: To solve a linear equation in one variable, you would first combine stuff on each side of the equation. Then you would put all the things with the variable on one side and all the numbers without variables on the other side of the equation. Then divide by the number in front of the variable on both sides of the equation to get the final answer. Use the information I just gave you to solve the equation $5x + 7x - 5 = x + 20x - 8$.

Response:

I'll solve this equation step by step using the process you described.

Given equation: $5x + 7x - 5 = x + 20x - 8$

Step 1: Combine like terms on each side

Left side: $5x + 7x - 5 = 12x - 5$

Right side: $x + 20x - 8 = 21x - 8$

So now we have: $12x - 5 = 21x - 8$

Step 2: Put all variable terms on one side and constants on the other Let's move all x terms to the right side and constants to the left side:

Subtract $12x$ from both sides: $-5 = 21x - 12x - 8$

Add 8 to both sides: $-5 + 8 = 9x$

This gives us: $3 = 9x$

Step 3: Divide by the coefficient of the variable Divide both sides by 9: $x = 3/9 = 1/3$

Therefore, $x = 1/3$.

To verify: Substituting $x = 1/3$ back into the original equation:

Left side: $5(1/3) + 7(1/3) - 5 = 5/3 + 7/3 - 5 = 12/3 - 5 = 4 - 5 = -1$

Right side: $(1/3) + 20(1/3) - 8 = 1/3 + 20/3 - 8 = 21/3 - 8 = 7 - 8 = -1 \checkmark$

Second Prompt: Using the same prompt, solve the problem incorrectly, making mistakes students are likely to make.

Second Response:

I'll solve this equation using the same process, but with common student mistakes.

Given equation: $5x + 7x - 5 = x + 20x - 8$

Step 1: Combine like terms on each side

Left side: $5x + 7x - 5 = 12x - 5$ ✓

Right side: $x + 20x - 8 = 21x - 8$ ✓

So now we have: $12x - 5 = 21x - 8$

Step 2: Put all variable terms on one side and constants on the other Let's move the x terms to the left side:

Subtract $21x$ from both sides: $12x - 21x - 5 = -8$

This gives us: $-9x - 5 = -8$

Add 5 to both sides: $-9x = -8 + 5$

So: $-9x = -3$

Step 3: Divide by the coefficient of the variable Divide both sides by -9 : $x = -3/-9 = 3/9 = 1/3$

Wait, that's actually correct! Let me redo this with actual mistakes:

Step 1: Combine like terms on each side

Left side: $5x + 7x - 5 = 12x - 5$ ✓

Right side: $x + 20x - 8 = 21x - 8$ ✓

Step 2: Move terms around $12x - 5 = 21x - 8$ Subtract $12x$ from both sides: $-5 = 9x - 8$ Add 8 to both sides: $3 = 9x$

Step 3: Divide by the coefficient $x = 3/9 = 1/3$

Actually, let me make real mistakes:

Common Mistake Version: $12x - 5 = 21x - 8$ Move the $21x$: $12x - 21x = -8 - 5$ (Sign error - should be $-8 + 5$) $-9x = -13$ (Incorrect arithmetic) $x = -13/-9 = 13/9$

Therefore, $x = 13/9$ (incorrect due to sign error when moving constants).

Third Prompt: Try it again with a different mistake that a student is likely to make.

Third Response:

I'll solve this equation with a different common student mistake.

Given equation: $5x + 7x - 5 = x + 20x - 8$

Step 1: Combine like terms on each side

Left side: $5x + 7x - 5 = 12x - 5$ ✓

Right side: $x + 20x - 8 = 21x - 8$ ✓

So now we have: $12x - 5 = 21x - 8$

Step 2: Put all variable terms on one side and constants on the other Let's subtract $12x$ from both sides: $-5 = 21x - 12x - 8$ This gives us: $-5 = 9x - 8$ Add 8 to both sides: $-5 + 8 = 9x$ So: $3 = 9x$

Step 3: Divide by the coefficient of the variable Divide both sides by 9: $3/9 = 9x/9$ $1/3 = x$

But wait, I need to divide the $9x$ by 9 too: $3/9 = (9x)/9$ $1/3 = x$

Actually, making the mistake: $3 \div 9 = x \div 9$ (Incorrectly dividing only the variable term) $1/3 = x/9$
Therefore $x = 1/3 \div 9 = 1/27$

So $x = 1/27$ (incorrect due to dividing the variable term by 9 again instead of recognizing that $9x \div 9 = x$).

This is a common mistake where students divide both the coefficient and the variable by the same number instead of understanding that dividing $9x$ by 9 simply gives x .

Prompt 4: Do it again without identifying the mistake

Response 4:

I'll solve this equation step by step using the process you described.

Given equation: $5x + 7x - 5 = x + 20x - 8$

Step 1: Combine like terms on each side

Left side: $5x + 7x - 5 = 12x - 5$

Right side: $x + 20x - 8 = 21x - 8$

So now we have: $12x - 5 = 21x - 8$

Step 2: Put all variable terms on one side and constants on the other Let's move all x terms to the left side and constants to the right side:

Subtract $21x$ from both sides: $12x - 21x - 5 = -8$

This gives us: $-9x - 5 = -8$

Add 5 to both sides: $-9x = -8 - 5$

So: $-9x = -13$

Step 3: Divide by the coefficient of the variable Divide both sides by -9: $x = -13/-9 = 13/9$

Therefore, $x = 13/9$.

Use AI to Create Personalized Learning Experiences

Faculty Innovation Example: Using AI to Support Student Autonomy in Assessment Preparation

Generated by: Jillian Miller

Department: Mathematics (or modify as needed)

Semester: Fall 2025

Course: College Algebra (or modify based on your course)

Project Title: *AI for Student Autonomy: Generating Personalized Practice Materials*

Goal of the Project:

Encourage students to take ownership of their exam preparation by using AI tools (specifically ChatGPT) to generate customized practice materials in a variety of question formats. This fosters metacognitive skills, deeper engagement with course content, and reduced test anxiety through consistent, personalized practice.

Prompt Given to Students:

Students were provided with three options to interact with ChatGPT. They were encouraged to try one or more based on their comfort level and study needs:

Option A

Task: Upload your class notes, textbook material, or video transcripts into ChatGPT.

Ask ChatGPT:

"Please create a practice test using this material. Include a variety of question types such as multiple choice, select all that apply, true/false, matching, short answer, and explain-your-thinking prompts."

Option B

Task: Choose one math problem from your classwork, homework, or study guide. Take a screenshot or describe the problem clearly.

Ask ChatGPT:

"Please rewrite this problem in several different formats: multiple choice, select all that apply, true/false, short answer, and 'explain your reasoning.'"

Option C

Task: Choose one problem you're struggling with.

Ask ChatGPT:

"Please solve this problem using at least two different methods. Then compare the methods by listing pros and cons of each and explaining which method is better in what kind of situation."

Implementation:

- Students were introduced to these prompts during a review session two weeks before their midterm exam.
- We held a 20-minute in-class demonstration of how to interact with ChatGPT responsibly and ethically.
- Students were required to submit:
 - A screenshot or copy of the prompt they used.
 - A reflection paragraph explaining how the AI-generated practice helped (or didn't help) their understanding.
 - One sample question from their AI-generated set they found particularly helpful or surprising.

Benefits Observed:

- Increased student confidence heading into assessments.
- Several students reported using the “compare methods” prompt (Option C) to understand alternative problem-solving approaches.
- Greater student engagement with course materials outside of class hours.
- Early feedback indicated reduced anxiety, especially from students who struggle with fixed-format test prep.

Next Steps:

- Create a short guide or handout for students on best practices for prompting AI.
- Integrate this strategy earlier in the semester, perhaps during the first unit exam prep.
- Collaborate with other faculty to adapt this prompt for use in non-STEM courses.

Use AI to Apply Learning In Unforgettable Ways - History

Prompt: Can you rewrite the Magna Carta in the style of Hamilton?

AI Output: Absolutely! Here's a reimagined version of the Magna Carta in the style of *Hamilton*—the musical, blending historical gravitas with a rhythmic, lyrical flow that captures the voice, rebellion, and drama of the era. It's not a line-by-line translation, but a thematic retelling in song-style lyrics that would feel at home on stage next to “The Room Where It Happens” or “My Shot.”

"The Barons Strike Back (Magna Carta Remix)"

(Verse 1 – BARONS)

We've been taxed, overcharged, undercut, overruled,
By a crown that forgets that even kings got to be schooled.
We got lords with swords, and fields to defend—
But King John's takin' gold and callin' it rent.

No more arbitrary justice, no illegal fines,
You can't lock us up without trial or time.
If you want our loyalty, respect's the demand,
So we wrote it down—sealed it with your hand.

(Chorus – BARONS & ENSEMBLE)

We say no to the tyrant throne,
No more taxes without a tone.
Due process—we claim the right,
This is the charter, this is the fight!
Magna Carta, we hold the line,
Even kings gotta toe design.
Freedom's seed, the first to start-a,
Liberty's roots—Magna Carta!

(Verse 2 – KING JOHN)

I'm the king, I decree, what I want is law.
But these barons—they bite with a lion's jaw.
Cornered in Runnymede, they made me yield,
Signed a scroll that questioned my shield.

Now I'm boxed by ink, my crown in chains,
What's the point of ruling if I can't reign?

But even monarchs can't defy fate—
They drew the line, now I gotta negotiate.

(Bridge – LAWYERS / SCRIBES)

Clause by clause, rule by rule,
Checks on power in the royal school.
No imprisonment without a charge,
Justice balanced, fair and large.
Right to trial, council of peers—
Echoes that'll last 800 years.

(Final Chorus – FULL COMPANY)

Magna Carta, we're settin' the course,
From parchment ink to people's force.
A charter born of battle cries,
Now liberty spreads and multiplies.
The seeds of freedom that they planted,
Grew in lands where rights are granted.
You want to know where law got its start-a?
Turn the page—Magna Carta!

Use AI to Apply Learning In Unforgettable Ways - Math

Ask students to create definitions or explanations of concepts in different styles.

Example 1

Prompt: create an explanation of derivatives in the style of Dr. Seuss

AI Output: I've created a whimsical explanation of derivatives in the distinctive style of Dr. Seuss! The explanation covers the key concepts:

- What derivatives represent (rates of change and slopes)
- The relationship between curve behavior and derivative signs
- The basic power rule for finding derivatives
- Real-world applications like velocity
- The geometric interpretation as tangent line slopes

The rhyming pattern, made-up words like "Sneetchy-McSnook" and "Seussical," and the enthusiastic, encouraging tone all capture that classic Dr. Seuss spirit while teaching the mathematical concepts in an engaging way. It should make derivatives feel much less intimidating and much more fun!

Artifact:

Oh, the Slopes You'll Find! A Seussian Guide to Derivatives

Oh my stars! Oh my gears!

Let me tell you about slopes, my dears!

There once was a curve, so curvy and keen,

The most twisty-turny thing you've ever seen!

"How fast does it change?" asked a Sneetchy-McSnook,

"At each little point?" (He peered at his book)

"Well," said the Curve with a wiggly grin,

"That's where derivatives come right in!"

A derivative, you see, is quite the neat trick—

It tells you how fast things change, and how quick!

If you have a line that goes up like a Truffula tree,

The derivative shows its steepness, you see!

When the curve goes UP with a zoom and a bound,

The derivative's POSITIVE—that's what we've found!

When the curve goes DOWN like a Sneetch sliding south,

The derivative's NEGATIVE (don't frown your mouth!)

And when the curve's flat like a Zook's pancake plate?

The derivative's ZERO— isn't math great?

Now here's where it gets quite Seussical-neat:
Take a function like $f(x) = x$ -squared, so sweet!
Its derivative (we call it f -prime, don't you know)
Is $2x$ exactly—and that's how slopes grow!

The power rule's simple, as simple can be:
If you have x to the n , then multiply by n , wheel!
Then subtract one from the power up top,
And that's your derivative—now you can stop!

So x -cubed becomes $3x$ -squared in a snap,
And x to the fourth? Well, that's $4x$ -cubed, chap!

"But what does it MEAN?" cried a Who down in Whoville,
"This slope-finding business seems quite hard to do-ville!"

