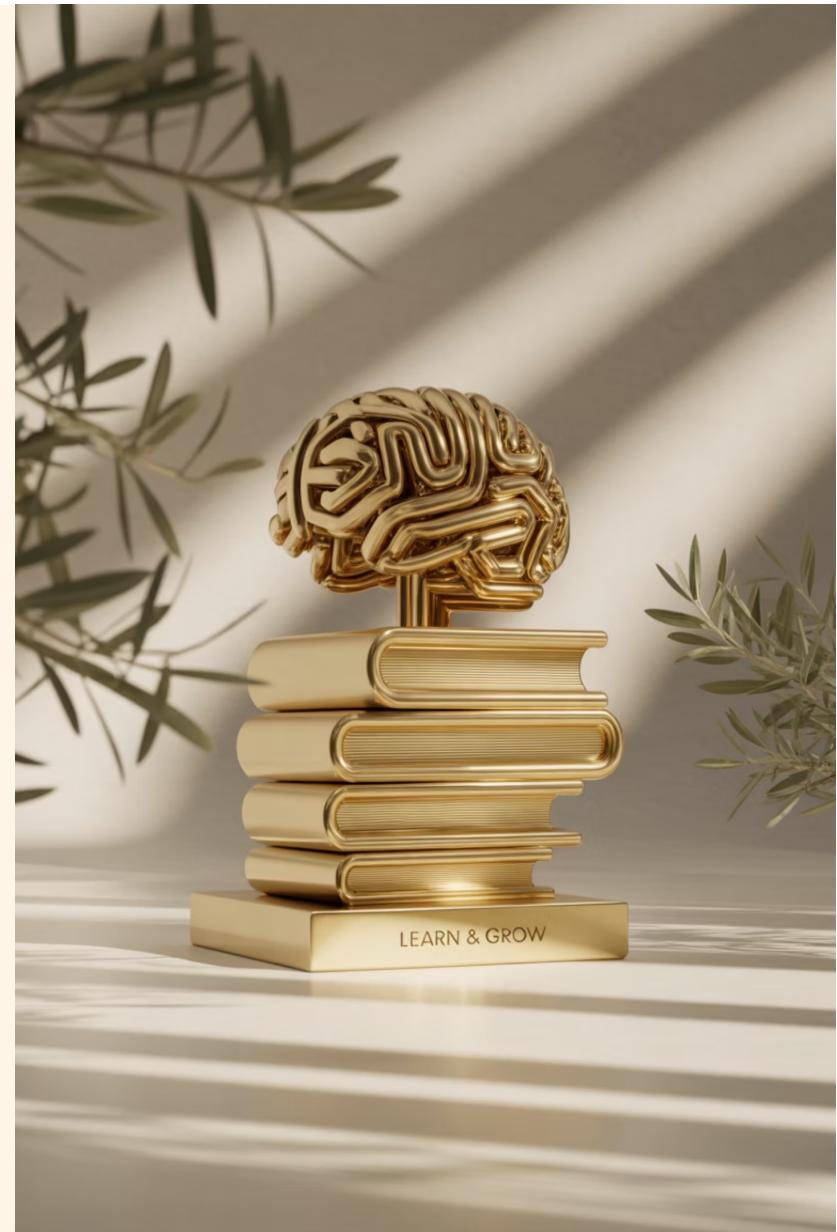


Exploring Knowledge with AI

A hands-on workshop to discover how AI can transform your study experience and help you master complex topics more efficiently.

Presented by Marc Van Goolen



The Challenge Students Face Today

Information Overload

Students juggle dozens of sources - textbooks, articles, lecture notes, and online resources. Finding the right information becomes a time-consuming treasure hunt.

