

33 AI prompts that actually help you teach



Lesson planning, feedback, differentiation, exam prep and more, built on the principles that drive real results.

For KS4 and KS5 teachers

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Every prompt below is written to be copy-pasted into your AI tool of choice (Claude, ChatGPT, Gemini, Copilot). Replace the bracketed parts with your subject, year group, topic or paste-in content, and you should get a useful first draft within seconds.

Two caveats to keep in mind:

- AI is a starting point, not the final word. Treat every output as a draft to be checked against the spec, your class, and your professional judgement.
- Don't outsource the thinking. The prompts that work hardest are the ones that ask AI to support a decision you're already making, not to make it for you.

Getting the best from every prompt

The more precisely you frame your request, the more useful the response. Four techniques that make a consistent difference:

→ Set the role.

Begin your prompt by telling the AI who to be. 'Act as an experienced A Level Biology teacher' produces a sharper, more subject-specific response than firing the same prompt at a generalist. Adapt this to your subject, phase, and context. 'Act as an experienced subject lead at a state secondary' works just as well for pastoral prompts as a subject framing does for lesson planning.

→ Set the constraints.

Tell the AI what format you want before it starts writing. E.g. 'output as a table', 'use bullet points', 'limit your response to 200 words', 'write in plain English suitable for a Year 10 student'. Any constraint you add narrows the output toward something you can actually use. Without constraints, the AI will make its own choices about length and format, which may not match what you need.

→ Paste in the source material.

For any exam-related questions, mark schemes, model answers, and revision resources, paste in the relevant content from your exam board's specification or past papers. The AI's knowledge of specific specifications is approximate. Your pasted content is exact. This applies beyond assessment tasks: a lesson planning prompt, a retrieval quiz, or a stretch task all become more accurate when anchored to the actual specification you're teaching.

→ Ask for clarifying questions.

At the end of any prompt, add: 'Before you respond, ask me any questions that would help you complete this task more effectively.' This is the single most reliable safeguard against generic output. It works especially well for complex tasks, such as intervention plans, report comments, and lesson sequences, where the AI genuinely needs to know more about your class or student before it can produce something useful.

A note on data protection

Before pasting any student information into an AI tool, check your school's data protection and AI usage policy. As a general rule, avoid including students' full names, do not paste verbatim records of sensitive conversations, and use descriptions rather than direct quotes where possible.

If in doubt, anonymise or generalise. Most of these prompts work just as well with 'a Year 11 student' as they do with a named individual. For guidance specific to your school, speak to your data protection officer or IT lead.

At Up Learn, we've built AI into our courses since before it was a buzzword. What that experience has taught us is straightforward: AI is powerful at *specific, bounded tasks*. It is not a substitute for the expertise, judgement, and subject knowledge that genuine academic progress actually requires.

That's why Up Learn is built by a team of 50+ people putting in more than 2,000 collective hours every week. Learning executives write every script. Animators build every diagram. Human tutors are available to students around the clock. AI assists that team in specific, meaningful ways. It doesn't replace any of it.

The prompts in this guide are built around that same distinction. They handle the time-consuming work so you can spend more energy on the things only you can do: reading the class, adjusting on the fly, and making the judgements no algorithm can make.

Section 1. Lesson planning and sequencing

Use these to plan tighter sequences, surface prior knowledge, and build mastery one step at a time.

1. Sequence a unit using mastery progression

Learning principle: Mastery learning, schema building

You are an expert [subject] teacher planning a [Year 10/11/12/13] unit on [topic]. Students have already covered: [list relevant prior topics, e.g. 'basic cell structure, organelles, and particle theory'].

Break the topic into the smallest meaningful sub-skills a student must master, in the order they should be taught. For each sub-skill: (1) state the learning objective in pupil-facing language, (2) list the prior knowledge it depends on, (3) flag the most common misconception, (4) suggest one diagnostic question I could use as a hinge to check mastery before moving on.

Output as a table.

→ **Use it for:** Building a unit map where every step is a real prerequisite for the next.