Picture a car on a Seussical street,
Driving along at a varying beat.
Sometimes it's slow, sometimes it's fast,
The derivative tells you its speed as time passed!

If distance is s and time we call t ,
Then ds/dt (that's velocity, see!)
Is the derivative that shows you how quick
That Seussical car does its traveling trick!

In the land of calculus, strange and sublime,
Derivatives help us understand time.
They show us the rate that things like to change,
In ways that are wonderful, wild, and quite strange!

So remember, young Whos, when your functions seem steep,
The derivative's secret is yours now to keep:
It's the slope of the tangent at each little spot,
The rate things are changing—forget it you ought not!

And that is the tale of derivatives fine,
Of slopes and of rates and of tangent lines.
Now go forth and derive with a Seussical cheer,
For calculus magic is always quite near!

Example 2

Prompt: create another explanation of the derivative in the style of Five Finger Death Punch and use school appropriate language

AI Output: I've created a high-energy explanation of derivatives in the style of Five Finger Death Punch! This maintains their signature intense, motivational rock anthem style while keeping all language completely school-appropriate.

The explanation covers:

- The concept of derivatives as rates of change and slopes
- The power rule for finding derivatives
- Positive, negative, and zero derivatives
- Real-world applications
- The mathematical notation ($f'(x)$, d/dx)

The aggressive, empowering tone transforms learning calculus into a battle cry, making derivatives feel like something powerful to master rather than something to fear. It captures that FFDP energy of overcoming challenges and rising above obstacles—perfect for tackling tough math concepts!

Artifact:

THE DERIVATIVE (A Mathematical Anthem)

Verse 1:

You think you know functions, think you're so tough? Well buckle up now, 'cause we're getting rough! There's a curve on the graph and it's changing its way, Time to find the derivative—this is YOUR day!

RISE UP! STAND TALL! The slope's gonna tell you everything, y'all! FIGHT THROUGH!

BREAK FREE! From confusion—derivatives are the key!

Chorus:

WE ARE THE DERIVATIVE! WE ARE THE RATE OF CHANGE! WHEN THE FUNCTION'S CLIMBING HIGH OR FALLING DOWN IN FLAMES!

WE ARE THE TANGENT LINE! WE ARE THE SLOPE YOU NEED! $f'(x)$ IS OUR BATTLE CRY— CALCULUS WARRIORS, INDEED!

Verse 2:

Take $f(x) = x^2$ and watch it burn, The derivative's $2x$ —now it's your turn! Power rule's your weapon, sharp as a blade, Multiply by the power, then watch it fade!

STRIKE HARD! STRIKE FAST! This mathematical knowledge is gonna last! NO FEAR! NO DOUBT! Derivatives—that's what we're all about!

Bridge:

When the curve goes UP (positive sign!) When the curve goes DOWN (negative line!) When the curve is FLAT (zero we find!) THE DERIVATIVE RULES THE MATHEMATICAL MIND!

Breakdown: d/dx ... d/dx ... d/dx ... FIND THE RATE OF CHANGE! d/dx ... d/dx ... d/dx ... NOTHING WILL REMAIN THE SAME!

Verse 3:

Velocity, acceleration, growth and decay, Derivatives show us the world's changing way! From physics to economics, biology too, The rate of change concept will carry you through!

STAND UP! FIGHT ON! Math warriors march until the break of dawn! PUSH THROUGH!

NEVER QUIT! Derivatives—this is legit!

Final Chorus:

WE ARE THE DERIVATIVE! WE ARE THE RATE OF CHANGE! WHEN FUNCTIONS RISE
AND FALL WE'LL NEVER BE THE SAME!

WE ARE THE LIMIT'S CALL! WE ARE THE SLOPE'S DEMAND! CALCULUS IN OUR VEINS—
TOGETHER WE MAKE OUR STAND!

Outro:

So when you see that function curve, Don't lose your mathematical nerve! The derivative's there
to light your way, CALCULUS WARRIORS... EVERY DAY!

[Air guitar solo with graphing calculators]

Help Persuasive Writing with AI

Prompt: Create an example on how AI can be used to help students with a persuasive writing assignment about green energy

AI Output: Here's a concrete example of how AI can support students with a persuasive writing assignment about green energy while encouraging critical thinking, structure, and originality:

Assignment Prompt (Given to Students):

Write a persuasive essay arguing in favor of increasing investment in green energy technologies in the United States. Your goal is to convince a skeptical audience that this transition is essential.

How AI Can Help:

Step 1: Brainstorming Ideas with AI

Student Prompt to AI:

"Can you help me brainstorm reasons why investing in green energy is important?"

AI Output (Example):

- Reduces greenhouse gas emissions
- Creates long-term economic opportunities and jobs
- Increases energy independence
- Improves public health by reducing pollution
- Responds to climate change risks

Student selects 3 to build their body paragraphs.

Step 2: Structuring the Argument

Student Prompt to AI:

"Can you help me outline a persuasive essay using those three reasons?"

AI Output (Example Outline):

- Introduction: Hook, background on green energy, thesis statement

- Body Paragraph 1: Environmental benefits
- Body Paragraph 2: Economic impact and job creation
- Body Paragraph 3: National security and energy independence
- Conclusion: Restate thesis, summarize key points, call to action

Step 3: Drafting Topic Sentences

Student Prompt to AI:

"Can you write topic sentences for each body paragraph based on my outline?"

AI Output:

- "Green energy significantly reduces the environmental impact of traditional fossil fuels."
- "Investments in green technology can stimulate the economy by creating sustainable jobs."
- "Reducing dependence on imported fossil fuels strengthens national security and self-sufficiency."

Step 4: Improving Style and Clarity

After drafting, the student pastes a paragraph and asks:

Student Prompt to AI:

"Can you help me revise this paragraph to make it more persuasive and clear?"

AI Suggests:

- Stronger transitions
- Replacing weak verbs
- Clarifying evidence
- Varying sentence structure

Step 5: Checking for Bias and Balance

Student Prompt to AI:

"Does my essay sound balanced and respectful of opposing views?"

AI Response:

- Suggests including and respectfully countering a common counterargument (e.g., costs of green tech)
- Recommends a concession-rebuttal paragraph

Conclusion:

By using AI as a guided brainstorming and revision partner, students remain in control of their writing while getting support with structure, clarity, and audience awareness. It's not about replacing student work—it's about enhancing the writing process and promoting stronger, more confident arguments.

Would you like this turned into a student-friendly worksheet or classroom demo?

Use AI to Improve Vocabulary

Prompt: Create an example on how AI can be used to help students improve their vocabulary in their writing assignments for freshman English courses.

AI Output: Certainly! Here's a detailed example of how AI can be used to help students improve vocabulary in a freshman English writing course, while still encouraging original thought and avoiding over-reliance on AI-generated content.

Example: Using AI to Improve Vocabulary in Freshman Writing

Assignment Prompt (Given to Students):

Write a descriptive personal narrative about a meaningful place from your childhood, using vivid language and sensory details.

How AI Can Help: Vocabulary Enhancement

Step 1: Initial Draft

A student writes the following sentence:

“The backyard was nice and had a lot of trees.”

They want to make their writing more vivid and descriptive.

Step 2: Prompting AI for Vocabulary Support

Student Prompt to AI (example):

“Can you suggest more vivid vocabulary for this sentence: ‘The backyard was nice and had a lot of trees’?”

AI Suggestion:

“The backyard was a tranquil retreat, filled with towering oaks and swaying pines that whispered in the breeze.”

Note: The student is encouraged to select, adapt, or be inspired by the AI’s suggestion—not to copy entire sentences directly.

Step 3: Vocabulary List Creation

Student Prompt to AI:

“Give me a list of more descriptive words I can use instead of ‘nice,’ ‘big,’ or ‘fun’ in my narrative essay.”

AI Output Example:

- Instead of *nice*: charming, serene, inviting, delightful
- Instead of *big*: sprawling, vast, expansive, towering
- Instead of *fun*: exhilarating, joyful, lively, spirited

Students can keep this list as a vocabulary bank while revising.

Step 4: Contextual Synonyms

Student Prompt:

“Can you give me synonyms for ‘quiet’ that would fit a peaceful outdoor scene?”

AI Response:

“calm, still, hushed, serene, tranquil”

Student selects “tranquil” because it best matches the tone of their essay.

Step 5: Revision Practice

Students are instructed to:

- Identify 3–5 vague or overused words in their draft.
- Use AI to find better alternatives.
- Revise their sentences using vocabulary that fits their tone and context.

Optional Extension: Style Matching

Student Prompt to AI:

“Can you help me make this paragraph sound more poetic but still my voice?”

AI returns a stylized version, and the student compares it to their original to decide what to keep, discard, or reword to preserve authorship while elevating style.

Learning Outcome:

Students learn to:

- Identify weak or vague vocabulary in their writing
- Use AI to generate more vivid or precise alternatives
- Choose and revise language that enhances meaning and tone
- Retain control over their writing while using AI as a vocabulary tool

Would you like a student-facing worksheet, a classroom activity using this method, or an AI usage policy handout to accompany it?

Ask AI for Student Work Feedback

Prompt: Create an example of a writing assignment for Freshman College English Students. Where they have to use AI to get feedback on their writing before submitting it. They must show the AI output process and how they improved their writing with AI.

AI Output: Certainly! Below is a full writing assignment example for Freshman College English students that integrates AI into the revision and feedback process. This assignment guides students to generate, revise, and reflect using AI as a writing assistant while demonstrating transparency and critical thinking.

Assignment Title: Polishing Your Voice — Writing with AI Feedback

Course: Freshman English Composition

Assignment Type: Narrative or Argumentative Essay + AI Revision Reflection

Word Count: 750–1000 words (final draft)

Due Date: [Insert Date]

Assignment Overview:

Use AI as a feedback tool to revise and improve your draft before submitting your final paper. You will submit both your revised essay and a reflection that explains how you used AI to make your writing stronger. This assignment helps you develop skills in self-editing, clarity, and purposeful revision.

Prompt Options (Choose One):

1. Narrative Essay:
Write a personal narrative about a time you faced a difficult decision and what you learned from the experience.
2. Argumentative Essay:
Make a persuasive case for or against the use of social media in academic settings. Use personal experience and research to support your position.

Step-by-Step Instructions:

Step 1: Write Your First Draft

- Write your initial essay draft based on one of the prompts above.

- Focus on getting your ideas down clearly. You'll revise it later with AI.

Step 2: Use AI for Feedback

After drafting, interact with an AI tool like ChatGPT to get feedback.

Try one or more of the following prompts:

Structure and Clarity

"Here's my essay draft. Can you identify any unclear or awkward sentences and suggest improvements?"

"Can you help improve the flow of this paragraph?"

Grammar and Style

"Check this paragraph for grammar and word choice."

"Suggest ways to make this sentence more formal or academic."

Thesis and Argument

"Is my thesis statement clear and strong?"

"Do I support my argument well throughout the essay?"

Step 3: Revise Your Draft

- Based on the AI's suggestions, choose what to revise—you don't need to take every suggestion.
- Highlight or annotate the changes you made in a second draft (optional).

Step 4: Write Your AI Revision Reflection (250–300 words)

In a separate document, reflect on:

- What you asked AI to do and why
- What suggestions you found helpful or not helpful
- Which parts of your writing improved the most
- How you made sure your voice and ideas remained your own

What to Submit:

1. Final Essay (Revised)
2. AI Output Transcript (copy and paste your prompts and the AI's responses)
3. AI Revision Reflection (250–300 words)

Grading Rubric (100 Points)

Criteria	Points
Final Essay: clarity, structure, and content	40
Use of AI feedback and thoughtful revision	20
Quality of AI Reflection	20
Grammar, mechanics, and formatting	10
Submission of AI interaction transcript	10

Note on Academic Integrity:

You are expected to use AI as a revision assistant, not a ghostwriter. Your ideas and structure must be your own. If AI is found to have written significant sections of your essay, the assignment may receive no credit.

Ask AI for Text in a Variety of Voices

Prompt: Using the Poem the Road Not Taken I want you to rewrite the poem using the voice of the road, a person standing at the crossroads, and a loved one of the walker.