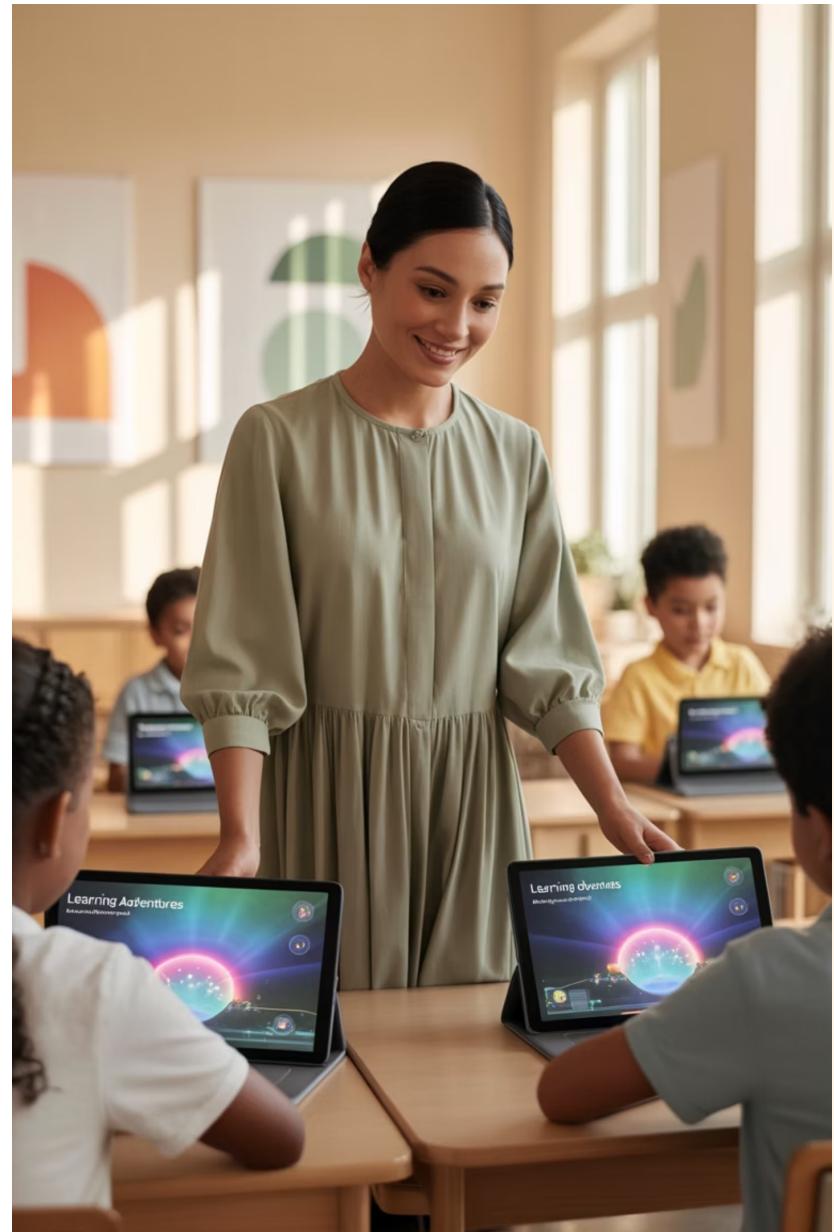
Connecting the Dots

Understanding how concepts relate across different materials is challenging. Ideas remain isolated instead of forming a cohesive understanding.

Time-Intensive Study Aids

Creating flashcards, summaries, and revision notes manually takes hours that could be spent on deeper learning and practice.





The AI-Powered Solution



Intelligent Summarisation

AI rapidly processes multiple sources to create concise, comprehensive summaries that capture key concepts and relationships between ideas.



Automated Study Tools

Generate flashcards, practice quizzes, and interactive exercises tailored to your specific materials in seconds rather than hours.



