FOR SCIENCE TEACHERS (BIOLOGY · PHYSICS · CHEMISTRY)

40 chat prompts

Prompts for Science Teachers (General).

Ready-to-use prompts for planning, teaching and reflection.

The right tool at the right time.
Part of the WISE Framework for Education at choosewise.education.

VOL. 21

Glossary

A few terms that recur throughout this guide. If you already know them, skip ahead to the framework on the next page.

AI — Artificial Intelligence

An attempt to make machines mimic brain functions — to "think" and learn roughly the way humans do. We don't fully understand how the brain works, but we can try to replicate the parts we do understand.

Prompt

An instruction given to a chatbot to get a desired response or task performed.

Iterate

After receiving a response from a chatbot, you refine and clarify the parts you're not satisfied with — sharpening the answer until it's what you want. The better your starting prompt, the fewer iterations you'll need.

Chatbot

A chatbot has been trained to find patterns in large amounts of text. It uses those patterns to generate a response to your prompt. The answer is produced in real time.

GPT

The underlying model (Generative Pre-trained Transformer) that a chatbot uses. The same GPT can power different chatbots — for example, Copilot and ChatGPT have both used OpenAI's GPT.

Generative AI

AI that creates (generates) text, images, video, or sound in real time when prompted to do so.

Bias

AI responses can be skewed or partial, depending on the data the AI was trained on and the biases present in that data. These biases are harder to spot in chatbots than in image-generating AI.

Hallucination

The text you receive from a chatbot is based on patterns in its training data, but word generation also involves randomness — meaning generated words can sometimes create a meaning that simply isn't true.

A framework for writing your own prompts

Role: Act as an experienced physics teacher.

Task: Create a lesson plan that introduces year 8 students to optics.

Context: I teach at a middle school, have 25 students in my class, and the lesson is 60 minutes long.

Format: Link content and activities to the physics curriculum and give me a plan that describes each part of the lesson and the materials required.

Tone: Use a formal but friendly tone.

A few chatbots to know

AI can also generate images and more, but we focus here on chat capabilities.

ChatGPT — OpenAI's chatbot

Gemini — Google's chatbot

NotebookLM — Google's tool that can, among other things, generate a two-voice podcast

Copilot — Microsoft's chatbot

Claude — Anthropic's chatbot

Perplexity — From San Francisco, was early to include source links

Duck AI — DuckDuckGo's chatbot, lets you pick among several GPTs

Mistral AI — A chatbot from France

Most chatbots have age restrictions.

BEFORE YOU START

How to use the prompts

All the prompts are starting points — examples to get you going.
Adapt them to fit your context.

After using a chatbot for a while, you'll learn what kinds of prompts work better or worse. Try the same prompt twice — first as-is, then with the prefix "Act as an experienced expert teacher in [subject]" — and see whether the quality of the response improves. A good response means a good prompt. A poor response means the prompt needs more context or adjustment. Some chatbots are better than others at certain tasks, so if you're not satisfied despite multiple tries, consider switching chatbot.

Brackets and privacy

You paste the prompt text into the chatbot's input field. Wherever brackets *[like this]* appear, replace the text inside with whatever fits your context.

Always double-check the responses — chatbot output is not guaranteed to be accurate.

Note: Think carefully before uploading texts or documents. Never upload personal data or sensitive information. Mind GDPR.

40 PROMPTS

Science Teachers

01 Create a lesson plan for a *[grade X]* class in *[science subject, e.g. physics]* that meets the curriculum goals for *[specific focus, e.g. forces]*, including an introduction and three activities.

02 Give me five strategies for motivating a *[grade X]* student who finds science difficult, with a simple and engaging idea for each.

03 Write a short guide for teaching a *[grade X]* class a basic experiment in *[science subject, e.g. chemistry]*, with three steps and an example (e.g. *[specific experiment]*).

04 Suggest three ways to integrate *[specific theme, e.g. sustainable development]* into a science lesson in *[science subject]* for a *[grade X]* class, with one activity for each.

05 Create a list of five short encouraging phrases to build a *[grade X]* student's confidence during a science experiment.

06 Give me an example of a routine for starting a science lesson for a *[grade X]* class in *[science subject]*, with three steps and a short investigative warm-up activity.

07 Suggest three ways to use everyday materials (e.g. *[specific material, e.g. vinegar]*) in a science lesson in *[science subject]* for a *[grade X]* class, with one experiment for each.

08 Write a short template for a 10-minute closing routine for a science lesson in *[science subject]* for a *[grade X]* class, with three components (e.g. reflection, summary).

09 Give me five ideas for making a science lesson in *[science subject]* for a *[grade X]* class more playful, with a focus on *[specific goal, e.g. energy]*, and one activity for each.

10 Create a list of three short reflection questions for a *[grade X]* class after a science lesson in *[science subject]* on *[specific theme, e.g. ecosystems]*, to capture their insights.