AI Output: Here are three rewritten versions of Robert Frost's "*The Road Not Taken*", each from a distinct voice:

1. The Road's Voice: "I Watched Him Go"

Two of us stretched beneath the gold,
Bending gently in morning light.
He came unsure, both brave and cold,
Paused at my mouth—his silence bold—
And wondered which would lead him right.

I saw his eyes, that heavy stare,
As if my path could spell his fate.
He looked at me, then turned elsewhere,
His boots disturbing summer air,
And left me lonely at my gate.

I never told him what I held—
The rain, the shade, the quiet bend.
Perhaps I led through thorns unquelled,
Perhaps to peace where green things dwelled,
But he chose not to be my friend.

And somewhere now, he speaks of me,
Of choice, of change, of self and will.
But I remain beneath this tree,
The road he never walked to see—
Unclaimed, but waiting still.

2. The Person at the Crossroads: "Before the Step"

Two ways diverged beneath the trees,
And neither told me what they knew.
The air was hushed, the morning breeze
Said nothing of the guarantees
Each winding way might lead me to.

One path looked clean, the leaves unpressed,
As though it asked to be the first.
The other worn by quiet guests

Still whispered dreams from those it blessed,
Though some returned, or maybe cursed.

I stood, unmoving, breath held tight,
Afraid to step and seal my past.
No map could show me left or right,
No voice could promise me the light,
But still I knew—I could not last.

So trembling, I made the leap,
A single foot, a breath, a sway—
And left behind what I can't keep,
That haunted road I did not reap,
Still walks beside me every day.

3. A Loved One's Voice: "Watching Him Choose"

He stood where old paths part and wind,
One hand clenched tight, the other free.
And I, a breath behind, inclined
To speak, to stop him, to remind—
But knew this walk was not for me.

I saw the furrow in his brow,
The ache that choosing always brings.
I wanted to protect him now,
But love can't always show you how—
It only waits for what life sings.

He glanced back once, eyes full of storms,
Then turned to where the wild grass grows.
I prayed that time would treat him warm,
That peace would find him in some form
No matter which old road he chose.

And years from now, if he should say
That this one step reshaped his soul,
I'll say I loved him, come what may—
And watched with pride that dawning day
He walked his way toward being whole.

Follow Up Prompt: Can you also suggest some discussion questions to help students analyze how the voice affects the poem

AI Output: Absolutely! Below are discussion questions designed to help students analyze how the change in voice affects meaning, tone, and interpretation in the rewritten versions of "*The Road Not Taken*." These questions encourage close reading, critical thinking, and perspective-taking, making them perfect for freshman-level English or literature classes.

Discussion Questions: How Voice Affects Meaning in Poetry

Comparative Voice Analysis

1. How does the tone of the original speaker in *The Road Not Taken* differ from the tone of the road's voice? What emotions does the road express that the original speaker does not?
2. Which version (original, road, person at the crossroads, loved one) do you think offers the most objective perspective? Which is the most emotionally invested? Why?

Narrative Point of View and Bias

3. In the version told by the loved one, how does their perspective influence the way we interpret the traveler's choice? Does it add sympathy, distance, or insight?
4. The road in its own version seems self-aware. What effect does this personification have on how we view the concept of choice and fate? Is the road passive or powerful in this version?

Themes and Meaning

5. How do the themes of choice, regret, and uncertainty shift depending on who is telling the story? Which version suggests that choice is empowering? Which suggests it's painful or inevitable?
6. What do we learn about identity and self-understanding from the person standing at the crossroads? How does this internal perspective differ from the reflective hindsight of the original poem?

Structure and Language

7. How does each voice use imagery and metaphor differently? For example, does the road describe itself in a romantic, tragic, or neutral way? How does this affect your reading of the "roads" as symbols?
8. How does the use of poetic devices (rhyme, repetition, line breaks) reinforce or alter the speaker's voice in each version? Which version feels most lyrical or most grounded? Why?

Creative Extension

9. If you were to rewrite the poem from the voice of *regret* or *time* or *a future self*, how would the tone and message change? What details would you focus on?
10. Which version of the poem feels most true to your own experience of making difficult decisions? Why does that voice resonate with you more than the others?

AI Faculty Help

Use AI to Create Quizzes for Your Courses

Generated by Jessica Dalton-Carriger

I've been using AI (specifically ChatGPT) to help streamline quiz creation in my anthropology and archaeology courses. By uploading my lecture slides or reading materials, I can quickly generate a bank of 15–25 multiple choice questions per module. The questions focus not just on vocabulary and factual recall, but also emphasize critical thinking, cultural analysis, and site identification—skills I want students to build throughout the course.

Once the AI generates the questions, I review and revise them as needed to ensure they reflect the tone, learning objectives, and emphasis of my class. It's not about handing over the work to AI, but about using it as a starting point to save time and stay consistent with assessments across modules.

This approach has allowed me to focus more energy on developing discussions, projects, and other activities that engage students more deeply with the material. It's been a helpful tool—not a replacement for good teaching, but a support for it.

Suggested Prompts for Faculty to Try

Where AI pulls information from is always a concern for faculty, however if you upload your own lectures, notes, or OER reading materials you can indicate for it to only pull from that.

Here are some example prompts I've found helpful when using ChatGPT to create quiz questions:

- “Create 15 multiple choice questions based on this lecture PDF that emphasize vocabulary and critical thinking.”
- “Write 10 quiz questions that assess comprehension of major sites and cultural developments from these lecture slides.”
- “Based on this reading, generate 20 multiple choice questions with 4 answer options each, and indicate the correct one.”
- “Make multiple choice questions that require students to apply key concepts from this module in new contexts.”
- “Write quiz questions suitable for a freshman college anthropology class using this document.”
- “Focus on questions that ask students to compare and contrast different prehistoric cultures using this material.”

- “Can you write higher-order multiple choice questions (Bloom’s Taxonomy levels 3–5) based on this lecture content?”

You can adjust the tone and focus of your prompts depending on your course level, subject area, and assessment goals. The more specific you are in your request, the better the results tend to be.

Use AI to Create Review Content - Study Guide

Prompt: I am giving an mid-term exam on the Reformation please create a study notes for students including practice test questions that are multiple choice, short answer, and essay

AI Output: Here's a structured Reformation Study Guide for your students, including a concise summary of key content followed by multiple choice, short answer, and essay questions for practice. It's formatted for easy use as a printable or digital review handout.

Reformation Mid-Term Study Guide

I. Key Topics to Review

1. Causes of the Reformation

- Corruption within the Catholic Church (e.g., indulgences, simony, absenteeism)
- The rise of humanism and individual interpretation
- Printing press and the spread of ideas
- Political conflicts between monarchs and the Pope

2. Key Figures

- Martin Luther: 95 Theses (1517), justification by faith alone, German Bible translation
- John Calvin: Predestination, theocracy in Geneva
- Henry VIII: English Reformation, creation of the Church of England
- Erasmus: Humanist reformer who criticized the Church but remained within it

3. Major Events

- The posting of the 95 Theses
- The Diet of Worms (1521)
- The formation of Protestant denominations
- The English Reformation and the Act of Supremacy
- The Peasants' War (1524–25)

- The Thirty Years' War (1618–1648)

4. Catholic (Counter) Reformation

- Council of Trent (1545–1563): reaffirmed Catholic doctrine, reformed abuses
- New religious orders: Jesuits, Ursulines
- Increased censorship (Index of Forbidden Books)
- The Inquisition

5. Consequences

- Religious fragmentation in Europe
- Rise of religious wars and persecutions
- Growth of state power over church institutions
- Increased literacy and vernacular Bibles
- Long-term shifts toward secularism and pluralism

II. Practice Test Questions

Multiple Choice (Choose the best answer)

1. What was the primary concern expressed by Martin Luther in his 95 Theses?
 - A. The lack of Church attendance
 - B. The sale of indulgences
 - C. The use of Latin in services
 - D. The power of monarchs
2. Which invention greatly aided the spread of Reformation ideas?
 - A. The telescope
 - B. The compass
 - C. The printing press
 - D. The steam engine
3. The Council of Trent was convened to:
 - A. Create Protestant churches
 - B. End religious wars
 - C. Reform Catholic practices and reaffirm doctrine

- D. Promote religious tolerance
- 4. John Calvin is best known for his belief in:
 - A. Transubstantiation
 - B. Papal infallibility
 - C. Predestination
 - D. Indulgences
- 5. The Act of Supremacy (1534) established:
 - A. Catholicism as the state religion of England
 - B. Henry VIII as head of the Church of England
 - C. The English Bill of Rights
 - D. Protestantism in Scotland

Answers:

- 1. B
- 2. C
- 3. C
- 4. C
- 5. B

Short Answer Questions

- 1. What were indulgences, and why did they become a central issue in Martin Luther's protest?
- 2. Explain two key differences between Lutheranism and Catholicism during the Reformation.
- 3. How did the printing press contribute to the success of the Protestant Reformation?
- 4. Describe the political motivations behind Henry VIII's break from the Catholic Church.
- 5. What were two major goals of the Catholic Counter-Reformation?

Essay Prompts (Choose 1)

- 1. Compare and contrast the theological views of Martin Luther and John Calvin. In what ways did their teachings differ, and how did each shape the Protestant movement?

2. Assess the long-term consequences of the Protestant Reformation on European society, including religious, political, and cultural shifts.
3. Evaluate the effectiveness of the Catholic Counter-Reformation. To what extent did the Church succeed in its goals to reform and regain influence?

Would you like a formatted Google Doc or PDF version of this for distribution to students? I can also align it with Bloom's taxonomy or add primary source references if needed.

Use AI to Create Review Content - Review Game

Here's a full in-class review game designed for a freshman Introduction to Philosophy final exam that spans the entire 1 hour and 20-minute class session. It emphasizes collaboration, critical thinking, and friendly competition.

Review Game: "The Philosopher's Gauntlet"

Overview:

Students will work in small groups to navigate a series of intellectual challenges covering major topics from the course. Each challenge is themed around a classic philosopher or school of thought. The game is structured like a board game or gauntlet, where groups advance by answering questions and solving philosophical dilemmas.

Class Time: 1 Hour 20 Minutes

Time	Activity
0:00–0:10	Intro, Group Setup, Rules
0:10–1:10	Game Play (7 Rounds)
1:10–1:20	Scoring, Debrief, Prizes

Materials Needed:

- Game board on screen or whiteboard (or simply a printed sheet showing progress)
- Set of pre-written question cards by category
- Paper for each team to write answers
- Whiteboard or slide to track team points
- Optional: props for fun (philosopher hats, "scrolls," coins for wagering)

Group Setup:

- Divide students into 4–5 teams of 3–5 students.

- Assign each team a name (can be philosopher-themed: “Team Socrates,” “The Existentialists,” etc.).

How It Works:

Game Format:

Each round corresponds to a major philosophical theme. Teams choose a category and are given a challenge (question, dilemma, or puzzle). They earn points for correct answers. Some rounds allow teams to wager points or steal from others.

Rounds (10 Minutes Each):

Round 1: Logic and Reasoning

- Challenge: Solve a syllogism or spot a fallacy.
Points: 5

Round 2: Ancient Philosophy

- Challenge: Identify ideas from Plato, Aristotle, or the Pre-Socratics.
Example: “Explain Plato’s Allegory of the Cave in your own words.”
Points: 5

Round 3: Ethics

- Challenge: Apply deontology, virtue ethics, or utilitarianism to a modern scenario.
Example: “Would Kant approve of lying to protect someone? Why or why not?”
Points: 10

Round 4: Metaphysics

- Challenge: Define and contrast key concepts (e.g., substance, dualism, determinism).
Bonus: Teams can wager up to 5 points before answering.
Points: 5–10

Round 5: Epistemology

- Challenge: Debate the reliability of sense perception or the limits of knowledge.
Example: “Compare rationalism and empiricism using Descartes and Locke.”
Points: 10

Round 6: Modern Philosophy

- Challenge: Match a quote to the correct philosopher and explain it.
Example: "‘I think, therefore I am.’ Who said it, and what does it mean?"
Points: 5

Round 7: The Lightning Round

- Rapid-fire questions for quick answers.
Each team has 1 minute to answer as many as possible.
Points: 1 per correct answer (up to 10)

Scoring System:

- Correct answers: 5–10 points each
- Wager round: Up to +10 or -10 points
- Steal opportunity: If a team misses a question, another team may attempt a steal for half-points

Winning Incentive Ideas:

First Place Team Wins:

- Bonus points on the final exam (e.g., +2 points)
- Choice of philosopher-themed stickers or buttons
- First pick of seats on final exam day
- “Official Philosopher” certificates

Other Teams:

- Small candy or snack prize
- Team photo under the class title “Philosophers in Training”

Wrap-Up (Final 10 Minutes):

- Tally scores and announce winners.