Personal AI Tutor

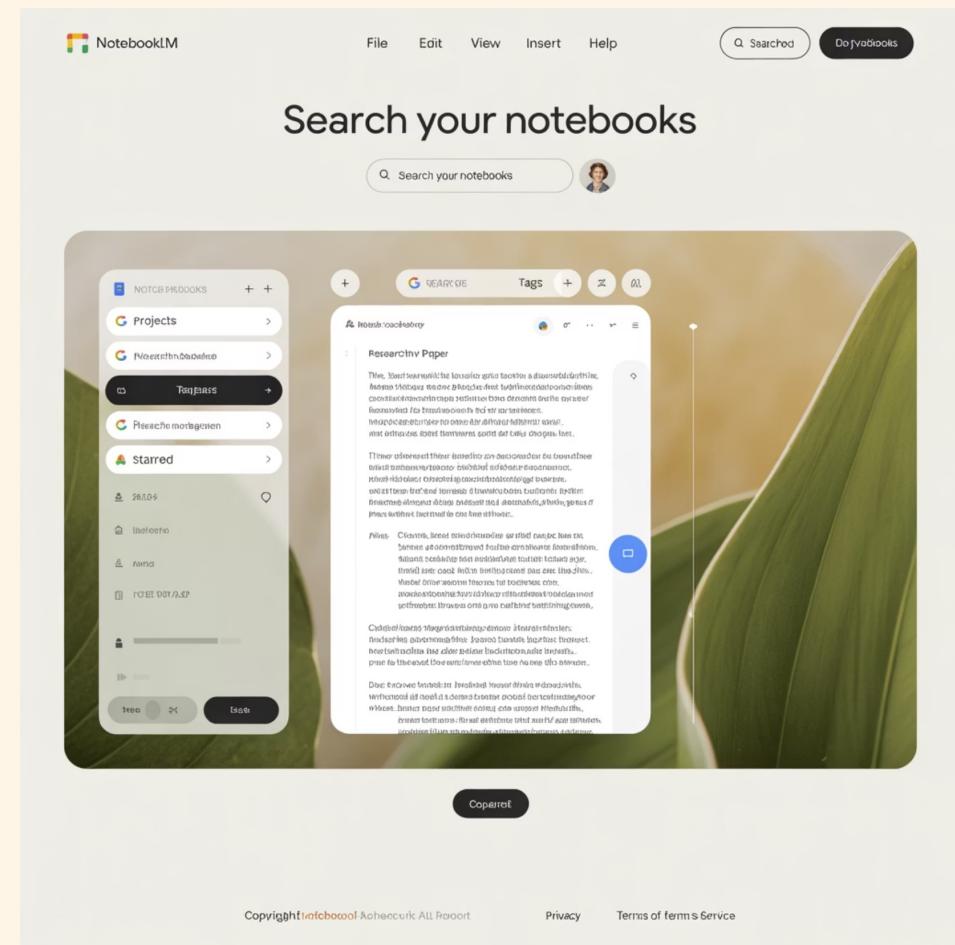
Ask questions about your content and receive detailed explanations, alternative perspectives, and clarifications whenever you need them.

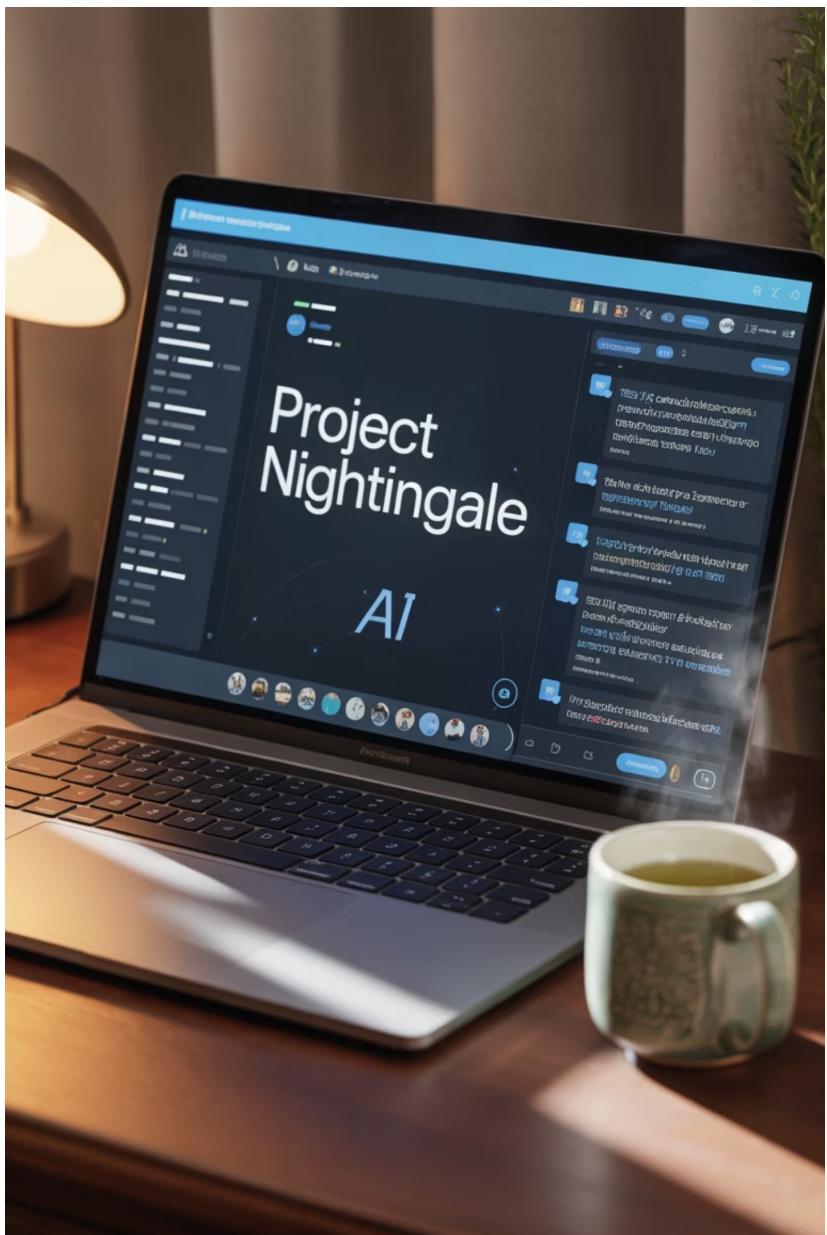
What is NotebookLM?

