



TeachAI



Use of Chatbots for Lesson Preparation



Co-funded by
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Information

Project	Transforming Teaching Practice through Artificial Intelligence -TeachAI
Project N°	2025-1-CY01-KA210-SCH-000360192
Date	March 2026
Type of Document	E-book
Language	English

Consortium



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Part A: Generative AI for Educators

1.0 Introduction

Generative AI, or genAI, is a type of AI that can generate new content, such as text, images, or other media. These tools are powered by AI models, known as large language models, that are trained on massive datasets of text and code. This training enables them to identify patterns between words, concepts, and phrases in order to generate effective responses

In this book, you'll explore how to use Chatbots to assist your teaching practice by saving time on everyday tasks, personalizing instruction to meet student needs, and enhancing lessons and activities in creative ways. Chatbots make use of conversational prompts; in other words, you ask it for something, and it responds to your request. Throughout this book, you'll discover proven strategies for working with Chatbots and practice using it to plan and update lessons, prepare instructional materials, manage behind-the-scenes administrative tasks, and lots more.

Generative Artificial Intelligence (AI) tools have the potential to significantly reduce the time educators spend creating and formatting materials for their classes. The time saved from generating lesson plans, formulating essential questions, constructing worksheets, assigning homework, developing assessments, and creating resources will allow educators to focus on direct instruction.

While saving time is a major advantage, it is not the only reason for using AI in curriculum development.

- **Adaptability:** AI-generated content can be quickly adapted, tailored to current events, and personalized based on the needs and preferences of the classroom.
- **Creative Support:** AI can also serve as a brainstorming assistant and help develop new ideas, techniques, projects, and activities for educators to integrate.
- **Efficiency:** With the help of Chatbots like ChatGPT, we can save valuable time and streamline the lesson preparation process. From creating a lesson description to developing classroom activities, Chatbots can assist us at every step.

1.1 Meet Your Chatbot Assistants

While the number of applications integrating generative AI is growing daily, this book will focus on three primary Chatbots to assist your teaching practice:

- **ChatGPT:** Created by OpenAI, ChatGPT is designed to understand and generate text, providing answers to questions and engaging in conversations in a natural way. It belongs to the category of Generative AI because it has the ability to

produce new content rather than simply analyzing existing data. Anyone can interact with it using natural language, leading to a dialogue that is remarkably human-like.

- **Gemini:** Gemini serves as a collaborative partner designed to help you create documents, understand large amounts of information, and provide valuable feedback on your work as an educator. It stands out because it can take multi-modal input in many different forms, from text, images, and multi-page documents. Gemini models are also capable of advanced reasoning, thinking through their thoughts before responding.

2.0 Strategies for effective results

2.1 How to write an AI prompt

A prompt is the method for interacting with an AI tool in the form of a request, a question, snippet, example, and more. And an output is the information or creative work that an AI tool produces after it is prompted, such as an answer to a question, a text summary, an image, a piece of music, and more.

In this section, you'll learn even more about how AI can be a valuable classroom partner and personalized teaching assistant. You'll investigate the five building blocks of AI prompt-writing in order to get results that meet your needs. Along the way, you'll explore how targeted instructions unlock the potential of AI to generate effective and appropriate content.

2.2 Basic Principles for Creating Effective Prompts

To create effective prompts, educators should consider the following basic principles:

- **Clarity and specificity:** Prompts must be clear and specific, defining exactly what you are asking of ChatGPT. Instead of a generic question like "Tell me about the French Revolution," a more effective prompt would be, "Present the five most important events of the French Revolution in chronological order, explaining the significance of each to the progression of the Revolution."
- **Context and objective:** Provide sufficient context and clarify the educational objective of your prompt. For example: "I am preparing a lesson for middle school students on the French Revolution. I need an introductory activity that will spark their interest and help them understand the social conditions that led to the Revolution."
- **Defining format and length:** Specify the desired format and length of the response. For example: "Create a 45-minute lesson plan on Photosynthesis in a

table format, with columns for time, teacher activities, student activities, and required materials."

- **Defining level and adaptation:** Specify the educational level and the specific needs of your students. For example: "Explain the concept of a derivative at a level suitable for high school students who have a solid understanding of functions but no prior exposure to calculus."
- **Specific examples and constraints:** If possible, provide examples of the type of response you desire or establish specific constraints. For example: "Generate five multiple-choice questions to assess the understanding of Chapter 3 of 'Romeo and Juliet'. The questions should cover the main events, characters, and themes, but must not include references to violence or death."

2.3 Anatomy of a prompt

It's time to take your understanding of prompts even further and discover how to bridge the gap between your teaching know-how and chatbots's vast capabilities. First, you'll dissect an effective prompt, giving you the anatomy of a clear, concise, and impactful AI instruction. Then, you'll perform a short activity to confirm your understanding.

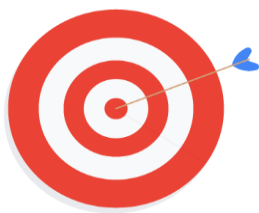
There are five prompt-writing building blocks. Remember them by thinking of the "parts" of a prompt:

1. **Persona:** Identify your role.
2. **Aim:** State your objective.
3. **Recipients:** Specify the audience.
4. **Theme:** Describe the style, tone, and any related parameters.
5. **Structure:** Note the desired format of the output.