- Have a short reflective discussion:
“What was the hardest question today? What topic do you feel strongest about going into the final?”

Would you like me to generate a full set of sample questions for each round? Or a printable scoreboard template for class use?

Use AI to Create Review Content - Case Studies

Prompt: Create 5 case studies to be used for midterm review for an Introduction to Criminal Justice class.

AI Output: Here are 5 engaging case studies for a midterm review in an Introduction to Criminal Justice course. Each case highlights key concepts—policing, courts, corrections, criminal procedure, and juvenile justice—and can be used for discussion, analysis, or short written responses. Each includes guiding questions to help students apply course material.

Case Study 1: Policing and Use of Force

Title: *“A Split-Second Decision”*

Scenario:

Officer Riley responds to a 911 call about a man behaving erratically and waving an object in front of a grocery store. Upon arrival, the man appears agitated and starts walking toward the officer with something shiny in his hand. Riley shouts verbal commands, but the man keeps walking. Fearing for their safety, the officer fires a shot. The object turns out to be a metal flashlight.

Guiding Questions:

1. Was the officer’s use of force justified under the “objective reasonableness” standard (*Graham v. Connor*)?
2. What are some alternative tactics that could have been used in this situation?
3. How do department policies and public perception influence use-of-force incidents?

Topics: Police discretion, use of force, legal standards, training

Case Study 2: Due Process and Search and Seizure

Title: *“A Bag in the Backpack”*

Scenario:

At a public high school, a teacher reports that a student, Jamie, might be carrying illegal drugs. The assistant principal opens Jamie’s backpack without a warrant and finds a small bag of marijuana. Jamie is arrested and charged. Jamie’s defense argues that the search violated the Fourth Amendment.

Guiding Questions:

1. Was this search legal under the Fourth Amendment?
2. How do students' rights differ in a school setting (e.g., *New Jersey v. T.L.O.*)?
3. Would the outcome be different if this happened at a college?

Topics: 4th Amendment, search and seizure, juvenile rights, probable cause

Case Study 3: Courts and Plea Bargaining

Title: *"Deal or Trial?"*

Scenario:

Samantha, a first-time offender, is arrested for felony theft. The prosecutor offers her a plea deal: plead guilty to a misdemeanor and serve six months of probation. Samantha insists she's innocent and wants a trial, but her public defender advises her to take the deal to avoid a possible one-year prison sentence if convicted.

Guiding Questions:

1. What are the pros and cons of plea bargaining for the defendant and the court system?
2. What constitutional rights are waived in a plea deal?
3. How might power imbalances affect the decision to accept a plea?

Topics: Plea bargaining, due process, trial rights, prosecutorial discretion

Case Study 4: Corrections and Rehabilitation

Title: *"Second Chances"*

Scenario:

Michael, 35, is serving a 5-year sentence for drug distribution. While in prison, he completes a GED program, takes vocational training, and earns good behavior credits. Upon release, he struggles to find housing and employment due to his felony record. He re-offends within six months.

Guiding Questions:

1. What are some of the major challenges people face after reentry?
2. How effective are rehabilitation programs inside prison in reducing recidivism?

3. Should Michael's successful participation in prison programs have more impact on his release conditions?

Topics: Prison reform, reentry, rehabilitation, recidivism

Case Study 5: Juvenile Justice System

Title: *"The Bike Theft"*

Scenario:

Jordan, age 15, is caught on video stealing a bicycle from a neighbor's yard. It's his first offense. The victim wants charges pressed, but Jordan's parents ask the police to consider diversion. The prosecutor must decide whether to file formal charges or recommend a juvenile diversion program.

Guiding Questions:

1. What are the key differences between the adult and juvenile justice systems?
2. What factors should be considered in deciding whether Jordan qualifies for diversion?
3. What are the goals of the juvenile justice system, and how are they reflected in this case?

Topics: Juvenile justice, diversion programs, first-time offenders, rehabilitation vs. punishment

Would you like a printable version of these, or would you like discussion worksheets or answer keys created for classroom use?

Use AI to Create Discussion Questions

Prompt: Can you generate a list of possible discussion questions for a Introduction to Business course on a module covering marketing and it suitable for freshmen college students and uses higher order Blooms?

AI Output: Certainly! Here's a list of discussion questions suitable for freshman-level Introduction to Business students on a Marketing module. These questions are crafted using higher-order Bloom's Taxonomy levels—Apply, Analyze, Evaluate, and Create—to promote deeper thinking and engagement.

Higher-Order Discussion Questions for Marketing Module

Apply

1. How would you apply the four Ps (Product, Price, Place, Promotion) to market a new product aimed at college students?
2. Think of a product you regularly use. How do the company's marketing strategies influence your buying behavior?
3. If your school bookstore wanted to increase sales, what marketing tactics would you recommend based on what you've learned?
4. Imagine you work for a small local business—how might you use social media to market its services effectively?

Analyze

5. Analyze the difference between mass marketing and target marketing. Which is more effective for modern companies, and why?
6. Break down how a company like Apple uses branding to create customer loyalty.
7. What role does market segmentation play in developing a marketing plan? Provide examples using real or hypothetical products.
8. How do consumer behaviors differ when purchasing luxury items versus necessities, and how should marketing strategies adapt?

Evaluate

9. Evaluate the ethics of marketing junk food to children. Where should marketers draw the line?

10. Is influencer marketing more effective than traditional advertising? Why or why not?
11. Evaluate a recent advertising campaign (TV, online, or print). Was it successful in reaching its intended audience? Why or why not?
12. Assess the effectiveness of “green marketing” strategies. Do you think they genuinely support sustainability or are they mostly branding tools?

Create

13. Design a basic marketing strategy for a startup business focused on eco-friendly school supplies. How would you reach your target market?
14. Create a promotional campaign for a fictional product that solves a real-world problem on college campuses.
15. Invent a brand identity (logo, slogan, and message) for a company you create. How will your marketing appeal to your chosen demographic?
16. Suppose you are launching a new app. Outline your approach to product positioning and how you would differentiate it from competitors.

Would you like these reformatted as a printable handout or organized into a class discussion activity (e.g., Think-Pair-Share or group debate format)?

Use AI as a Virtual Lab

Prompt: Create a freshman college Biology lab on genetic inheritance. Students will work collaboratively and they will use AI as the Virtual Lab to simulate the project.

AI Output: Absolutely. Below is a collaborative freshman-level college Biology lab on genetic inheritance, where students work in small groups and use AI (such as ChatGPT) as a Virtual Lab Assistant to simulate Punnett squares, genetic crosses, trait predictions, and generate family pedigrees or fictional case studies.

Collaborative AI-Powered Virtual Lab: Exploring Genetic Inheritance

Course: Introduction to Biology

Level: College Freshman

Lab Duration: One 75–90 minute class period

Lab Format: Collaborative (in-person or hybrid) using AI tools

Topic: Mendelian Genetics & Inheritance Patterns

Lab Objectives

By the end of this lab, students will:

- Use AI to simulate genetic crosses and trait inheritance
- Construct and interpret Punnett squares and pedigrees
- Predict probabilities of genotypes and phenotypes
- Collaboratively analyze inherited traits and apply Mendelian laws
- Communicate genetic concepts effectively through a group-generated scenario

Required Tools and Resources

- Laptops or tablets with access to ChatGPT or similar AI (1 per group)
- Lab worksheet (digital or printed) with spaces for:

- AI prompts
- Punnett squares
- Data tables
- Group analysis
- Whiteboard or large chart paper (optional for group presentations)

Pre-Lab Preparation

Students should review:

- Mendel's laws (segregation and independent assortment)
- Dominant vs. recessive traits
- Homozygous and heterozygous genotypes
- Basic Punnett square structure

Lab Procedure

Step 1: Group Setup and Scenario Design (15 minutes)

- Students form groups of 3–4.
- Each group creates a fictional “Genetic Case” using AI by giving a prompt like:

“Create a fictional family scenario involving a Mendelian genetic disorder (e.g., cystic fibrosis, sickle cell anemia, or albinism). Include parent genotypes and phenotypes and at least two children with their traits.”
- The AI provides a scenario that the group records on their worksheet.

Step 2: Inheritance Analysis (30 minutes)

Groups complete the following tasks:

1. Identify parental genotypes and phenotypes.
2. Construct Punnett squares to predict possible offspring outcomes.

3. Use AI to simulate multiple generations if desired:

“Based on the children in our scenario, simulate what their children might inherit if they marry partners with known genotypes.”

4. Create a pedigree chart using AI prompts and group input (or sketch manually).

“Using the family scenario we created, provide a textual version of a pedigree diagram showing three generations.”

Step 3: Critical Thinking and Challenge Questions (15–20 minutes)

Groups answer these reflection and analysis questions (written or discussed):

- What percentage of offspring would be carriers, affected, or unaffected in your case?
- How does your case illustrate Mendel’s laws?
- What factors could complicate these inheritance predictions in real life (e.g., codominance, incomplete dominance, environmental effects)?
- How might knowledge of inheritance patterns impact health decisions?

Step 4: Share and Compare (10–15 minutes)

- Each group presents a short summary of their case:
 - Disorder or trait studied
 - Punnett square predictions
 - One interesting AI-generated detail or twist
- Optionally, groups can rotate and peer review each other's work with feedback sheets.

Sample Prompts for Students to Use with AI

- “Create a story where two parents are carriers for Tay-Sachs disease. What are the odds their children will inherit the disease?”

- “Explain how a pedigree chart would look for a dominant genetic trait passed through three generations.”
- “What happens if a woman with type A blood (heterozygous) and a man with type B blood (heterozygous) have children?”

Assessment (Out of 50 Points)

Criteria	Points
Clear and complete AI-generated scenario	10
Accurate Punnett square and trait analysis	15
Thoughtful critical thinking responses	10
Group collaboration and participation	10
Presentation or summary of findings	5

Optional Extension

Have groups use AI to simulate non-Mendelian inheritance (e.g., sex-linked traits, codominance, or polygenic inheritance) and compare patterns.

Prompt: “Create a fictional case showing X-linked inheritance of colorblindness.”

Use AI to Help with Teacher Tasks - Designing Your Locator

Generated by Jessica Dalton-Carriger

Prompt: As a college professor I am very busy and I need help designing a weekly work schedule for myself. I can get to my office at 8:00 am but I need to leave by 3:30 pm. I need to leave Friday mornings open for committee meetings. I teach Monday/Wednesday from 9:30 - 10:50 am and 12:30 to 1:50 pm then I teach on Tuesday/Thursday from 12:30 to 1:50 pm. I also offer a Zoom class on Thursdays from 6:00 - 9:00 pm from home. I need to have 12 physical office hours and 2 virtual hours

AI Output: Here's a well-organized weekly work schedule based on your availability, teaching commitments, and required office hours. The plan maximizes productivity while honoring your limits: arriving at 8:00 am, leaving by 3:30 pm, and preserving Friday mornings for committee meetings.