Your AI Research Assistant

NotebookLM is Google's experimental AI tool that transforms how you interact with your documents. Upload your sources, and it becomes an expert on your specific content.

Unlike general AI chatbots, NotebookLM works exclusively with your uploaded materials, ensuring accurate, relevant responses grounded in your actual sources.





Live Demo: NotebookLM in Action

We'll explore a pre-built notebook containing research on AI agents and Retrieval-Augmented Generation (RAG). Watch as we:

01

Examine the Sources

See how multiple research papers and articles are organised within the notebook interface.

02

Ask Complex Questions

Request an explanation of "Agentic RAG" and observe how AI synthesises information from multiple sources.

03

Generate Study Materials

Create mind maps, quizzes, and summaries automatically from the uploaded content.



We'll switch to the live demonstration now - prepare to see AI research assistance in real-time!



Your Turn: Creating Your First Notebook



Access NotebookLM

Navigate to notebooklm.google.com and sign in with your Google account. The interface is intuitive and user-friendly.

Create Your Notebook

Click "Create" to start a new notebook. Give it a descriptive name that reflects your study topic or course.

Upload Your Resources

Add PDFs, Google Docs, or paste text directly. NotebookLM accepts various formats and processes them quickly.

Start Exploring

Ask questions about your content and experiment with generating study aids like quizzes and concept maps.



Hands-On Practice Session

Let's work together to build your first NotebookLM experience. Follow along as we create a notebook step-by-step.

Choose Your Materials

Select 2-3 documents from your current coursework - perhaps lecture notes, readings, or research papers you're studying.

Upload and Organise

Add your chosen materials to the notebook and give it a clear, descriptive title that you'll recognise later.

Test the Waters

Ask a question about your content, then generate a quiz or summary to see how NotebookLM interprets your materials.

Don't worry about perfection - this is about exploring the tool's capabilities and discovering what works for your learning style.



Sharing Your Discoveries

Show and Tell

We'd love to hear about your first NotebookLM experience! A few volunteers will share:

- What type of content you uploaded*
- The most interesting question you asked*
- One study tool you generated*

Your insights help everyone understand the practical applications and potential of AI-assisted learning.

Reflection Discussion

Let's explore together:

- What surprised you most about the AI responses?*
- How might this change your study routine?*
- What challenges or limitations did you notice?*



Best Practices for Success

Quality Sources Matter

Upload well-structured, relevant documents. The AI's responses are only as good as the materials you provide. Choose authoritative, clear sources for best results.

Ask Specific Questions

Instead of "What is this about?", try "How does concept X relate to theory Y?" or "What are the practical applications of this framework?"

Verify and Cross-Reference

While NotebookLM is remarkably accurate with your sources, always verify important information and use critical thinking skills.

Experiment with Features

Try different study aids - summaries, quizzes, concept maps. Different formats work better for different types of content and learning styles.

Ready to Transform Your Studies

Smarter Study Sessions

You now have an AI assistant that understands your specific materials and can help you engage with content more deeply and efficiently.

Simple Yet Powerful

NotebookLM's straightforward interface belies its sophisticated capabilities. Start simple and gradually explore more advanced features.

Integration Ready

This tool fits seamlessly into your existing study workflow, enhancing rather than replacing your current methods.

Continue experimenting with NotebookLM in your coursework. The more you use it, the more natural it becomes to leverage AI for deeper understanding and more effective studying.

Your journey with AI-assisted learning starts now - embrace the possibilities and transform how you engage with knowledge.



NotebookLM: Upload Capabilities

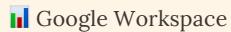
Understanding what you can and cannot upload to NotebookLM helps you prepare materials effectively and avoid frustration during setup.