Together, these building blocks help ensure chatbots's outputs are accurate, relevant, and on-target for your needs. Here's how:

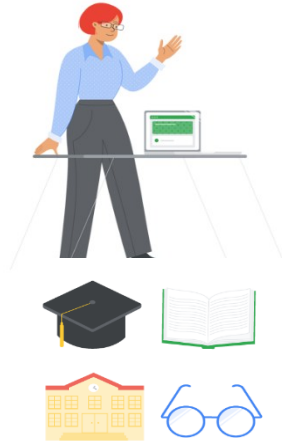
First, identifying your **persona** enables you to set the context for your request. This input could be, "I am a Math Department Lead analyzing resource gaps." Or you might explain, "I am a Spanish educator designing activities about cultural immersion." Or perhaps, "I am a Tech Leader training educators on using digital tools."

The second step is to **state your aim**, which provides direction for Gemini and helps ensure it focuses on your desired outcome. For the Math Department Lead, the goal might be to draft a grant proposal to effectively advocate for more resources. The Spanish educator's objective could be to update a lesson plan to further connect language with culture for greater understanding. And the Tech Leader could be trying to modify an activity with varying levels of scaffolding to promote personalized learning.





Next, your prompt should ensure impactful results by **specifying the audience**. This step gives Gemini the key information it needs to tailor language, tone, and content to resonate with recipients. The audience could be the school budget committee, sophomores with at least four years of Spanish, or 9th grade life skills educators.



Step four is **describing the theme** of your request, as Gemini is most effective when you offer clear boundaries. This can include inputs that ask Gemini to use a formal voice, write no more than 50 words, include pop culture references, and be informative and enthusiastic.

The final building block is **noting the structure**. AI outputs can be formatted in bullet points, in code, even in emojis; you can ask for metaphors or analogies, sketches or graphs, quizzes or games — the possibilities are vast and adaptable to all sorts of contexts!

2.4 Understanding AI Prompt Design

Just as quality ingredients are essential to a great meal, quality prompts are essential to great AI output. Thoughtful prompt-writing ensures you're giving the model the best possible information to work with — and that starts with understanding why specificity matters.



Consider this comparison: you're a vegetarian planning a trip to Athens and you ask a friend, "Which restaurants in Athens are good?" Your friend, knowing your dietary preferences, will naturally steer you toward places with strong vegetarian options.

Ask the same question to an AI assistant, and you'll likely get a list of popular spots with no regard for your needs. The difference isn't intelligence — it's context. AI models don't know what they aren't told, which is precisely why clear, specific prompts are so powerful.

Once you're familiar with the key elements of effective prompt construction — such as the PARTS framework — the next step is to study real-world examples. Deconstructing prompts that work well will build the intuition you need to write your own, across a wide range of purposes.

2.5 Refining Prompts Through Iteration

Effective prompt-writing is not a one-time effort — it's an iterative process that sharpens with practice and reflection. A simple feedback loop can help you improve steadily over time:

1. **Analyze responses.** Examine what the AI produces. Is it relevant? Does it match the required depth? Is it appropriate for your audience?
2. **Identify gaps.** Pinpoint what's missing or off-target in the output.
3. **Revise your prompt.** Add missing context, clarify requirements, improve phrasing, or introduce specific constraints and examples.
4. **Repeat.** Test the revised prompt and continue refining until the output meets your needs.

For instance, a prompt like "Create exercises for teaching verbs" may yield results that are too generic or poorly matched to your students' level. A stronger revision might read: "Design five interactive exercises for teaching regular past tense verbs to 4th-grade students who are already familiar with the present tense. The exercises should be playful, incorporate images or movement, and be completable within 10–15 minutes." The difference is striking — and that's the point. Every revision brings you closer to outputs that are genuinely useful.

2.6 Creating a Prompt Library

One of the most practical strategies educators can adopt is building a personal prompt library — a curated collection of prompts that have consistently delivered strong results. Organizing this library thoughtfully makes it far more useful over time. Consider structuring it around three key dimensions:

- **Educational purpose:** lesson planning, assessment design, differentiation strategies, student-facing resources, and more.
- **Subject area:** mathematics, language arts, science, social studies, and other disciplines.
- **Content type:** activities, quizzes, games, worksheets, discussion prompts, and so on.

As you experiment, iterate, and discover what works for your specific context, documenting those prompts becomes a genuine time investment that pays long-term dividends. Over time, this process also helps you develop a sharper intuition for prompt construction — an increasingly valuable professional skill.

Beyond personal use, sharing your library with colleagues can spark something even more powerful: a collaborative culture around AI-assisted teaching. When educators pool their best prompts, refine them together, and reflect on what works and why, the

entire school community grows more confident and effective in integrating these tools into the classroom.

2.7 The PARTS Framework in Action: Examples, Iteration, and Practice

Element	What it defines
P — Persona	The role or identity you assign the AI (e.g., “I am a 7th-grade writing teacher”)
A — Aim	The specific goal or task you want the AI to accomplish
R — Recipients	The intended audience for the output
T—Theme & Restrictions	Tone, length, subject matter, and any guidelines to follow
S — Structure	The desired output format (email, lesson plan, outline, etc.)