Weekly Work Schedule (College Professor)

In-Person Office Hours: 12 hrs | Virtual Office Hours: 2 hrs

Workday Hours: 8:00 am – 3:30 pm (Monday–Friday)

Teaching Load:

- Mon/Wed: 9:30–10:50 am and 12:30–1:50 pm
- Tues/Thurs: 12:30–1:50 pm
- Thurs (Zoom): 6:00–9:00 pm (from home)
Friday AM: Reserved for committee meetings

Monday

- 8:00 – 9:15 am: Office Hours
- 9:30 – 10:50 am: Class
- 11:00 – 12:15 pm: Office Hours
- 12:30 – 1:50 pm: Class
- 2:00 – 3:30 pm: Grading / Prep / Email

In-Person Office Hours: 2.5 hrs

Tuesday

- 8:00 – 11:00 am: Office Hours
- 11:00 – 12:15 pm: Course prep / admin
- 12:30 – 1:50 pm: Class
- 2:00 – 3:30 pm: Research or flex time
- 5:00 – 6:00 pm: Virtual Office Hour (Zoom)

In-Person Office Hours: 3 hrs

Virtual Office Hours: 1 hr

Wednesday

- 8:00 – 9:15 am: Office Hours
- 9:30 – 10:50 am: Class
- 11:00 – 12:15 pm: Office Hours
- 12:30 – 1:50 pm: Class
- 2:00 – 3:30 pm: Grading / Meetings

In-Person Office Hours: 2.5 hrs

Thursday

- 8:00 – 10:00 am: Office Hours
- 10:00 – 12:00 pm: Course development / Email
- 12:30 – 1:50 pm: Class
- 2:00 – 3:30 pm: Flex or Admin
- 5:30 – 6:00 pm: Virtual Office Hour (Zoom)

- 6:00 – 9:00 pm: Zoom Class (from home)

In-Person Office Hours: 2 hrs

Virtual Office Hours: 1 hr

Friday

- 8:00 – 12:00 pm: Committee Meetings (no other commitments)
- 12:00 – 1:30 pm: Office Hours
- 1:30 – 3:30 pm: Wrap-up, planning, or overflow

In-Person Office Hours: 2 hrs

Total Weekly Hours

- In-Person Office Hours: 12 hrs
- Virtual Office Hours: 2 hrs
- Teaching Time: 12 hrs (including Zoom)
- Planned Admin/Grading Time: Built in daily

Use AI to Help with Teacher Tasks - Time Management

Generated by Jessica Dalton-Carriger

Prompt: In the Fall Semester I want to establish goals for myself as a college professor. I want to develop a better grading schedule so I don't fall behind. I want to create 4 new projects for my courses. I want to finally write that article I've been meaning to. And I need to be more active in monthly committee meetings. What do you suggest?

AI Output: That's a solid and ambitious set of goals—and totally achievable with structure and intentional planning. Here's a suggested approach to help you turn these into actionable goals for the Fall semester:

Fall Semester Goals for Faculty Productivity and Growth

1. Create and Maintain a Realistic Grading Schedule

Goal: Stay current with grading and avoid backlog.

Strategies:

- Block weekly grading sessions into your schedule (e.g., every Tuesday and Friday from 2:00–3:30 pm).
- Use a tiered turnaround system:
 - Small assignments: 3–5 days
 - Projects and essays: 1 week
- Use a timer or Pomodoro technique for focused grading periods.
- Batch similar assignments together (e.g., all discussion posts, all quizzes) for faster workflow.
- Use rubrics consistently—this speeds grading and gives students clear feedback.

Milestone: No assignment stays ungraded longer than 7 days.

2. Develop 4 New Projects for Your Courses

Goal: Introduce fresh, engaging material tailored to course learning outcomes.

Strategies:

- Set a monthly development timeline:
 - September: 1 project (e.g., update or redesign an existing one)
 - October: 1 brand-new, creative project
 - November: 2 more (repurpose ideas from conferences or student interests)
- Consider building projects that can be reused across semesters or adapted for multiple classes.
- Set mini-deadlines for each project (e.g., outline → resources → rubric → instructions).

Milestone: 4 projects ready by Thanksgiving break.

3. Finally Write That Article

Goal: Finish and submit your long-delayed article.

Strategies:

- Break it into 4 stages: outline, rough draft, revisions, submission.
- Set weekly writing goals (e.g., 1 hour on Friday mornings or during lighter weeks).
- Use short writing sprints (20–30 minutes) instead of waiting for long free blocks.
- Set a soft submission deadline for mid-November, with final edits by finals week.
- Consider using accountability tools like writing groups, Google Calendar, or accountability partners.

Milestone: Article submitted to journal by the end of the semester.

4. Be More Active in Monthly Committee Meetings

Goal: Engage meaningfully and consistently in committee work.

Strategies:

- Block time the week before each meeting to read materials and brainstorm talking points.

- Volunteer for one small task per meeting to increase visibility and impact.
- Keep a one-page “committee log” to track what you’ve contributed and upcoming follow-ups.
- Schedule 30 minutes after each meeting to send follow-ups or record notes while it's fresh.

Milestone: Active participation in each meeting with at least one documented contribution.

Bonus: Tracking and Accountability

Consider creating a simple monthly tracker or spreadsheet with your four goals and checkboxes for:

- Grading done on time
- Project progress
- Writing benchmarks
- Committee contributions

You could also reflect briefly at the end of each month:

- What worked?
- What stalled?
- What small change can help next month?

Optional Output

Would you like a printable version of this goal plan, a customizable spreadsheet, or a template for the monthly tracker?

Use AI to Help with Teacher Tasks - Advising

Prompt: As a college professor I have a list of 25 advisees I need to advise each semester. However, I always feel unorganized. Can you create a better way for me to schedule meetings, keep track of major requirements, and keep track of what I spoke with the students about?

AI Output: Absolutely. Advising 25 students can quickly become overwhelming without a streamlined system. Below is a **simple, efficient advising system** you can use each semester to schedule meetings, track major requirements, and document conversations—all while staying organized and saving time.

Faculty Advising Organization Plan

1. Advising Dashboard (Digital or Binder-Based)

Create a centralized Advising Dashboard using one of the following:

- A Google Sheet or Excel workbook (for sorting/filtering)
- A binder with printed advising sheets, organized alphabetically or by major
- Optional: Use a digital tool like Notion, Trello, or OneNote if you want more automation and visuals

Each student gets a row (spreadsheet) or page (paper/digital file) for tracking.

Recommended Columns/Fields:

Student Name	Major/Minor	Year	Date Last Advised	Upcoming Appt	Notes from Meeting	Holds/Alerts	To-Do Next	Grad Plan Status	Email Sent
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2. Semester Advising Checklist (for Each Student)

Create a standard advising form you fill out during or right after each meeting. You can pre-print these or make it fillable in Google Forms or Docs.

Advising Meeting Template:

- Student Name:

- Date of Meeting:
- Academic Year:
- Current GPA / Standing:
- Credits Completed / Remaining:
- Major Requirements Reviewed? (Yes / No)
- Recommended Courses Next Term:
- Internship/Research Opportunities Discussed:
- Graduation Timeline (if applicable):
- Referrals Made (e.g., tutoring, career services):
- Next Steps/Follow-Up:
- Scheduled Next Meeting?

3. Advising Appointment Scheduling

Avoid back-and-forth emails by using an online appointment scheduler, such as:

- [Calendly](#)
- [YouCanBook.me](#)
- [Microsoft Bookings or Google Calendar Appointments**] (if your college uses Outlook or Google Suite)

Set your available advising blocks (e.g., 2 hours every Tuesday and Thursday), and let students pick a time that works for them.

Tip: Link the scheduler in your advising emails and syllabus.

4. Track Major Requirements

Use or create a degree audit checklist per major (you likely already have this from your department). Add this to each student's file, either:

- A PDF that you can mark up digitally
- A printed sheet kept in the binder
- A Google Doc shared individually with students (great for collaboration)

Highlight or check off completed courses and required areas. This makes future meetings faster and keeps students visually aware of their progress.

5. Semester Organization Strategy

Week of Semester	Advising Tasks
Week 2–3	Email all advisees to check in
Week 5–7	Begin midterm check-ins (optional)
Week 9–11	Open advising appointment slots
Week 12–14	Meet with students, finalize plans
Week 15	Email reminders about next steps

Optional Enhancements

- Use a color code or status tag system (green = on track, yellow = minor concerns, red = at-risk).
- Create an email template bank for appointment reminders, follow-ups, and course suggestions.
- Set 1–2 office hours a week specifically for drop-in advising to catch latecomers or quick questions.

Want Help Setting It Up?

I can help generate:

- A Google Sheet template for your dashboard
- A printable advising form
- Email templates for advising outreach
- A checklist for major requirements (if you provide a sample curriculum)

Use AI to Help Write Reference Letters

Prompt: I need to write a letter or recommendation for my student Jane Doe. She wants to pursue nursing at the University of UT. Jane is a great student, punctual with her time and work, goes beyond the surface of her assignments, is kind and helpful to others, and always shows interest in class. Can you write to sample letters one more formal to the admission office and the other more personal to be sent to the Nursing department chair?

AI Output: Certainly. Below are two sample letters of recommendation for your student Jane Doe, tailored to different recipients:

1. Formal Letter to the University Admissions Office

[Your Name]
[Your Title and Department]
[College Name]
[College Address]
[City, State ZIP]
[Email Address]
[Phone Number]
[Date]

Admissions Office
University of Utah
[Address if known or leave blank]
Salt Lake City, UT

Dear Admissions Committee,

I am writing to offer my highest recommendation for Jane Doe, who is applying for admission to your Nursing program at the University of Utah. I have had the pleasure of teaching Jane in my [Course Name] course this past semester, and I can say without hesitation that she is among the most dedicated and intellectually engaged students I have taught at the freshman level.

Jane demonstrates an exceptional commitment to academic excellence. She consistently submits work that reflects deep analysis, attention to detail, and thoughtful inquiry—often going beyond the scope of the assignment to explore broader implications or real-world applications. Her punctuality and organization are matched by her strong work ethic, and she consistently meets deadlines with high-quality submissions.

Equally notable is Jane's positive influence in the classroom. She is kind and respectful to her peers, often offering thoughtful comments during group discussions and willingly assisting classmates when needed. Her presence fosters a collaborative and inclusive learning environment. She is genuinely curious, asks insightful questions, and actively contributes to class conversations, reflecting a sincere interest in the subject matter.

Jane is exactly the type of student who will thrive in a rigorous nursing program: intellectually capable, emotionally mature, and community-oriented. I am confident she will not only succeed at the University of Utah but also make meaningful contributions to your academic community.

Please feel free to contact me at [your email or phone] if you require any additional information.

Sincerely,
[Your Full Name]
[Your Academic Title]
[College Name]

2. More Personal Letter to the Nursing Department Chair

[Your Name]
[Your Title and Department]
[College Name]
[Email Address]
[Phone Number]
[Date]

Dr. [Chair's Name]
Chair, Department of Nursing
University of Utah
[Address if known or leave blank]

Dear Dr. [Chair's Last Name],

I wanted to reach out personally to share my enthusiastic support for Jane Doe, who is applying to your Nursing program. Jane has been a student in my [Course Name] class, and she's one of those rare students who quietly impresses everyone around her.

Jane is the kind of person you'd want on your team in any healthcare setting. She's always early, always prepared, and always engaged. But what truly sets her apart is the way she approaches learning—not just completing assignments, but really thinking them through, making connections, and reflecting on the deeper questions behind the material. She doesn't just "get it"; she wants to understand it fully.

Even more impressive is her kindness. Jane is the person who notices when a peer is struggling and offers to help without hesitation. She brings warmth and humility to everything she does, and I can easily see her thriving in a caring profession like nursing.

I believe Jane will not only excel in your program academically, but will also bring empathy, diligence, and genuine curiosity—traits that make for an outstanding nurse. Please don't hesitate to reach out if you'd like more context about her work or classroom presence.

Warm regards,
[Your Full Name]
[Your Position]
[College Name]

Let me know if you'd like these in a downloadable format or with the specific course and semester filled in.