11 Suggest three ways to collaborate with mathematics teachers at a *[lower secondary school]* to connect *[science subject]* to *[specific theme, e.g. measurements]*, with one idea for each.

12 Give me an example of a simple assessment of a *[grade X]* class's understanding in *[science subject, e.g. biology]*, with three criteria.

13 Write a list of five resources (e.g. apps, videos) for a science lesson in *[science subject]* for a *[grade X]* class that support *[specific goal, e.g. experiments]*.

14 Suggest three ways to adapt a science lesson in *[science subject]* for a *[grade X]* student with *[specific need, e.g. visual impairment]*, with one solution for each.

15 Create a weekly planning template for *[science subject]* for a *[grade X]* class, with three focus areas (e.g. theory, experiments, reflection).

16 Give me five ideas for using minimal equipment in a science lesson in *[science subject]* for a *[grade X]* class to explore *[specific theme, e.g. magnetism]*, with one example for each.

17 Suggest three ways to introduce a *[grade X]* class to *[specific concept, e.g. chemical reactions]* in *[science subject]*, with one hands-on activity for each.

18 Write a short guide for managing a disruptive science lesson in *[science subject]* for a *[grade X]* class, with three steps and one calming strategy.

19 Give me an example of a science lesson in *[science subject]* for a *[grade X]* class that combines science with *[specific theme, e.g. technology]*, with three components.

20 Create a list of three short ways to collaborate with PE teachers at a *[primary school]* to reinforce *[specific goal, e.g. body functions]* in *[science subject]*, with one example for each.

21 Create a lesson for a *[grade X]* class in *[science subject]* where students design a simple experiment about *[specific theme, e.g. heat]*, with three steps and one learning goal.

22 Give me five ways to make a theoretical unit in *[science subject]* more engaging for a *[grade X]* class, with one creative idea for each.

23 Write a short guide for teaching a *[grade X]* class to measure *[specific phenomenon, e.g. pH level]* in *[science subject]*, with three steps and one example.

24 Suggest three ways to connect a science lesson in *[science subject]* for a *[grade X]* class to *[specific theme, e.g. climate change]*, with one activity for each.

25 Create a list of five short hands-on activities for a *[grade X]* class in *[science subject]* that strengthen *[specific goal, e.g. observation]*.

26 Give me an example of a routine for closing a science lesson in *[science subject]* for a *[grade X]* class with a short discussion, with three steps.

27 Suggest three ways to introduce a *[grade X]* class to *[specific scientific concept, e.g. photosynthesis]* in *[science subject]*, with one activity for each.

28 Suggest three ways to use digital tools (e.g. *[specific tool, e.g. simulation apps]*) in a science lesson in *[science subject]* for a *[grade X]* class, with one task for each.

29 Write a short template for a 5-minute reflection after a science lesson in *[science subject]* for a *[grade X]* class, with three questions about their learning.

30 Give me five ideas for incorporating games into a science lesson in *[science subject]* for a *[grade X]* class, with a focus on *[specific goal, e.g. circuits]*, and one game for each.

31 Create a list of three short ways to support a *[grade X]* student who is struggling with *[specific concept, e.g. density]* in *[science subject]*, with one example for each.

32 Suggest three ways to collaborate with English teachers at a *[lower secondary school]* to connect *[science subject]* to *[specific theme, e.g. scientific vocabulary]*, with one idea for each.

33 Give me an example of a simple plan for teaching a *[grade X]* class to conduct a field experiment in *[science subject]* during one lesson, with three steps.

34 Write a list of five simple experiments for a *[grade X]* class in *[science subject]* that reinforce *[specific goal, e.g. chemical processes]*, with a short rationale for each.

35 Suggest three ways to manage a *[grade X]* class that is reluctant to participate in a science lesson in *[science subject]*, with one method for each.

36 Create a term planning template for *[science subject]* for a *[grade X]* class, with three focus areas (e.g. theory, practical work, sustainability) and time frames.

37 Give me five ideas for creating a simple science exhibition in *[science subject]* with a *[grade X]* class, with minimal preparation, and one component for each.

38 Write a short guide for supporting a *[grade X]* student with *[specific need, e.g. language difficulties]* in a science lesson in *[science subject]*, with three steps.

39 Give me an example of a lesson in *[science subject]* for a *[grade X]* class that combines science with *[specific theme, e.g. space]*, with three components.

40 Create a list of three short ways to collaborate with the student council at a *[lower secondary school]* to reinforce *[specific goal, e.g. environmental awareness]* in *[science subject]*, with one example for each.

CONTINUE ON THE WEB

The right tool at the right time.

This collection is part of a library of AI prompts for every role in the school — free to use, adapt, and share.

More prompt sets

Find prompts for principals, subject teachers, school leaders, support staff and more at choosewise.education/prompts

The WISE Framework for Education

Four questions that turn any "should we use this AI tool?" conversation into a structured decision — choosewise.education/wise

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