Example 1 — Drafting Classroom Communication

Notice how specific the teacher is about their needs in the following prompt:

“I am a 7th-grade creative writing educator composing a class communication regarding expectations for students over the summer. The message should be about 75 words long and encourage students to establish a daily 30-minute writing schedule in preparation for next school year. Write it with a professional, yet friendly and inclusive tone. The format is an email.”

Breaking it down

Element	Value in the prompt
P — Persona	7th-grade creative writing educator
A — Aim	Compose a summer expectations communication
R — Recipients	7th-grade students

Element	Value in the prompt
T — Theme	~75 words; professional, friendly, inclusive; promote a daily 30-minute writing habit
S — Structure	Email format

Adapt & reuse

Turn this into a reusable template by swapping the activity — change “30-minute writing schedule” to “20-minute reading habit” or “weekly math puzzle” and you have a new message in seconds.

Example 2 — Enhancing a Lesson Plan

In this example, an educator uses AI to breathe new life into an existing resource:

“I am a 9th-grade geometry educator. I have a lesson plan about investigating triangle congruence. I want to enhance this lesson plan to make it more engaging and relevant for my students. Include materials, procedure, and activities for a 50-minute class, and format the output as a lesson plan. Here is the current lesson plan: [paste your plan here].”

Iterate freely

Your first output is rarely your final draft. If the result is too complex, simply reply: “Make the activities simpler and reduce the time to 30 minutes.” Iteration is a core part of working effectively with AI.

Hands-On Practice

Open your preferred AI chatbot (Gemini, ChatGPT, etc.) and follow these steps:

1. Find a lesson plan of your own that feels basic or incomplete.
2. Identify a gap — for example, no extension activities for advanced learners.
3. Write a PARTS prompt asking the AI to generate two creative extension activities. Paste your original lesson plan into the chat as context.

Knowledge Check — Match the Component

Read the prompt below, then see how each snippet maps to a PARTS element.

“I am a middle school history educator. Design an engaging classroom activity for 8th-grade students about creating a collaborative digital timeline. The activity should incorporate storytelling and technology. The time allotment is 3–4 class periods (60 minutes each). Format this as an outline.”

Prompt snippet	PARTS element
<i>“I am a middle school history educator”</i>	P — Persona
<i>“Design an engaging classroom activity ... about a collaborative digital timeline”</i>	A — Aim
<i>“8th-grade students”</i>	R — Recipients
<i>“Incorporate storytelling and technology. Time allotment: 3–4 class periods (60 min each)”</i>	T — Theme & Restrictions
<i>“Format this as an outline”</i>	S — Structure

Part B: Investigate the potential of AI in your practice

In this section, we’ll discover many exciting ways that educators are tapping into Chatbots to advance their teaching practice. Three key benefits will be discussed: **time-savings**, **differentiation**, and **lesson enhancement**. Fictional educator scenarios are used to provide helpful context as you prepare for upcoming activities in this course.

3.0 Save time on everyday tasks

As an educator, your time is one of your most valuable resources. Administrative and operational tasks can quickly consume it, leaving you with less opportunity to do what you do best: inspire and guide your students. AI tools can help by streamlining routine work, so you can stay focused on what matters most — your classroom.

This guide covers four practical areas where AI can make a meaningful difference:

Area	What AI helps you do
Save time on everyday tasks	Automate repetitive communications and admin work
Create & personalise resources	Build assessments, flashcards, and teaching materials
Communicate with your community	Draft targeted messages for parents, students, and staff
Design differentiated assessments	Generate multiple quiz versions with few-shot prompting

3.1. Save Time on Everyday Tasks

Repetitive administrative writing is one of the biggest time drains for educators. AI tools can handle the heavy lifting, giving you a strong first draft in seconds.

Example A — Drafting Repetitive Communications

A high school music teacher who manages extracurriculars — choir, band, competitions — can use AI to build reusable templates for rehearsal reminders, event announcements, and monthly newsletters. Instead of starting from scratch each time, the teacher simply fills in the variables.

Hi! I'm a high school music teacher. In addition to teaching music classes, I also organise extracurriculars such as choir and band. I was spending a lot of time writing reminder emails about upcoming rehearsals and competitions, as well as a monthly newsletter for our entire school community. I now use AI to create templates that make these tasks quicker and easier, so I can focus on making music!

Example B — Tailoring Messages to Different Audiences

A theater teacher announcing an upcoming school play may need to communicate the same event to three very different audiences. AI can quickly generate distinct versions of the same message, each with the appropriate tone and content.

Audience	Tone	Focus
Parents / families	Formal and informative	Dates, logistics, ticket info, student involvement

Audience	Tone	Focus
Colleagues / staff	Casual and collegial	Coverage needs, shared responsibilities, staffing
Students	Friendly and energising	Excitement, rehearsal, roles, schedule, expectations

Acting as a high school music teacher, create a welcoming newsletter template for the music department with a calendar of events for families, staff, and students to view.

✦ Adapt & reuse

Once your template is created, you can update it each month by simply changing the event details. This approach works across all subjects and grade levels.

2. Create, Augment, and Personalise Resources

AI tools can help you build teaching materials from scratch or enhance what you already have — saving hours of preparation time.