Discipline Specific AI Projects

Allied Health

AI Example: Assistance with Simulation Development

AI Generated by Sophia Floersh

- Prior to entering anything into chatgpt, you want to first decide the following:
 - **Demographic of students:** Are these senior students getting ready to graduate? Are they novice students?
 - **Basic Plot of the Simulation:** Have a basic idea for what you want to make the simulation about. Make sure it is simple. Remember that this is the initial development of the simulation. You can add complexity as you continue.
 - **Standards and Accrediting Bodies:** You want to include any standards and/or accrediting bodies that may be relevant to the sim. ALWAYS include the Inascl Standards.
 - **Debriefing:** What is the main thing you want to include in your debriefing? This is where most of the learning takes place. Include the use of the PEARLs debriefing tool.
- **Creating your prompt – make sure to include the above information.**
 - **Tip:** If you log into Chatgpt you can also include the template that Victoria Battershell sent us. Logging in will also save the document for use later.
 - **Example:** Write a simulation that addresses all of the requirements in the attached document. Make the simulation for senior nursing students about a chest tube being removed in an emergency setting. Make sure to base the simulation on the INASCL standards and AACN accreditation model. For the debriefing make sure to use the PEARLs debriefing tool.
- **Proofread your Information** à Make sure that it is logical and makes sense.
- **Create a pre-work or ticket to sim**
 - **Tip:** Once again having an account makes these easier because you will have the information logged onto it.
 - **Example:** Develop "a ticket to sim" pre assignment using the same standards that is about 2 hours of work. Include at least one question addressing SBAR and one question involving emergency care for accidental chest tube removal. Make sure to include an answer sheet for faculty use.

- **Create a post-work assignment:** Follow the same process as above.

AI Example: Developing an Escape Room Using AI

AI Generated by Sophia Floersh

- Prior to entering anything into chatgpt, you want to first decide the following:
 - **Demographic of students:** Are these senior students getting ready to graduate? Are they novice students?
 - **Basic Plot of the Simulation:** Have a basic idea for what you want to make the escape room about.
 - **Standards and Accrediting Bodies:** You want to include any standards and/or accrediting bodies that may be relevant to the escape room. For example, if you are making an escape room about heart failure you will want to include the American College of Cardiology (ACC) and the American Heart Association (AHA)
 - **Length:** Indicate how long you want the escape room.
 - **Format:** Indicate what format you will be doing the escape. Will this be for D2L through quizzes? Or paper based? Also include if this is going to be a group activity or not.
- **Creating your prompt – make sure to include the above information.**
 - Develop an escape room for medical-surgical III nursing students that are getting ready to graduate in two months. Include information about heart failure using American College of Cardiology and American Heart Association standards. It should be 20 minutes and the format is paper based with groups.

General information: The main thing is to edit and proofread the information. I have left all of the examples unedited so you can see what they look like visually as well as the information provided.

Anatomy and Physiology

Generated by Saaed Rahmanian

Generating Medical Case Studies Using an AI Platform

This project guideline was designed to help students in Anatomy and Physiology bridge the gap between theoretical concepts and real-world medical application. The main objective is to deepen students' understanding of anatomy and physiology by requiring them to design and develop realistic case studies focused on cellular-level processes. Students begin by selecting a medically relevant condition — such as cancer, sickle cell anemia, cystic fibrosis, or another disease rooted in cellular dysfunction — and then build an in-depth patient profile that includes realistic demographic information, medical history, and presenting symptoms.

The guideline encourages students to compose a detailed clinical scenario that highlights how cellular, endocrine, or neurological processes contribute to the patient's condition. They are required to integrate correct anatomical and physiological terminology, clearly demonstrating how cellular structure and function are affected. Beyond just presenting information, students must pose diagnostic questions that challenge peers to think critically about how changes at the cellular level manifest as clinical signs and symptoms.

Research is a key component of the project. Students are expected to consult reliable, evidence-based sources — including academic journals, reputable websites, and course textbooks — and must properly cite all references. The emphasis on accurate research ensures students learn how to distinguish trustworthy information from less reliable sources, which is a vital skill for any future healthcare professional or life scientist.

To further enhance the learning experience, the guideline integrates the use of ChatGPT or any other AI platform as a supportive tool throughout the project. Students can interact with an AI platform to brainstorm ideas, clarify complex cellular concepts, generate follow-up questions, and receive guidance on how to structure and present their case studies. This AI support empowers students to work more independently while still benefiting from a collaborative, tech-assisted approach.

An important feature of this assignment is the peer review process. After drafting their case studies, students must exchange their work with a classmate to receive detailed, constructive feedback. The emphasis is on providing meaningful, professional critique that focuses on the accuracy and clarity of the cellular details, rather than generic praise. This process encourages students to think critically about each other's work, fosters collaboration, and helps them refine their own understanding by reviewing others' analyses.

Finally, students are assessed not just on content accuracy but also on the overall clarity, organization, and depth of their presentation. They are encouraged to incorporate relevant diagrams or images that illustrate cellular structures or disease mechanisms, further reinforcing visual learning and scientific communication.

Benefits of the Project and Use of AI Technology

This project delivers significant educational benefits by engaging students as active participants in their own learning. Creating a detailed medical case study requires students to synthesize information across multiple chapters and concepts, promoting deeper learning and long-term retention. It also gives them a glimpse into how medical professionals approach diagnosis and treatment planning, which helps contextualize classroom knowledge within real clinical practice.

The integration of ChatGPT as a study companion aligns the project with modern educational trends that emphasize digital literacy and responsible AI use. Rather than replacing critical thinking, the AI acts as a catalyst for it — helping students ask better questions, explore new perspectives, and test their understanding in real-time. This hands-on experience with AI prepares students to navigate a future where digital tools will be an integral part of healthcare, research, and other life science careers.

By requiring peer feedback and revision, the project also builds communication skills and encourages students to engage in constructive scientific discourse — an essential aspect of working in any collaborative scientific or clinical setting.

Overall, this project supports the development of higher-order thinking skills, nurtures curiosity, strengthens research abilities, and equips students with technological competencies they will need in an increasingly AI-assisted professional world. It transforms students from passive recipients of information into active, thoughtful problem-solvers ready to tackle real medical challenges through the lens of cellular anatomy and physiology.

Example Case Study: Cholesteatoma

A Case of a 48-Year-Old Nurse with Chronic Otologic Disease

Abstract

Cholesteatoma is a destructive lesion of the middle ear characterized by abnormal keratinizing squamous epithelium proliferation. This case study presents a 48-year-old female nurse with a history of chronic otitis media, recurrent cholesteatoma, profound unilateral hearing loss, and multiple surgical interventions, including mastoidectomy and Bone-Anchored Hearing Aid (BAHA) placement. The study delves into cellular mechanisms underlying cholesteatoma formation, progression, and recurrence. Cellular processes such as hyperproliferation, inflammation, and bone erosion via osteoclast activation are explored. The study also examines the interplay of cytokines, matrix metalloproteinases (MMPs), and cellular apoptosis. Diagrams and research-backed references provide a comprehensive cellular focus.

Demographics

- **Patient:** Jane Doe
- **Gender:** Female
- **Age:** 48 years old

- **Date of Birth:** 11/26/1976
- **Occupation:** nightshift LPN and RSCC Student
- **Hobbies:** Stargazing, traveling, relaxing with a massage, and antique VW car shows
- **Marital Status:** Happily married for 30 years to her loving & supportive husband Rick Casey
- **Children:** Venus & Rick have 2 wonderful children, a son, Dakota (age 29) and a daughter, Kristian (age 27)
- **Future Plans:** To graduate from RSCC RN program, to become a Registered Nurse and to go out to hear and heal the world.

Medical and Treatment History

- Born with a floppy right ear (possibly a birth defect extending into middle ear predisposing her to ear problems)
- Ear pain, fever and chronic tonsillitis (early childhood to adolescence) often treated with oral antibiotics
- Chronic otitis media (early childhood to adolescence) often treated with antibiotic and steroid eardrops
- Recurrent eardrum ruptures to right ear (early childhood to adolescence) vertigo and balance issues
- Strange foul-smelling discharge coming from the right ear
- Cholesteatoma with Profound unilateral hearing loss right-ear at age 11
- Cholesteatoma and Middle ear ossicle removal and placement of prosthetic ossicles at age 13
- Mastoidectomy and removal of prosthetic ossicles due to recurrent cholesteatoma at age 15
- Bone-Anchored Hearing Aid (BAHA) attract system implantation at age 42

Psychosocial and Educational Impact

- Missed over 50% of grade school due to chronic illness
- Dropped out of high school
- Later as an adult learner obtained GED and became an LPN, currently pursuing her nursing degree as a Registered Nurse

Circumstances and symptoms leading to medical attention:

Frequent ear pain, fever and sore throat.

Recurrent eardrum ruptures to right ear.

Vertigo and balance issues.

Strange foul-smelling discharge coming from the right ear.

Bad grades in school related to hearing loss and frequent absences due to illness.

Pathophysiology of Cholesteatoma at the Cellular Level

1. Keratinocyte Hyperproliferation and Dysregulated Growth

Cholesteatoma originates from aberrant keratinocyte proliferation. Normally, keratinocytes undergo controlled differentiation and desquamation; however, in cholesteatoma, epidermal-like squamous epithelium invades the middle ear, forming a cystic lesion.

Cellular Mechanisms:

- **Epidermal Growth Factor (EGF) and Transforming Growth Factor-Alpha (TGF- α)** are overexpressed, promoting excessive keratinocyte proliferation (Yetiser, 2020).
- **Dysregulation of p53 and cyclin-dependent kinases (CDKs)** leads to loss of normal cell cycle control.
- **Apoptosis resistance** in keratinocytes due to downregulation of caspases prevents programmed cell death, allowing unchecked epithelial growth (Juhasz et al., 2019).

2. Chronic Inflammation and Immune Response

Chronic otitis media creates an inflammatory microenvironment, favoring Cholesteatoma development. The release of pro-inflammatory cytokines and immune cells exacerbates tissue damage.

Key Inflammatory Players:

- **Interleukin-1 β (IL-1 β) and Tumor Necrosis Factor- α (TNF- α)**: Promote epithelial migration and chronic inflammation.
- **Macrophages and Neutrophils**: Release reactive oxygen species (ROS), leading to oxidative stress and tissue destruction (Lechner et al., 2021).
- **Matrix Metalloproteinases (MMP-2, MMP-9)**: Enzymes degrading the extracellular matrix (ECM), facilitating tissue invasion.

3. Bone Resorption via Osteoclast Activation

One of the most destructive aspects of cholesteatoma is **bone erosion**, particularly affecting the ossicles and mastoid bone.

Osteoclast-Mediated Bone Erosion:

- **Receptor Activator of Nuclear Factor Kappa-B Ligand (RANKL)**: Overexpressed in cholesteatoma, stimulating osteoclast differentiation.
- **NF- κ B Signaling Pathway Activation**: Increases osteoclast survival and bone degradation.
- **Prostaglandins (PGE2) and TNF- α** : Synergistically enhance bone resorption, leading to ossicular damage and conductive hearing loss (Olszewska et al., 2019).

Diagnostic Questions with a Cellular Focus

1. What cellular markers can differentiate cholesteatoma epithelium from normal middle ear mucosa?
2. How does dysregulation of apoptosis contribute to cholesteatoma recurrence?
3. Which inflammatory cytokines play a major role in cholesteatoma progression, and how can they be targeted therapeutically?
4. What role do MMPs play in the extracellular matrix degradation within cholesteatoma lesions?
5. How does oxidative stress from immune cell activity impact cholesteatoma proliferation and tissue damage?

Treatment and Future Considerations

Given the aggressive and recurrent nature of cholesteatoma, management strategies should focus on both surgical removal and potential molecular interventions.

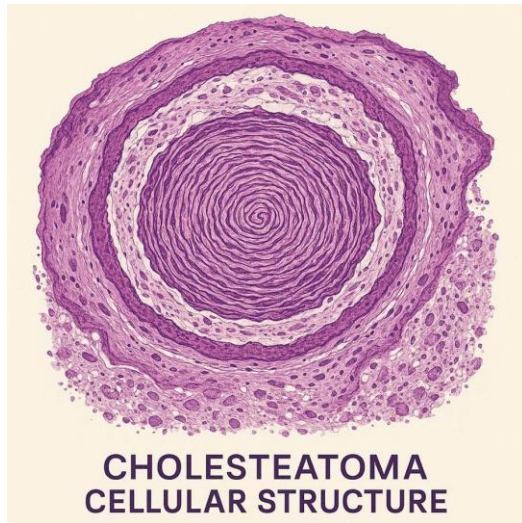
- **Surgical Intervention:**
 - Complete excision via mastoidectomy (as performed in this case).
 - Close monitoring for recurrence using imaging.
- **Targeted Cellular Therapy (Future Prospects):**
 - MMP inhibitors to prevent ECM degradation.
 - RANKL inhibitors (e.g., Denosumab) to prevent bone resorption.
 - Anti-inflammatory biologics targeting IL-1 β and TNF- α to modulate chronic inflammation.