2. Identify the hardest ideas in a topic and how to make them click

Learning principle: Conceptual change, schema building

For a Year [10/11/12/13] [subject] unit on [topic], identify the 3 to 5 'threshold concepts', ideas that, once understood, transform a student's grasp of the topic.

For each, explain what makes it hard, what partial understanding looks like, and the one analogy you would use to make it click.

→ **Use it for:** Deciding which ideas deserve the most teaching time.

Section 1. Lesson planning and sequencing

3. Plan a 5-lesson sequence with built-in retrieval

Learning principle: Spaced practice, retrieval practice

Plan a 5-lesson sequence for [topic] for [Year group]. Each lesson is [X] minutes long. In every lesson from Lesson 2 onwards, build in a 5-minute retrieval starter that mixes (a) yesterday's content, (b) last week's content, (c) content from earlier in the year. For Lesson 1, design a prior knowledge activation starter instead that surfaces what students already know about the topic.

Output the sequence as a table with: lesson focus, retrieval items, main task, and exit ticket question.

→ **Use it for:** Hard-wiring spaced practice into your normal sequence.

4. Map prior knowledge needed before a topic

Learning principle: Prior knowledge activation

Before I teach [topic] to Year [11/12/13], list the specific prior knowledge from [GCSE or earlier] students must already have. For each, write a 3-question diagnostic I could use in the lesson before to check who is secure and who needs reteaching.

For each question, provide the correct answer and a brief explanation of why it matters for the new topic.

→ **Use it for:** A targeted pre-lesson diagnostic that tells you exactly who needs reteaching before you start, rather than discovering gaps mid-unit.

Section 1. Lesson planning and sequencing

5. Build a knowledge organiser for a unit

Learning principle: Dual coding, schema building

I'm teaching [topic] to Year [10/11/12/13] for [exam board and subject – e.g. 'AQA GCSE Biology']. Here are the relevant specification points this knowledge organiser should cover: [paste spec points].

Create a single-page knowledge organiser. Include: key vocabulary with student-friendly definitions, the 5 most important facts, equations or dates (as relevant to the subject), a worked example, common pitfalls, and 5 retrieval questions.

Keep language tight; assume the page must fit on A4.

→ **Use it for:** Giving every pupil the same secure base for a topic.

6. Design a hook that earns the lesson

Learning principle: Motivation, schema building

I'm starting a new topic on [topic] with Year [10/11/12/13]. Suggest a 5-minute opener that hooks pupils into why this idea matters: historical origin, real-world stakes, or a famous problem it solved.

Keep it intellectually serious, not gimmicky.

→ **Use it for:** Making the first 5 minutes earn the lesson.

Section 2. Explaining hard concepts and worked examples

Use these to find the explanation that lands and to model expert thinking out loud.

7. Generate three explanations at three levels

Learning principle: Schema building, dual coding

Explain [concept] in three ways for a Year [10/11/12/13] student:

- (1) the everyday-language version a 12-year-old could follow,
- (2) the precise version they need for the exam. Here is the relevant specification point or textbook definition: [paste from your exam board specification or textbook before running this prompt],
- (3) the deeper version that connects it to the rest of the syllabus.

Tell me when to use each.

→ **Use it for:** Choosing the right explanation for the right moment in the lesson.

8. Surface and address the top 3 misconceptions

Learning principle: Conceptual change, formative assessment

For [topic] at [Year group], list the 3 most common student misconceptions.

For each: (1) what students wrongly believe, (2) why it's intuitive but wrong, (3) the question I can ask to expose it, (4) the explanation that resolves it without dismissing their reasoning.

→ **Use it for:** Pre-empting the wrong turns before they happen.

9. Generate an analogy bank for a difficult concept

Learning principle: Schema building, dual coding

I'm teaching [concept - e.g. 'the working memory model for A Level Psychology']. Give me 5 analogies of varying ambition, from the safe and familiar to the genuinely creative. For each, also tell me where the analogy breaks down so I can pre-empt confusion.

→ **Use it for:** Finding the metaphor that finally unlocks a tricky idea.