2a. Assessments

Use AI to generate a wide variety of assessment questions — multiple choice, open-ended, or problem-solving — aligned to your learning objectives. You can adjust difficulty levels, request answer keys or rubrics, and tailor the output to your students' specific needs.

★ Differentiation ideas

To go further, try tiering your questions: Tier 1 for scaffolded recall, Tier 2 for analytical thinking at grade level, and Tier 3 for open-ended critical thinking. You can also vary the response format (written, oral, creative project) and include accessibility adjustments such as assistive technology options.

FULL ASSESSMENT PROMPT TEMPLATE

I am a [Enter your role]. Based on the following information, create a comprehensive and engaging assessment for my students. The assessment should:

- Cover all of the stated learning objectives
- Be aligned with the chosen assessment type and format
- Clearly evaluate the desired skills and knowledge
- Provide clear instructions and expectations for students

- Include an answer key or rubric for grading

Subject: [Enter subject]

Grade level: [Enter grade level]

Learning objectives: [Enter learning objective 1] / [Enter learning objective 2] / [Enter learning objective 3]

Assessment type: [Formative, summative, individual, group, written, oral, performance-based, etc.]

Desired skills assessed: [List specific skills; include any higher-order thinking skills]

Time allotment: [Enter estimated time; include desired number of questions if applicable]

Other criteria: [Include any rubrics or assessment criteria the AI should reference]

SHORT VERSION

I am a [Enter your role] teaching [Enter class name]. Create a comprehensive and engaging [Enter assessment type] assessment for my [Enter grade level] students. The time allotment is [Enter estimated time and desired number of questions]. Align it to the following learning objectives:

[Enter learning objective 1]

[Enter learning objective 2]

[Enter learning objective 3]

3.2. Study Flashcards

Creating teaching resources is time-consuming. AI can give you a solid first draft that you then refine and adapt. The example below shows how to generate structured flashcard content for a biology class.

FLASHCARD PROMPT TEMPLATE

I am a [subject] teacher creating flashcards for an upcoming exam.

Create flashcards on the topic of [topic] for [grade level] students.

Please format the flashcards as follows:

Card 1:

Front: Name of [topic]

Back: A brief description of its function and a simple diagram or image

PRACTICAL EXAMPLE — BIOLOGY

I am a biology teacher creating flashcards for an upcoming exam. Create flashcards on the topic of cell structure for 9th-grade students. Please format the flashcards as follows:

Card 1:

Front: Name of organelle/structure

Back: A brief description of its function and a simple diagram or image

3.3 Classroom Communication

AI can help you craft informative and engaging messages for any school event. Provide the key details — event name, date, purpose — and the AI will generate a polished draft, ready for you to review and personalise.

CLASSROOM CORRESPONDENCE PROMPT TEMPLATE

I am a [Enter your role] teaching [Enter class name]. Create an engaging and informative email inviting parents to attend [Enter event name]. The event date and time is [Enter date and time], and the event description is: [Provide a brief overview of the event, its purpose, and any highlights].

✦ Bonus ideas for stronger correspondence

Use AI to draft personalised progress reports highlighting individual student strengths and areas for growth. Design visually appealing newsletters with summaries of key concepts and upcoming events. Ask AI for translation support to communicate with families in their preferred language.

3.4. Create Different Versions of an Assessment

When you need multiple versions of the same quiz — to prevent academic dishonesty or support different learning groups — AI can generate them quickly. The key is providing clear examples of the question style you want. This technique is known as few-shot prompting.

Classroom Scenario

A 3rd-grade teacher wants three versions of a fractions quiz covering addition, subtraction, multiplication, division, equivalent fractions, and comparing fraction sizes. Rather than asking for a generic quiz, the teacher provides example questions to guide the AI's output.

Breaking Down the Prompt Using PARTS + Examples

PARTS Element	What the teacher provides
P — Persona	An experienced 3rd-grade teacher designing engaging knowledge checks
A — Aim	Generate a short quiz on fractions; produce 3 different versions
R — Recipients	A 3rd-grade class that completed a fractions unit (ages 8–9)
T — Theme	Language suitable for 8–9 year-olds; covers equivalent fractions, comparing sizes, and fraction operations
S — Structure	Clear headings; answer key included for each version
Examples (Few-shot)	Sample questions provided to calibrate difficulty and format

FULL COMBINED PROMPT

I am an experienced 3rd-grade teacher designing engaging knowledge checks. Please generate a short quiz on fractions to assess conceptual understanding and procedural skills.

The quiz is for a 3rd-grade class that just completed a unit on adding, subtracting, multiplying, and dividing fractions. It will be used to check their understanding of equivalent fractions, comparing fraction size, and fraction operations.

Use language suitable for 8–9 year-old students. Use clear headings to format the quiz. Please generate 3 different versions of this assessment and provide an answer key for each.

Here are example questions to guide you:

- What are two fractions that are equal to $\frac{1}{2}$? (Possible answers: $\frac{2}{4}$, $\frac{3}{6}$)
- Which fraction is greater: $\frac{1}{3}$ or $\frac{3}{8}$? Explain your answer. (Students should find a common denominator to compare numerators.)