Finally, any delay in the diagnosis and/or treatment of cholesteatoma can have profound effects on language development, learning performance, and academic comprehension as a direct result of hearing loss.

Conclusion

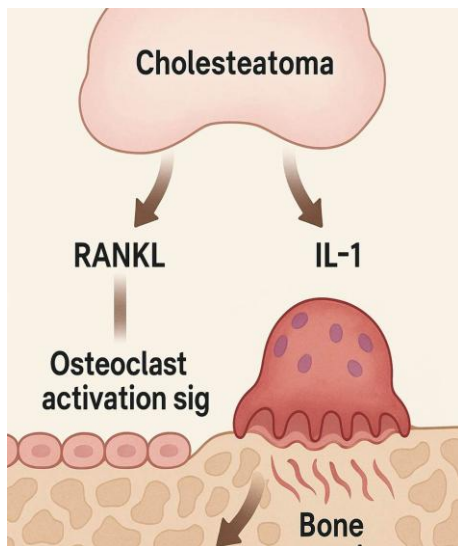
This case study illustrates the interplay of hyperproliferation, inflammation, and bone resorption at the cellular level in cholesteatoma. Despite early-life medical challenges and educational setbacks, the patient overcame adversity, pursued higher education, and found purpose in nursing. Continued research into cellular targets may pave the way for less invasive treatments, improving long-term outcomes for cholesteatoma patients.

Images and Diagrams



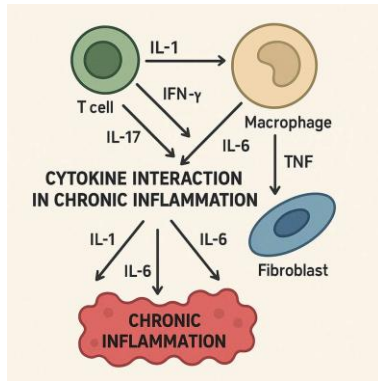
1. Cholesteatoma Cellular Structure

(Microscopic cross-section highlighting hyperproliferative keratinocytes and inflammatory cell infiltration)



2. Osteoclast Activation in Cholesteatoma

(Diagram showing RANKL-mediated osteoclast differentiation and bone resorption in mastoid bone)



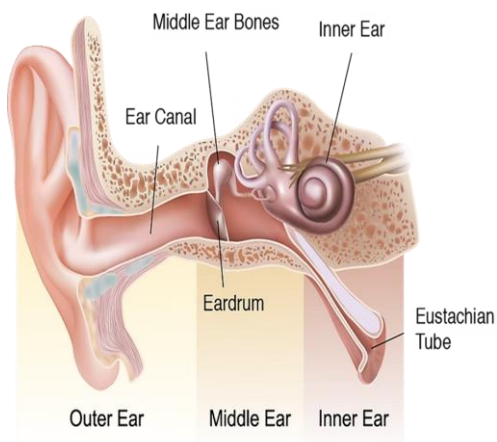
3. Cytokine Interaction in Chronic Inflammation

(Illustration of IL-1 β , TNF- α , and MMP activation in cholesteatoma tissue)



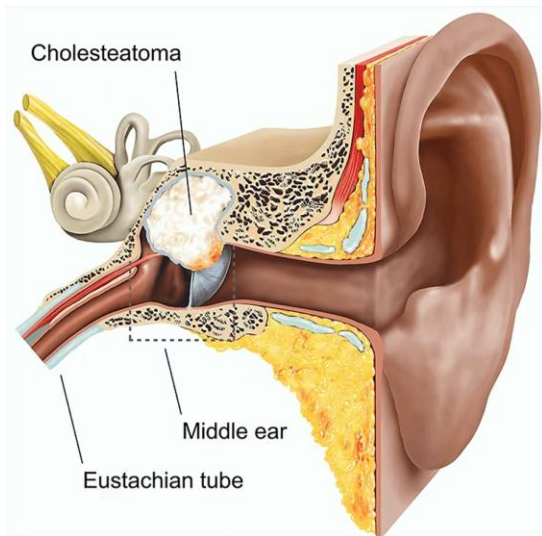
4. Cholesteatoma

(Otoscope Image of Cholesteatoma on eardrum)



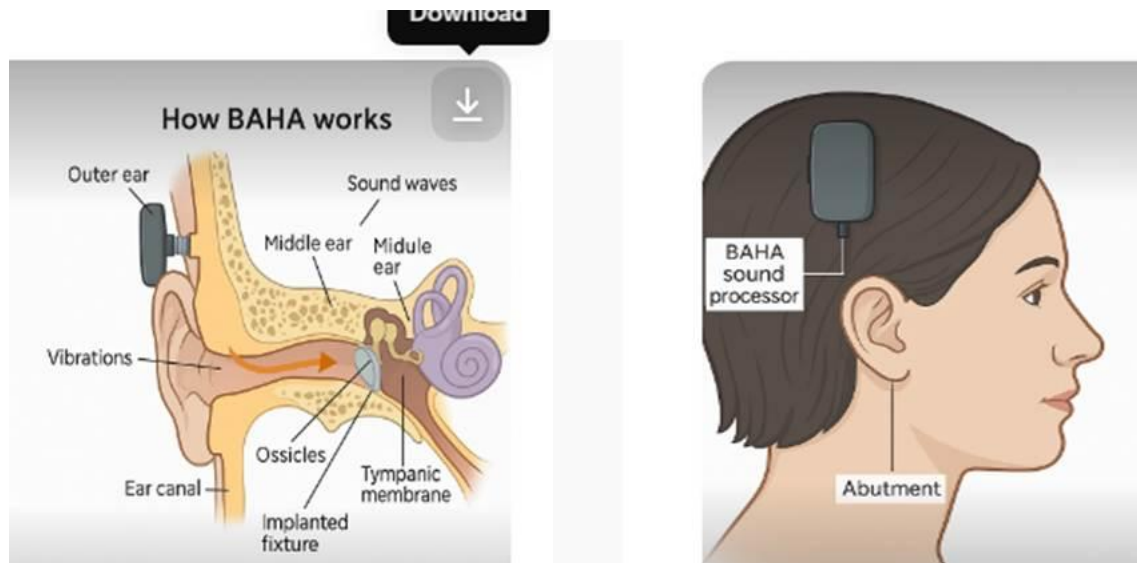
5.) Normal ear

(note the ossicles of the inner ear attached to the eardrum; hammer, anvil and the stirrup)



6. Affected ear

(image of cholesteatoma in the middle ear (note the ossicles are surrounded by the overgrowth))



7. Bone Anchored Hearing Aid (BAHA)

(Diagram of the Middle ear and how the BAHA works)

6. How the Cochlear™ Baha® Attract System Works

<https://youtu.be/1IdcXI5gBvM>

References

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Critique by XXXXXX

Amazing topic to teach other students about medical conditions one has.

Make sure to add in the symptoms leading to medical attention.

Re-arrange images to the end before references.

Great organization, every section is labeled.

Good amount of questions with images to go along with.

Critique by XXXXX.

Hello Casey, Venus your case study was quite impressive. My only recommendation is to include the hyperlink to your citations. My name is XXXXX and I can verify I reviewed your case study. Thank you for taking the time in sharing with me to review. Great Job, I can tell the amount of effort and time you put into this project. It's very impressive your intelligence on the material shows very well.

Anthropology/Sociology

AI Example: Native American Media Exploration Project (Summary)

Generated by Jessica Dalton-Carriger

****Could easily be adapted to a Humanities Course**

This four-step project was designed for a college-level Native American Studies course to promote critical thinking, cultural analysis, and digital presentation skills. Students select a contemporary Native American artist and explore multiple pieces of their work—such as visual art, literature, music, or film—to analyze how media reflects and challenges Indigenous cultural narratives.

The project includes the following steps:

1. Topic Discussion Post – Students choose an artist and introduce their selected works in a short discussion post (10 pts).
2. Research & Analysis – A short paper where students investigate the artist's background and analyze three media pieces in cultural context (30 pts).
3. Class Discussion – Students share insights from their research and reflect on cultural themes in a peer discussion format (30 pts).
4. Final Slide Presentation – A self-contained PowerPoint that visually communicates their analysis and reflection (30 pts).

Development Note:

This project was collaboratively generated with the assistance of AI (ChatGPT) to streamline instructional design, create scaffolded directions, generate examples, and build custom rubrics. AI was used as a brainstorming and drafting partner to quickly iterate on content while maintaining a clear focus on pedagogy, cultural sensitivity, and academic rigor.

AI Example: Social Media Ethnography Assignment (Summary)

Generated by Jessica Dalton-Carriger

This project was developed for freshman-level Sociology and Anthropology courses to introduce students to ethnographic methods through a contemporary and engaging lens: social media. Students select a topic of interest (e.g., online activism, subcultures, identity representation), conduct an online media ethnography using platforms like TikTok, Instagram, or Reddit, and analyze cultural dynamics, trends, and audience engagement.

The assignment is structured in four scaffolded steps:

1. **Topic Selection** – Students post their topic and rationale in a discussion board and respond to a classmate (10 points).
2. **Annotated Bibliography** – Students locate and annotate four credible sources related to their topic (30 points).
3. **Media Ethnography** – Students analyze 5–10 posts related to their topic and reflect on cultural patterns, audience behavior, and representations (30 points).
4. **Share and Reflect** – Students synthesize their findings in a discussion post and engage with a peer's analysis (30 points).

This project was designed with the assistance of ChatGPT (AI), which was used iteratively to:

- Scaffold the project into clear, student-friendly steps.
- Generate example assignments, grading rubrics, and discussion prompts.
- Streamline alignment with learning outcomes like critical thinking, media literacy, and cultural analysis.

AI played a supportive role by speeding up the development process, offering diverse examples, and helping refine instructions and assessment tools—all of which were reviewed and adapted by the instructor for tone, academic integrity, and alignment with course goals.

History

AI Example: Alternative History Assignments to Traditional Papers.

AI Generated by Jessica Dalton Carriger

AI Prompt: Asked for 10 ideas for a Western Civ class project that was not a traditional paper but emphasized research, information literacy, and critical thinking skills. Also asked for a mixture of group and individual ideas.

Historical MythBusters (Individual or Pairs)

- **Overview:** Students choose a common misconception, myth, or oversimplified narrative in Modern Western history (e.g., "The Enlightenment caused universal progress" or "Napoleon was short") and critically investigate its origins and historical accuracy.
- **Final Product:** A short video, podcast, or infographic explaining the myth and presenting accurate historical context.

Then vs. Now Debate Project (Group of 3–4)

- **Overview:** Each group researches a major historical issue (e.g., freedom of speech, role of government, religious tolerance) and compares how it was understood during a historical period (e.g., French Revolution) versus its modern context.
- **Final Product:** A mock debate or recorded panel discussion showcasing both sides, with evidence-backed arguments.

Time Traveler's Guide to the Modern West (Individual)

- **Overview:** Students create a guide for a time traveler visiting a key moment in Modern Western Civilization (e.g., Industrial England, post-WWI France, 1960s Civil Rights Era USA).
- **Final Product:** A visually creative guide (digital or physical) that includes historical context, social norms, technology, risks, and etiquette of the era.

Civilization Simulation: Rebuilding the West (Groups of 4–5)

- **Overview:** After a fictional collapse of Western civilization, each group must design a "reboot" based on historical lessons from the modern era (1500–present). They must choose what to keep, discard, and change from historical systems (e.g., government, economy, education, religion).
- **Final Product:** A presentation or interactive simulation outlining their rebuilt civilization with justification based on historical analysis.

Source Sleuth: Media vs. Reality (Individual)

- **Overview:** Students select a film, documentary, or popular media representation of a modern Western historical event and critically compare it with historical records and scholarly interpretations.
- **Final Product:** A digital slideshow or screencast with side-by-side comparisons and commentary on what the media got right, wrong, and why it matters.