10. Model the thinking, not just the answer

Learning principle: Metacognition, expert modelling

Take this question: '[paste]'.

Don't just solve it. Write the internal monologue an expert would have while solving it, including: how they decode the question, what they recognise, what dead-ends they consider and reject, and how they check their answer.

→ **Use it for:** Showing pupils what fluent thinking actually sounds like.

Section 3. Retrieval, quizzing and spaced practice

The prompts in this section help you build retrieval practice and spaced repetition into your lessons manually. If you're curious about how Up Learn embeds these same principles automatically across every student's independent study, without additional planning time each week, take a look at the [About section](#) at the end of this guide.

11. Generate a retrieval-practice quiz

Learning principle: Retrieval practice, formative assessment

Create a 10-question low-stakes retrieval quiz on [topic] for Year [10/11/12/13]. Mix question formats: 4 short-answer recall, 3 multiple-choice with plausible distractors, 3 application questions.

For every question, including application questions, provide the answer key or a brief model answer.

→ **Use it for:** A 10-minute starter that does real cognitive work.

12. Write multiple-choice questions with diagnostic distractors

Learning principle: Formative assessment, diagnostic teaching

Write 5 multiple-choice questions on [topic] for Year [10/11/12/13]. Every wrong answer must be tied to a specific named misconception, not just be implausible.

After each question, tell me what choosing each distractor reveals about the student's thinking.

→ **Use it for:** Quizzes that double as diagnostics.

13. Generate interleaved practice mixing topics

Learning principle: Interleaving, deliberate practice

Create a 12-question practice set that interleaves questions from [topic A, topic B, and topic C - e.g. 'interleaving differentiation, integration, and trigonometry'], all from the [exam board] [subject] [Year group] spec.

Don't group by topic. Mix them so students must first identify which idea each question is testing.

→ **Use it for:** Forcing pupils to recognise problem types, not just execute them.

14. Turn a past-paper question into a low-stakes drill

Learning principle: Deliberate practice

Take this past-paper question: '[paste]'.

Strip it down into 4 to 5 micro-drills that build the underlying skill, ordered easiest to hardest.

Each drill should take a student under 90 seconds.

→ **Use it for:** Building the components before you ask for the full performance.

Section 4. Feedback and marking

Use these to shorten the marking loop and turn feedback into action, not commentary.

15. Generate model answers at different grade boundaries

Learning principle: Success criteria, deliberate practice

For this [exam board] [subject] question worth [X] marks: '[paste question here]'.

Here is the mark scheme: [paste mark scheme here].

Write three model answers: one at grade [A/7], one at grade [B/C/5-6], one at grade [C/D/3-4]. After each, annotate exactly which mark-scheme criteria it hits and where it falls short.

→ **Use it for:** Helping pupils see the gap between their answer and a better one.

16. Whole-class feedback summary

Learning principle: Whole-class feedback, deliberate practice

I've marked [X] essays on [question]. The most common errors were: [list].

Write me a 1-page whole-class feedback sheet that addresses these errors, with: a 'what good looks like' paragraph, the top 3 fixes ranked by impact, and one re-do task that targets the biggest weakness.

→ **Use it for:** Trading individual comments for whole-class action.

17. Turn marking notes into a rubric students can use for essay writing

Learning principle: Self-assessment, success criteria

Here are the comments I keep writing on student work for [task type — e.g. 'A Level Economics essay']: [paste].

The next piece of work I'm setting is: [briefly describe — e.g. 'a 25-mark evaluate question on fiscal policy, same format but a different topic'].

Using only the comments that are relevant to this new task, turn them into a 5-point self-assessment checklist students can use before they hand it in. Phrase each point as a specific, observable criterion. Flag any of my original comments that don't apply to the new task and explain why.

→ **Use it for:** Stopping the same comment from getting written 28 times.

Section 4. Feedback and marking

18. Write a comment that focuses on the work, not the writer

Learning principle: Growth mindset, feedback principles

Rewrite this feedback comment so it focuses on the work and the next step, not on the student's ability or effort. Original: '[paste]'.