✓ Pro tip for educators

The more context and detail you include in your prompt, the more relevant and tailored your results will be. You can easily adjust this prompt by specifying the exact number of questions per version (e.g., “Make each quiz 10 questions long”). Try it with your own teaching context!

4.0 Differentiating Instruction with AI

Every classroom is wonderfully diverse — and that diversity is one of teaching’s greatest joys and greatest challenges. Catering to different reading levels, learning styles, and attendance gaps can feel overwhelming. AI tools can help you meet every learner where they are, without multiplying your workload.

Challenge	How AI can help
Students miss class due to illness	Generate concise, accurate catch-up summaries in minutes
Wide range of reading abilities	Produce multiple versions of the same text at different levels
Diverse learning styles and interests	Create alternate lesson plans tailored to different modalities
Complex or jargon-heavy source materials	Simplify and adapt content for student-friendly language
Projects that don’t quite fit your class	Quickly modify existing activities to match student needs

⚠ Important reminder

Always review AI-generated content before sharing it with students. While AI tools are powerful, you are the expert — your knowledge and judgement ensure accuracy and appropriateness.

4.1 Summarize Difficult Concepts

When a topic is complex or abstract, AI can reframe it in language your students will actually understand. Simply describe your audience and the level of detail you need, and the AI delivers a clear, accessible explanation ready for classroom use.

Scenario

A high school history teacher needs to explain daylight saving time to 14-year-old students in an engaging, conversational way.

“I am a high school history teacher. Create an informative and engaging summary about the history and concept of daylight saving time. My audience is 14-year-old students. The tone should be conversational and easy to understand. Please format it as a short reading passage followed by three key takeaways.”

4.2 Generate Alternate Lesson Plans

If you want to teach the same concept in different ways to reach all learners, AI can rapidly generate multiple lesson plans from a single brief. Specify the modality or interest group, and the AI will build a lesson around it.

Scenario

An elementary science teacher wants two versions of the same water cycle lesson — one for students who love art, one for those who thrive on movement.

“I am an elementary science teacher planning a lesson on the water cycle. I want to make sure all my students are engaged. Please generate two alternate 30-minute lesson plans covering the same learning objectives.

Design the first lesson for students who love visual arts and drawing.

Design the second lesson for students who thrive on physical movement and kinesthetic games.”

4.3 Adjust Text Reading Levels

In classrooms with a wide range of reading abilities, AI can create multiple versions of the same text at different complexity levels. This gives every student access to the same content and ensures inclusive participation in class discussions.

Scenario

A high school reading teacher needs three versions of a historical text on the Industrial Revolution — for students reading at 6th, 8th, and 10th grade levels.

“I am a high school reading teacher. I have a historical text about the Industrial Revolution. Please adjust the reading level of this text to create three different versions so all my students can participate in the discussion:

- One at a 6th-grade reading level
- One at an 8th-grade reading level
- One at a 10th-grade reading level

Keep the tone academic but accessible, and ensure the core historical facts remain consistent across all three versions. [Insert original text here]”

Advanced Techniques for Better Differentiation

To get even stronger results, add these strategic elements to your prompts:

Technique	How to apply it
Address individual learning profiles	Include specific student strengths, weaknesses, or interests. Example: “Adapt this passage for a student who struggles with abstract concepts but is motivated by sports. Use sports analogies to explain the events.”
Bridge the gap between reading levels	After simplifying a text, ask the AI for a “scaffolded summary” that identifies key differences between versions, highlights essential vocabulary, and flags core concepts as a stepping stone for students who need extra support.
Prepare interactive elements	Ask the AI to extract complex vocabulary and provide concise definitions, then paste these into your LMS (e.g., Google Classroom or Moodle) as clickable glossary terms or digital flashcards.

4.4 Modify Project Activities

Use this when you need specific, targeted changes to a complex project:

I am a [Enter your role]. Modify the following project activities to better suit the needs and interests of my students:

Project title: [Enter the title]

Subject & grade level: [Enter subject], [Enter grade level]

Topic: [Note the specific topic]

Current project description: [Provide a brief description of the project as it currently stands]

Target audience: [Describe your students and their particular interests]

Please make the following modifications:

- Areas for modification: [Specify what to change, e.g., difficulty level, assessment methods, specific activities]
- Reasons for modification: [Explain why, e.g., to make it more engaging, accessible, or interest-aligned]
- Desired outcomes: [Describe what you hope to achieve, e.g., deeper learning or addressing individual needs]
- Additional info: [Include available resources, time constraints, etc.]

Short Prompt Template

When you need a quick adjustment:

I am a [Enter your role]. Modify the following project activities to better suit the needs and interests of my [Enter grade level] students: [Briefly describe the project]. My students are [Describe the students and their particular interests].

✦ Get creative

These templates are just a starting point. Experiment with different combinations of modifications, and use your professional knowledge to judge what works best for your unique classroom context.

4.5 Make Text More Accessible

One of the most practical applications of AI in education is adjusting the complexity of written materials. Whether you're working with an academic paper, a news article, or a textbook chapter, AI can quickly produce multiple versions so every student can engage with the same content.

