Using Free AI Tools for Effective Learning

ChatGPT, Gemini, Claude and NotebookLM

Prof. B. Santhi
SRC,SASTRA

Why AI Tools for Learning?

- AI tools can act as a tutor, explainer, quiz master, writing assistant and revision partner.
- They help students learn at their own speed.
- They help teachers prepare lesson plans, examples, assessments and feedback.
- The goal is not to replace thinking, but to improve thinking.

Golden Rule

Use AI as a learning partner

Do not ask AI only for answers. Ask it to explain, question, guide, correct and test you.

- Weak prompt: Give answer.
- Better prompt: Teach me step by step and ask me questions.
- Best prompt: Give hints first, then check my answer, then explain my mistake.

Four Free AI Tools

Tool	Best Use for Learning
ChatGPT	Step-by-step explanation, tutoring, quizzes, writing help
Gemini	Quick explanation, Google ecosystem support, summaries
Claude	Long-form reading, writing improvement, reasoning, notes
NotebookLM	Learning from uploaded notes, PDFs and source-based study

ChatGPT: How to Use for Learning

- Ask for concept explanation at beginner, intermediate or advanced level.
- Upload notes or worksheets and ask for summary.
- Use it for doubt clarification, quizzes and revision plans.
- Ask it to create examples from daily life.

Prompt

Teach me the concept of derivatives like a school teacher. First give intuition, then formula, then one solved example, then ask me two questions.

ChatGPT Study Method

1. Upload class notes or paste textbook content.
2. Ask for a simple summary.
3. Ask for important questions.
4. Try answering without seeing the solution.
5. Ask ChatGPT to evaluate your answer.

Prompt

Act as my study coach. Ask me one question at a time from this chapter. Do not give the answer immediately. Give hints first.

Gemini: How to Use for Learning

- Use Gemini for fast summaries and explanation of broad topics.
- Ask it to compare two concepts.
- Ask it to generate learning plans.
- Use it to create quick drafts for assignments and presentations.

Prompt

Explain photosynthesis in 5 levels: class 6, class 8, class 10, class 12 and undergraduate level.

Claude: How to Use for Learning

- Use Claude for reading long materials and improving written answers.
- Ask it to rewrite answers in academic style.
- Ask it to identify gaps in reasoning.
- Use artifacts for structured notes, tables and learning content.

Prompt

Read my answer and improve it without changing the meaning. Then tell me what marks I may lose and why.

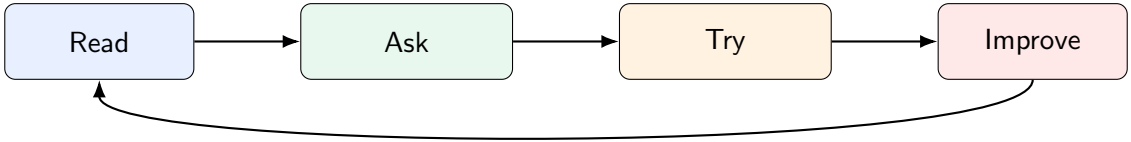
NotebookLM: How to Use for Learning

- Upload only trusted source materials: notes, PDFs, textbook extracts.
- Ask questions based on the uploaded sources.
- Generate summaries, FAQs, timelines and study guides.
- Use it for source-grounded revision.

Prompt

Based only on the uploaded notes, prepare a 2-page revision sheet with definitions, formulas and likely exam questions.

Learning Cycle with AI



Principle

AI gives support. Learning happens when the student thinks, writes, solves and reflects.

Prompt Template for Students

Universal Learning Prompt

I am learning [topic]. My level is [class/semester]. Explain the concept simply. Give one real-life analogy, one formula, one solved example and three practice questions. Do not give final answers until I try.

- Replace topic.
- Mention your level.
- Ask for practice.
- Ask for feedback.

Prompt Template for Teachers

Lesson Preparation Prompt

Act as a teacher educator. Prepare a 45-minute lesson plan on [topic] for [class]. Include learning outcomes, introduction activity, explanation, blackboard plan, student activity, assessment questions and homework.

How to Learn Mathematics Using AI

- Ask for visual intuition before formula.
- Ask for step-by-step solution.
- Ask for common mistakes.
- Ask for similar practice problems.
- Ask AI to check your working.

Prompt

Solve this problem step by step. After each step, explain why that step is valid.

How to Learn Programming Using AI

- Ask for code explanation line by line.
- Ask AI to debug errors.
- Ask for small practice tasks.
- Ask for project ideas.
- Never copy code without understanding.

Prompt

Explain this Python code line by line. Then give me three small modifications to test my understanding.

How to Learn English / Communication

- Improve grammar and sentence structure.
- Practise speaking through role play.
- Prepare interview answers.
- Summarise articles.
- Convert rough ideas into professional writing.

Prompt

Conduct a mock interview for me. Ask one question at a time and give feedback after each answer.

AI for Exam Preparation

1. Upload syllabus or paste unit headings.
2. Ask for important topics.
3. Generate short notes.
4. Practise MCQs and descriptive questions.
5. Ask for a 7-day revision timetable.

Prompt

Prepare a 7-day revision plan for this syllabus. Give daily topics, practice questions and self-check tasks.

Responsible Use

- Do not submit AI-generated content as your own original work.
- Verify facts from textbooks or teacher-approved sources.
- Do not upload confidential personal data.
- Use AI to improve understanding, not to avoid learning.
- Mention AI assistance where required.

Common Mistakes

- Asking vague questions.
- Copying answers blindly.
- Not checking correctness.
- Using AI only before exams.
- Not practising independently.

Better Habit

Every AI session should end with self-practice.

Comparison for Learning

Tool	Best For	Student Use	Teacher Use
ChatGPT	Interactive tutoring	Doubt clearing	Lesson design
Gemini	Quick help	Summary and comparison	Content ideas
Claude	Deep writing	Answer improvement	Notes and rubrics
NotebookLM	Source-based study	Revision from notes	Study guides

One-Day Practice Activity

Activity

Choose one topic from your subject and use all four tools.

- ChatGPT: Learn step by step.
- Gemini: Get a quick summary.
- Claude: Improve your written answer.
- NotebookLM: Revise from uploaded notes.

Final Message

AI will not learn for us.

But AI can help us learn better, faster and deeper.

Learning Mantra

Ask clearly. Think deeply. Practise honestly. Verify carefully.