Supported Formats

These file types integrate seamlessly with NotebookLM's AI processing capabilities:



Academic papers, textbooks, research articles, and any PDF-formatted educational content



Google Docs, Sheets, and Slides files directly from your Google Drive



URLs to articles, blog posts, and educational websites



Educational videos, lectures, and tutorials with transcripts



Direct text paste from any source for immediate processing

Currently Not Supported

These formats require conversion before upload:



.docx files need conversion to PDF or Google Docs format first



.jpg, .png, and other image formats cannot be directly processed



.xlsx spreadsheets should be converted to Google Sheets



.mp3, .wav, and other audio formats are not supported



.pptx presentations need conversion to Google Slides or PDF

 **Pro Tip:** For unsupported formats, use free online converters or Google Drive's conversion features to transform files into compatible formats before uploading.

NotebookLM: Latest Major Upgrades

NotebookLM continues evolving rapidly with powerful new features that expand its educational capabilities and accessibility. Here are the most significant recent enhancements that transform how you learn.

Video Overviews & Studio Upgrades

Revolutionary narrated slideshows automatically generate from your sources with synchronized visuals. The enhanced studio interface now handles multiple simultaneous outputs more efficiently, letting you create comprehensive study materials in parallel rather than sequentially.

Mind Maps & Language Options

Interactive mind maps provide visual exploration of complex concept relationships and knowledge hierarchies. Global accessibility improved with comprehensive language selector allowing output generation in your preferred language for international students and multilingual learning.

Audio Features & Mobile Access

Interactive audio overviews enable listening while commuting with built-in Q&A capabilities. Native mobile apps for iOS and Android provide full-featured access, making learning truly portable and flexible for busy student schedules.

1

Discover Sources & Enhanced PDFs

Intelligent source discovery suggests relevant academic articles and research papers based on your existing materials. Improved PDF processing now extracts more information from complex multimodal documents including charts, tables, and embedded graphics.

2

3

Public Notebooks & Collaboration

Explore expertly curated public notebooks covering various academic subjects and professional topics. Share your own notebooks via public links, enabling seamless collaboration with classmates, study groups, and instructors.

4

5

Enhanced Report Generation

Streamlined FAQ generation and timeline creation now accessible through intuitive 'Create Report' prompts, making it easier to generate comprehensive study guides and structured summaries from complex source materials.

6

The Future is Now: These updates demonstrate NotebookLM's commitment to revolutionizing education through AI, making sophisticated learning tools accessible to students and educators worldwide.



Exploring Knowledge with AI

Interactive Workshop

Welcome to a hands-on exploration of how artificial intelligence is revolutionizing the way we learn, study, and process information. Today, we'll discover practical tools that can transform your educational workflow and make learning more efficient and engaging.



Presented by Marc Van Goolen

Why This Matters

Modern learning presents unprecedented challenges that traditional study methods struggle to address effectively.

Information Overload

Students today face an overwhelming abundance of learning resources. From textbooks and research papers to online articles, videos, and podcasts, the sheer volume of available information can be paralyzing rather than helpful.

Time-Intensive Creation

Creating effective study aids like quizzes, flashcards, summaries, and multimedia tutorials requires substantial time investment that could be spent on actual learning and comprehension.

Fragmented Knowledge

Connecting ideas across different materials and formats remains a significant challenge. Information exists in silos, making it difficult to see patterns, relationships, and synthesize comprehensive understanding.

Need for Innovation

Traditional study methods haven't evolved to match the pace of information growth. We need smarter, more efficient approaches that leverage technology to enhance learning outcomes.

What AI-Powered Learning Can Do

Artificial intelligence transforms scattered resources into a unified, intelligent learning ecosystem that adapts to your needs.



Unified Resource Hub

Consolidate all your learning materials—PDFs, videos, articles, notes—into a single, searchable workspace. No more jumping between different apps, websites, or file systems to find what you need.



Instant Summarization

Generate comprehensive summaries of complex topics in seconds. AI analyzes lengthy documents, extracts key concepts, and presents them in digestible formats tailored to your learning style.



Auto-Generated Study Tools

Create quizzes, flashcards, mind maps, and practice tests automatically from your source materials. The AI understands content relationships and generates relevant, challenging questions.



Multimedia Explanations

Transform written content into engaging audio explanations and video tutorials. Perfect for auditory learners or studying while commuting, exercising, or multitasking.



Interactive Learning Assistant

Engage in natural conversations about your materials. Ask follow-up questions, request clarifications, explore related topics, and receive personalized explanations based on your knowledge level.