✓ Pro tip — upload files directly

Instead of copying and pasting long articles, modern AI tools like Gemini, ChatGPT Plus, and NotebookLM allow you to upload files (PDFs or Word documents) and ask the AI to analyse and adapt them directly. This saves time and preserves formatting context.

Example 1 — Adapting an Article for Elementary Students

Scenario

A 5th-grade science teacher finds a fascinating but complex BBC article and wants to use it in class. She uploads it directly into the AI tool.

“I am a 5th-grade science teacher. Please rewrite the following article at a 5th-grade reading level. Keep the core facts accurate, but use simpler vocabulary and shorter sentences so my 10-year-old students can easily comprehend the material. [Paste article text or upload file]”

Example 2 — Summarising a Dense Academic Paper for High Schoolers

Scenario

A high school physics teacher wants students to grasp the key findings of a complex quantum mechanics paper — without getting lost in university-level jargon.

“I am a high school physics teacher. Summarise the key findings of this attached article in two clear paragraphs for my high school students. Highlight the main discoveries and explain any complex terms using simple analogies. [Upload PDF]”

The possibilities are endless

You can ask AI to summarise a challenging topic in plain language, translate a text for non-native speakers, or generate multiple versions of a maths quiz using your students’ favourite hobbies as the context for word problems. The only limit is your imagination.

Try It Yourself — Draft a Classroom Reminder

Practice writing a detailed prompt using the template below. Fill in the brackets with your own details and paste it into your preferred AI chatbot:

I am a [Enter your role, e.g., 10th-grade biology teacher]. Based on the information provided, draft a helpful note to students reminding them to bring a [Enter item, e.g.,

lab safety goggles] for this week’s lesson about [Specify lesson topic, e.g., cell dissection].

- Lesson date: [Enter date]
- Materials needed: [Indicate what students should bring]
- Level of detail: [e.g., Keep it brief and to the point]
- Tone: [e.g., Enthusiastic and encouraging]
- Format: [e.g., A short announcement for Google Classroom]

✦ Make it your own

Once you’ve tried the reminder prompt, go back and experiment with any of the templates in this guide. Adjust the tone, swap the subject, change the grade level — each small tweak teaches you something new about what AI can do for your classroom.

5.0 Enhance lessons and activities in creative ways

Having explored how AI can save time and support differentiated instruction, this section focuses on creativity. AI tools can breathe new life into your existing materials — refreshing stale activities, applying modern instructional strategies, and even generating custom visuals for your presentations.

Creative use case	What AI helps you do
Add variety to assessments	Generate fresh, interest-based scenarios and datasets for quizzes
Brainstorm professional development	Produce targeted workshop ideas for staff and school leadership
Generate custom images	Create bespoke visuals for slides, worksheets, and newsletters

Creative use case	What AI helps you do
Apply new instructional strategies	Adapt existing lessons to use gamification, inquiry, or co-operative learning
Use images as writing prompts	Upload a photo and have AI design a creative activity around it

5.1 Add Variety to Assessments

Reusing the same quiz scenarios year after year can make lessons feel stale — for students and teachers alike. AI can rapidly generate fresh, interest-driven contexts for your existing learning objectives, making assessments feel current and relevant.

Scenario

A 6th-grade maths teacher wants to write quiz questions tied to students' interest in sports, without spending hours inventing new scenarios or datasets.

"I am a 6th-grade maths teacher. Create an inclusive scenario about a local middle school sports tournament. Generate a fictional dataset related to this scenario that my students can use to create a bar graph.

Ensure the numbers are manageable for 11-year-olds, and format the output as a short introductory story followed by a data table."

Keep it fresh

Try swapping the interest area each term — sports one semester, music or video games the next. Your learning objectives stay the same; only the context changes. Students notice the effort, and engagement follows.

5.2 Brainstorm Professional Development Ideas

AI isn't only useful for student-facing materials. School leaders and instructional coaches can use it as a powerful brainstorming partner for planning professional development sessions that genuinely engage teaching staff.

Scenario

A K–12 administrator needs to plan PD days for the upcoming semester. The school’s current focus is student well-being and digital citizenship, but they’re struggling to move beyond the usual workshop formats.

“I am a K–12 school administrator planning professional development for the upcoming semester. Our school’s current focus is on student well-being and digital citizenship.

Please brainstorm five interactive workshop ideas tailored for middle and high school teachers. For each idea, provide a catchy title and a brief two-sentence description of the workshop activities.”

5.3 Generate Custom Images for Presentations

Finding the right visual for a lesson or presentation can take far longer than it should. Image-generating AI tools let you describe exactly what you need and receive a custom, ready-to-use graphic in seconds — no stock photo subscriptions required.

Scenario

An instructional coach is preparing a staff presentation and needs a specific, welcoming image. Rather than spending time searching photo libraries, they describe the image they want.

“Generate a high-quality, photorealistic image of a diverse group of teachers collaborating around a modern wooden table, looking at a laptop and smiling. The lighting should be bright and welcoming.”

Important — cite AI-generated images

Digital citizenship is a skill worth modelling. When you use AI-generated visuals in class, clearly indicate their source.

Example APA citation: Google. (2025). Gemini. [AI Image Generator].

Note: AI-generated images may not accurately represent complex scientific concepts or fine detail. They are best used for decorative and engagement purposes rather than technical illustration.