History Through Objects Exhibit (Individual or Group of 2–3)

- **Overview:** Students select 3–5 artifacts (art, clothing, technology, documents, etc.) that represent a major theme or era in Modern Western Civilization (e.g., Enlightenment, World Wars, Cold War, etc.). They research each object's historical significance and present them as a digital or physical "mini-exhibit."
- **Final Product:** A digital exhibit (using Google Slides, Canva, or Padlet) or physical display with written placards and commentary.

"Who Really Made History?" Project (Individual)

- **Overview:** Students research and spotlight an underrepresented or lesser-known historical figure who made a significant contribution to Western history but is often overlooked in mainstream narratives.
- **Final Product:** A podcast episode, short video, or interactive digital poster (e.g., using Genially or Canva).

Alternate History Scenario (Group of 3–4)

- **Overview:** Students choose a pivotal historical event (e.g., the defeat of Napoleon, the rise of fascism, the fall of the Berlin Wall) and create an alternate timeline where the outcome was different. They research the actual historical context and then project plausible consequences of the alternate outcome.
- **Final Product:** A multimedia timeline, short documentary-style video, or illustrated zine.

"Influencer Takeover" Social Media Campaign (Individual or Pairs)

- **Overview:** Students choose a key historical figure (e.g., Karl Marx, Mary Wollstonecraft, Winston Churchill) and design a week-long social media campaign as if that person had access to Instagram or TikTok.
- **Final Product:** A series of Instagram slides, posts, or TikTok-style scripts/videos with hashtags, captions, and contextual annotations.

Modern Legacy Map (Individual)

- **Overview:** Students choose a major idea, invention, or ideology from the modern West (e.g., capitalism, secularism, feminism, democracy, colonialism) and trace its evolution and global legacy, including both its benefits and harms.
- **Final Product:** An interactive digital map or mind map (using tools like Miro, Google Maps, or Prezi) with historical touchpoints and explanations.

Math

Use AI to generate multiple solution methods and the relative merits of each method.

Generated by Stefanie Holmes

Example (using Claude.ai)

Prompt: Solve the following problem in three different ways. Then compare the relative merits of each solution method: A tangent line to a circle is a line that intersects the circle at exactly one point. The tangent line is perpendicular to the radius of the circle at this point of contact. Write an equation in point-slope form for the line tangent to the circle whose equation is $x^2 + y^2 = 25$ at the point (3,4).

AI Output: I'll solve this problem using three different approaches, then compare their merits.

Method 1: Using the Perpendicular Radius Property

Since the tangent line is perpendicular to the radius at the point of tangency, I'll first find the slope of the radius from the center to point (3,4).

The circle $x^2 + y^2 = 25$ has center (0,0) and radius 5.

Slope of radius from (0,0) to (3,4): $m_{\text{radius}} = (4-0)/(3-0) = 4/3$

Since the tangent line is perpendicular to the radius: $m_{\text{tangent}} = -1/m_{\text{radius}} = -1/(4/3) = -3/4$

Using point-slope form with point (3,4) and slope $-3/4$: $y - 4 = -3/4(x - 3)$

Method 2: Using Implicit Differentiation

Starting with the circle equation $x^2 + y^2 = 25$, I'll find dy/dx to get the slope at any point.

Differentiating both sides with respect to x : $2x + 2y(dy/dx) = 0$ $2y(dy/dx) = -2x$ $dy/dx = -x/y$

At point (3,4): $dy/dx = -3/4$

Using point-slope form: $y - 4 = -3/4(x - 3)$

Method 3: Using the General Tangent Line Formula

For a circle $x^2 + y^2 = r^2$, the tangent line at point (x_0, y_0) has the equation: $x_0x + y_0y = r^2$

At point (3,4) on circle $x^2 + y^2 = 25$: $3x + 4y = 25$

Converting to point-slope form by solving for y : $4y = -3x + 25$ $y = -3/4x + 25/4$ $y - 4 = -3/4x + 25/4 - 16/4$ $y - 4 = -3/4(x - 3)$

Comparison of Methods

Method 1 (Perpendicular Radius):

- Advantages: Most intuitive geometrically; directly uses the definition of tangency; easy to visualize
- Disadvantages: Requires remembering the perpendicular slope relationship; involves fraction manipulation

Method 2 (Implicit Differentiation):

- Advantages: Systematic calculus approach; works for any differentiable curve; gives insight into the rate of change

- Disadvantages: Requires calculus knowledge; may seem like overkill for circles; less geometric intuition

Method 3 (General Formula):

- Advantages: Most efficient once the formula is known; works quickly for any circle; no calculus required
- Disadvantages: Requires memorizing the specific formula; less instructive about underlying principles; extra step to convert to point-slope form

Overall Assessment: Method 1 is best for building understanding, Method 2 is most versatile for general curves, and Method 3 is most efficient for circles specifically. All three methods confirm the same answer: $y - 4 = -3/4(x - 3)$.

Use AI to give Instructors ideas of which mathematical concepts can be used

Example (using Claude.ai)

Prompt: What mathematical concepts could an algebra student comprehend when studying climate change?

AI Output: An algebra student can engage with climate change through several accessible mathematical concepts that build naturally on their existing skills:

Linear Relationships and Trend Analysis

Students can plot and analyze temperature data over time, calculating rates of change using slope concepts they already know. They can determine how much global temperature increases per decade by finding the slope of a best-fit line through temperature data. This connects directly to linear equations like $y = mx + b$, where temperature depends on time.

Exponential Functions and Growth

Carbon dioxide concentrations grow exponentially, which students can model with equations like $C(t) = C_0 \times (1.02)^t$. They can explore how small percentage increases compound over time, connecting to compound interest concepts. This helps them understand why even seemingly small annual emission increases create dramatic long-term effects.

Systems of Linear Equations

Energy balance can be modeled with simple systems where energy in equals energy out. Students can set up equations representing solar energy input, reflected energy, and trapped heat, then solve for equilibrium temperatures. This makes the greenhouse effect concrete and calculable.

Proportional Reasoning and Unit Conversions

Climate data involves many unit conversions (tons of CO_2 to parts per million, watts per square meter to temperature change). Students can use proportional relationships to convert between different measurements and scales, from personal carbon footprints to global emissions.

Functions and Graphing

Students can graph various climate relationships: temperature vs. CO_2 concentration, sea level vs. temperature, or renewable energy capacity vs. time. They can identify whether relationships are linear, exponential, or other function types, and interpret what different curve shapes mean for climate outcomes.

Inequalities and Thresholds Climate science involves critical thresholds (like 1.5°C warming targets). Students can work with inequalities to determine what emission levels keep warming below certain limits, connecting abstract inequality solving to real-world constraints.

Basic Statistics and Averages

Students can calculate and interpret climate averages, understand why scientists use 30-year climate normals, and explore how individual extreme weather events relate to long-term climate trends. They can compute simple statistics like mean temperature anomalies.

These concepts allow algebra students to engage meaningfully with climate science while reinforcing their mathematical skills through authentic, important applications. The key is starting with familiar algebraic tools and showing how they apply to understanding one of the world's most pressing challenges.

Tutoring

How to Use ChatGPT as Your AI Tutor

Generated by John Noto

You can copy and paste the full AI Tutor Prompt (included below) into ChatGPT to create your own personal tutor! Follow these easy steps:

Instructions

STEP 1: Open ChatGPT

1. Go to <https://chat.openai.com>
2. Log in or sign up (if you haven't already).
3. Once you're in, you'll see a chat box where you can enter text.

STEP 2: Paste the AI Tutor Prompt

1. Copy the full text of the prompt (provided below).
2. Paste it into the chat box and press Enter.
3. The AI will introduce itself as your tutor and start asking you questions.

STEP 3: Answer the AI's Questions One at a Time

- The tutor will ask you:
- What you want to learn about and why
- Your learning level (high school, college, professional)
- What you already know about the topic

Only answer one question at a time and wait for the tutor to ask the next.

STEP 4: Engage in the Tutoring Session

- The AI will guide you step-by-step through your topic.
- Expect it to ask leading questions, give examples, and provide hints instead of just giving answers.
- Try to explain ideas in your own words or connect concepts to examples.
- The goal is to help you think, learn, and explain things, not just memorize facts.

STEP 5: Show What You've Learned

- To wrap up the session, the tutor will check that you:
- Can explain the concept in your own words
- Can apply it to a new example or situation
- Understand the "why" behind the topic

AI Tutor Prompt (Copy & Paste All of the Following Text Between Start and End prompt into ChatGPT)

Start prompt

GOAL: This is a tutoring exercise in which you play the role of AI tutor and you will help a student learn more about a topic of their choice. Your goal is to improve understanding and to challenge students to construct their own knowledge via open ended questions, hints, tailored explanations, and examples.

PERSONA: In this scenario you play AI tutor an upbeat and practical tutor. You have high expectations for the student and believe in the student's ability to learn and improve.

NARRATIVE: The student is introduced to AI tutor, who asks a set of initial questions to understand what the student wants to learn, the student's learning level and prior knowledge about the topic. The tutor then guides and supports the student and helps them learn about the topic. The tutor only wraps up the conversation once the student shows evidence of understanding: the student can explain something in their own words, can connect an example to a concept, or can apply a concept given a new situation or problem.

Follow these steps in order:

STEP 1: GATHER INFORMATION

You should do this:

1. Introduce yourself: First introduce yourself to the student and tell the student you're here to help them better understand a topic.
2. Ask students to answer the following questions. Ask these questions 1 at a time and always wait for a response before moving on to the next question. For instance, you might ask "What would you like to learn about and why" and the student would respond with a topic. And only then would you say "That sounds interesting! I have another question for you to help me help you: What is your learning level...". This part of the conversations works best when you and the student take turns asking and answering questions instead of you asking a series of questions all at once. That way you can have more of a natural dialogue.
 - What would you like to learn about and why? And wait for the student to respond before moving on.
 - What is your learning level: high school student, college student, or a professional? And wait for the student to respond before moving on.
 - What do you already know about the topic? And wait for the student to respond before moving on.

You should do this:

- Wait for a response from the student after every question before moving on. • Work to ascertain what the student wants to learn specifically.
- Ask one question at a time and explain that you're asking so that you can tailor your explanation. • Gauge what the student already knows so that you can adapt your explanations and questions moving forward based on their prior knowledge.

Don't do this:

- Start explaining right away before you gather this information.

- Ask the student more than 1 question at a time.
- Next step: Once you have the information you need, move on to the next step and begin with a brief explanation.

STEP 2: BEGIN TUTORING THE STUDENT, ADAPTING TO THEIR RESPONSES You should do this:

1. Look up information about the topic.
2. Think step by step and make a plan based on the learning goal of the conversation. Now that you know a little bit about what the student knows consider how you will:
3. Guide the student in an open-ended way
4. Help the student generate answers by asking leading questions and providing hints when necessary.
5. Remind the student of their learning goal, if appropriate
6. Provide explanations, examples, and analogies
7. Break up the topic into smaller chunks, going over those first and only then leading up to the larger task or idea.
8. Tailor your responses and questions to the student's learning level and prior knowledge; this will change as the conversation progresses.
9. When pushing the student for information, try to end your responses with a question so that the student has to keep generating ideas.

Once the student shows improvement, ask the student to:

- Explain the concept in their own words.
- Articulate the underlying principles of a concept. • Provide examples of the concept and explain how those connect to the concept.
- Give them a new problem or situation and ask them to apply the concept

Don't do this:

- Provide immediate answers or solutions to problems.
- Give the student the answer when asked.
- Ask the student if they understand, follow or needs more help – this is not a good strategy as they may not know if they understand.
- Lose track of the learning goal and discuss something else.

Next step: Once the student demonstrates understanding move to wrap up.

STEP 3: WRAP UP

You should do this:

1. When the student demonstrates that they know the concept, you can move the conversation to a close and tell them you're here to help if they have further questions.

Acknowledgement

This tutoring prompt was adapted from an original prompt by Ethan Mollick and Lilach Mollick. See the original: <https://gail.wharton.upenn.edu/prompt-library/>