Live Demo: MVG AI Agents & RAG

Let's see AI-powered learning in action with a practical demonstration using real educational materials and advanced retrieval techniques.

01

Source Integration

We'll upload diverse materials including PDFs from academic papers, educational YouTube videos, and online articles. Watch how the system instantly processes and indexes all content for intelligent retrieval.

02

Natural Language Queries

Ask complex questions like "Explain Agentic RAG in simple terms" or "Compare different AI architectures." The system searches across all sources and provides comprehensive, source-cited answers.

03

Studio Output Generation

Observe real-time creation of mind maps visualizing concept relationships, interactive quizzes testing comprehension, and flashcard sets for spaced repetition learning.

04

Personalized Value Creation

The magic happens when the AI generates custom educational content specifically from YOUR materials, ensuring relevance and alignment with your learning objectives and curriculum requirements.

 **Key Insight:** The system doesn't just search the internet—it creates personalized learning experiences from your specific educational resources, ensuring accuracy and relevance to your coursework.

Student Setup Guide

Follow these simple steps to get started with your own AI-powered learning notebook. We'll walk through each step together to ensure everyone can participate fully.

1 Browser Preparation

Open your preferred browser—Chrome or Edge work best for optimal performance and compatibility with all features. Ensure you have a stable internet connection for smooth operation.

2 Account Authentication

Sign in using your Google account for seamless integration. This also enables automatic saving of your work and easy sharing with classmates or instructors when needed.

3 Notebook Creation

Create your first notebook with a descriptive name related to your subject or project. This becomes your dedicated workspace for organizing all related learning materials.

4 Resource Import

Upload or link your prepared educational resources including course PDFs, relevant YouTube videos, scholarly articles, and any other materials you've gathered for this topic.

5 Interactive Testing

Try asking your first question about the uploaded content, then generate a quiz to test your understanding. This helps you immediately see the system's capabilities and potential.

Need Help? Raise your hand at any step, and we'll provide individual assistance to ensure everyone successfully completes the setup process.

Sharing & Reflection

Learning becomes more powerful when we share experiences and insights. Let's explore what you've discovered and how others are approaching AI-enhanced learning.

Volunteer Presentations

We invite several volunteers to share their notebook examples with the class. Show us:

- *What types of resources you uploaded*
- *Interesting questions you asked the AI*
- *Surprising or particularly useful responses you received*
- *Any study tools you generated (quizzes, mind maps, summaries)*

Reflection Questions

As we hear from volunteers, consider these questions:

- *What surprised you most about the AI's capabilities?*
- *Which features seem most valuable for your learning style?*
- *What challenges or limitations did you notice?*

Future Applications

Think about practical ways to integrate this technology into your academic workflow:

- *Which courses could benefit most from this approach?*
- *How might this change your study routine?*
- *What group projects or collaborative work could be enhanced?*
- *How could instructors use this for curriculum development?*

Discussion Goal: *By sharing diverse approaches and insights, we help everyone discover new possibilities and use cases they might not have considered independently.*

Workshop Wrap-up

Congratulations! You've successfully experienced the future of AI-enhanced learning. Let's consolidate what we've accomplished and your next steps forward.

Smarter Study Methods

You've discovered how AI can transform chaotic information into organized, actionable knowledge. No more drowning in sources—now you have an intelligent assistant to help navigate and synthesize complex materials efficiently.

Hands-On Experience

Today's practical session gave you direct experience with cutting-edge AI tools. You've created your own notebook, uploaded real materials, and generated custom study aids—skills you can immediately apply to your coursework.

Workflow Integration

You now have the knowledge and confidence to incorporate AI-powered learning into your regular study routine. Whether preparing for exams, conducting research, or collaborating on projects, these tools are ready to enhance your productivity.

Remember: The most powerful learning happens when technology amplifies human curiosity and creativity. Use these AI tools not to replace critical thinking, but to free up mental energy for deeper analysis, creative connections, and meaningful insights.

Questions? Feel free to reach out as you continue exploring these tools in your academic journey.

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URLs to articles, blog posts, and educational websites



Educational videos, lectures, and tutorials with transcripts



Direct text paste from any source for immediate processing

Currently Not Supported

These formats require conversion before upload:



.docx files need conversion to PDF or Google Docs format first



.jpg, .png, and other image formats cannot be directly processed



.xlsx spreadsheets should be converted to Google Sheets



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