Three Key Ways to Elevate Your Teaching Materials

Making meaningful connections boosts engagement and makes lessons more accessible for all learners. Here is how AI can help you do that systematically:

Strategy	What it means	Example application
Update activity relevance	Rework examples to reflect current student interests — pop culture, sports, music — or link content across subjects.	Connect a literature text to what students are studying in history class
Apply new instructional methods	Ask AI to redesign a lesson using a different teaching approach, such as cooperative learning, inquiry-based investigation, or gamification.	Transform a lecture-style lesson into a jigsaw activity
Create instructional visuals	Use image-generating tools to produce custom graphics for slides, worksheets, or creative writing prompts.	Generate a fantasy illustration to spark a narrative writing discussion

5.4 Prompt Templates for Creative Enhancements

The following templates give you ready-to-use starting points for the most common creative enhancement tasks. Each includes a detailed version for precise, targeted output and a shorter version for when you need something quickly.

Create Engaging Examples

Use this template to generate fresh, highly relatable scenarios and examples for your students.

"I am a [Enter your role]. Based on the following details, generate five engaging classroom examples using famous [Enter interest area, e.g., sports players, musicians, video games]."

Subject: [Enter subject]

Grade level: [Enter grade level]

Learning objectives:

- [Enter learning objective 1]
- [Enter learning objective 2]”

Apply Instructional Strategies

Use these templates when you want to change how you teach a specific concept by applying a different pedagogical approach.

DETAILED VERSION

“I am a [Enter your role]. Based on the following details, create an activity for [Enter grade] students studying [Enter class topic] that uses the [Enter instructional strategy, e.g., Flipped Classroom, Jigsaw method, Inquiry-based learning] strategy.

Materials: [Paste in textbook chapters, lecture notes, handouts, or other relevant resources]

Reading level: [State the desired reading level for the activity]

Learning objectives:

- [Enter learning objective 1]
- [Enter learning objective 2]

Format: [Specify the desired format, e.g., bullet points, a timeline, a comparison chart]”

SHORT VERSION

“I am a [Enter your role]. Create an activity for [Enter grade] students studying [Enter class topic] that uses the [Enter instructional strategy] method. The activity instructions should be written at a [Enter reading level] reading level and accomplish these learning objectives: [Enter learning objectives]. Format the activity as a [Enter desired format].”

★ Bonus ideas for instructional strategies

Ask the AI to include a built-in formative assessment — such as an exit ticket or a short quiz — at the end of the newly designed activity.

If the AI suggests a list of activities, reply and ask it to expand on the specific one you want to use. Iteration always improves the result.

Add Graphics to Your Materials

Use these templates when working with an AI tool that supports image generation (such as Gemini or ChatGPT Plus).

DETAILED VERSION

“I am a [Enter your role]. Based on the following details, create [Number] images to add visual interest to a presentation about [Enter topic]:

Subject: [Enter subject]

Grade level: [Enter grade level]

Style: [Enter illustration style, e.g., watercolour, realistic, cartoon, 3D animated]

Materials context: [Paste a brief snippet of your lecture notes or handout text so the AI understands the context]”

SHORT VERSION

“I am a [Enter your role]. Create [Number] images for a presentation about [Enter topic] that will be shared with a [Enter grade level and subject] class. The images should be in a [Enter illustration style] style.”

✦ Bonus ideas for generating images

Specify age-appropriateness: add a constraint such as “Ensure the imagery is age-appropriate and engaging for 8-year-olds.”

Experiment with art styles: try requesting images in the style of a pencil sketch, pop art, a vintage poster, or origami — variety keeps presentations visually interesting.

5.5 Spark New Lesson Activity Ideas

AI is a powerful brainstorming partner for lesson planning. By combining the PARTS framework with a few example activities (few-shot prompting), you can generate innovative, hands-on ideas tailored precisely to your classroom context.

Classroom Scenario

A 5th-grade science teacher wants to design an interdisciplinary lesson on food chains and webs that connects science to literacy and maths, and makes use of the school’s outdoor nature area. The teacher structures their prompt using PARTS and provides two examples of the kind of activities they’re looking for.

PARTS Element	What the teacher provides
P — Persona	A 5th-grade science teacher who loves creative, interdisciplinary lessons that spark curiosity through real-world connections
A — Aim	Four interactive, experiential lesson ideas introducing food chains and webs in a way that links science to literacy and maths
R — Recipients	30 students with mixed abilities; school has an outdoor nature area and indoor lab; students already know producers, consumers, and energy flow
T — Theme	Hands-on, interdisciplinary, and experiential; connects to real-world ecosystems
S — Structure	Numbered list, 1–3 sentences per idea
Examples (Few-shot)	Two example activities provided to calibrate the style and ambition of the output

✓ Iterate for better results

Once the AI returns its four ideas, reply and ask it to expand on whichever one you find most promising. You can also ask it to add a cross-curricular literacy component, suggest assessment checkpoints, or adapt the idea for indoor use if the weather is bad.

5.6 Generate Custom Images for Lessons

Image-generating AI tools can save hours of searching for the right graphic. Whether you need a presentation visual, a newsletter illustration, or a creative writing prompt, a well-crafted image description produces exactly what you have in mind.

Classroom Scenario

Scenario

A language arts teacher is preparing a class presentation about a fantasy novel. They need a specific, imaginative visual to spark discussion about the book’s surreal setting — something no stock photo library can provide.

“Generate a vibrant, high-quality image of a giant octopus driving a vintage car through a glowing, bioluminescent fantasy forest. The style should be whimsical and colourful, suitable for a middle school presentation.”

5.7 Create a Writing Prompt from an Image

Modern AI tools are “multimodal” — meaning they can analyse images as well as text. You can upload an intriguing photograph and ask the AI to build a complete writing activity around it. This is a quick, creative way to design highly personalised prompts for your students.

Classroom Scenario

A language arts teacher finds a mysterious photograph and wants to use it as a creative writing prompt for their 8th-grade students. They upload the image and use the PARTS framework to guide the AI’s output.

PROMPT (USING PARTS)

“I am an 8th-grade language arts teacher who loves using imaginative writing prompts. Please analyse this attached image and write a creative narrative writing prompt for my students.

Format the output as:

- A short, suspenseful introductory hook (2–3 sentences)
- Three guiding questions to help students begin brainstorming their stories”

★ The possibilities are endless

You can use any compelling image — a historical photograph, a piece of artwork, a nature scene, or even a student’s own drawing — as the basis for a rich creative writing activity.

Try uploading the same image to different AI tools and compare the prompts they generate. The variation can itself become a classroom discussion about perspective and interpretation.

6.0 Advanced AI Features for Educators

Once you are comfortable using AI chatbots for everyday tasks, you can start exploring a more powerful set of features: file uploads, deep research capabilities, and interactive editing workspaces. Available in platforms like Gemini, ChatGPT Plus, and NotebookLM, these tools take your lesson preparation to a new level.

Advanced feature	What it enables
File uploads	Upload your own documents and get summaries, answers, and insights grounded in your specific content
Deep research	Have AI independently explore a complex topic and return a comprehensive, ready-to-read report
Canvas (interactive workspace)	Edit documents side-by-side with the AI — rewrite sentences, adjust reading levels, and reformat on the fly
NotebookLM	A dedicated AI research tool that works exclusively from the files you provide, ensuring accuracy and relevance

6.1 Upload and Analyse Your Own Files

Rather than describing your context to the AI in a prompt, you can upload a document and let the AI work directly from it. This grounds the AI's responses in your specific material, producing far more accurate and relevant output than a general internet-based query.

File uploads are particularly powerful for: summarising dense subject matter, identifying patterns in student data, and getting targeted recommendations for restructuring long documents.

Scenario

A middle school principal needs to communicate key updates from the school's 50-page student handbook to parents — clearly and concisely, without asking them to read the whole document.

"I am a middle school principal. Please analyse the attached student handbook. Summarise the most important updates for parents in three short paragraphs."

Include a polite but firm request at the end asking them to review the full document with their children. The tone should be welcoming and professional. This will be sent as an email.”

6.2 Deep Research

When you are preparing to teach a brand-new topic or need to get up to speed on a complex subject quickly, Deep Research features — available in advanced AI models — act as a personal research assistant.

Rather than asking a single question, Deep Research independently explores a topic across multiple sources and returns a structured, comprehensive report. It synthesises information from across the web or your uploaded files, saving you hours of reading and note-taking.

✦ When to use Deep Research

Deep Research works best for broad, complex topics where you need a thorough overview — for example, preparing to introduce a new curriculum unit, exploring a pedagogical approach you haven’t used before, or researching current developments in a subject area.

For queries grounded in your own documents, use NotebookLM instead.

6.3 Canvas — Interactive Editing Workspaces

Canvas is an interactive workspace that moves beyond back-and-forth conversation. Instead of asking the AI to regenerate an entire document each time you want a change, Canvas opens a side-by-side editor where you and the AI collaborate in real time.

Canvas capability	How it helps educators
Highlight and rewrite	Select any sentence or paragraph and ask the AI to rephrase, simplify, or strengthen it — without affecting the rest of the document
Adjust reading level	Change the complexity of a single paragraph to suit different ability groups, without rewriting the whole resource

Canvas capability	How it helps educators
Reformat without losing place	Restructure headings, bullet points, or tables while keeping your full document visible on screen
Edit code alongside content	For educators creating interactive materials or digital tools, Canvas supports code editing alongside text

6.4 Culminating Activity — Build Your Own Instructional Resource

This final activity brings together everything covered in this guide. Your goal is to develop a ready-to-use instructional resource that you can take straight into your classroom.

Step	What to do
1. Choose a use case	Decide what you need most right now — a differentiated reading assignment, an interactive lesson hook, a parent newsletter, a new quiz, or something else entirely
2. Select a template	Return to the prompt templates in this guide and choose the one that best fits your goal
3. Build your prompt	Customise the template using the PARTS framework: Persona, Aim, Recipients, Theme, and Structure
4. Run and refine	Paste your prompt into your chatbot. Review the output and iterate — adjust the tone, add an extension activity, or simplify the vocabulary until the resource is exactly right

☒ Your target outcome

By the end of this activity, you should have a polished, personalised resource you can use in your classroom tomorrow — and a repeatable process you can apply to any future lesson planning task.

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