Make it specific, actionable, and emotionally neutral.

→ **Use it for:** Feedback that builds capacity, not anxiety.

19. Generate 'closing the gap' tasks for after marking

Learning principle: Deliberate practice, formative assessment

For each of these common errors I marked: [list], write a 5-minute 'closing the gap' task students can do at the start of the next lesson to fix the misunderstanding. Each task should require them to do the thing, not read about it.

→ **Use it for:** Making sure the marking actually lands.

Section 5. Differentiation, scaffolding and stretch

The prompts here help you differentiate and target intervention using the information you already have about your students. If you'd like to see how Up Learn's dashboard surfaces that same information automatically, including flagging gaps, tracking mastery, and identifying students who need support before they fall behind, there's more in the [About section](#).

20. Stretch the most able without inventing extra work

Learning principle: Stretch and challenge, schema building

My top students have already mastered [topic - e.g. 'applying microeconomic theory to an unseen real-world case for A-Level Economics'].

Without setting extra content they don't need, design 3 stretch tasks that take the same content deeper: e.g. unfamiliar context, synoptic links, evaluation, or a meta question about the subject itself. Where a task requires a stimulus text or article, generate a brief one alongside the task.

→ **Use it for:** Real challenge for the top end, without piling on busywork.

21. Scaffold a task without dumbing it down

Learning principle: Scaffolding, mastery learning

Here's the task I want all students to access: '[paste]'.

Design a tiered scaffolding ladder so weaker students can attempt the same task without me changing the goal. Show me what I add (sentence starters, structure strips, partially completed examples) and what I remove as students gain confidence.

→ **Use it for:** Keeping the goal constant while varying the support.

Section 5. Differentiation, scaffolding and stretch

22. Build sentence starters for academic writing

Learning principle: Disciplinary literacy

For [subject] essay writing at [Year group], generate sentence starters for: introducing an argument, evaluating a counterpoint, linking to context, signalling a conclusion.

Keep them subject-specific and avoid generic 'firstly / secondly' phrasing.

→ **Use it for:** Lifting the quality of writing without scripting it.

23. Adapt a task for a student with a specific need

Learning principle: Inclusion, high expectations

Here's the task: '[paste]'.

Adapt it for a student with [dyslexia / EAL / processing difficulties / ADHD]. Tell me what to change about presentation, instructions, response format, and timing, as well as what NOT to change because it would lower expectations.

→ **Use it for:** Accessible without being lowered.

24. Build a vocabulary scaffold for an EAL student

Learning principle: Disciplinary literacy

For [topic] at Year [10/11/12/13], create a 12-word vocabulary list specifically for an EAL student. For each word: a student-friendly definition, an example sentence in context, and a near-synonym they may already know. Avoid circular definitions.

→ **Use it for:** Making technical vocabulary the door, not the barrier.

25. Differentiate by question, not by task

Learning principle: Differentiation by demand

Take this single task: '[paste]'.

Generate 4 versions of the same question, varying only in cognitive demand: recall, application, analysis, evaluation. I want to give every student the version that pushes them just past their current level.

→ **Use it for:** One task, four levels of stretch.

Section 6. Assessment, exam prep and mark schemes

These prompts help you build and adapt assessment resources using your own exam board materials. Up Learn's courses come with exam-board specific content, mark schemes, and diagnostic question data built in. If that's useful context, the [About section](#) explains more.

26. Decode a mark scheme for student use

Learning principle: Success criteria

Here's the mark scheme for [question]: '[paste]'.

Translate it into a student-facing checklist: 'To get to [X] marks, your answer must...'. Use language a Year [10/11/12/13] would actually understand.

→ **Use it for:** Turning examiner code into pupil action.

27. Generate an exam-style question pitched to a grade

Learning principle: Assessment design

Generate an exam-style question for [exam board] [subject] [paper], pitched at [grade/tier] difficulty. Here is the relevant specification content: [paste the specification points this question should cover].

Include: the question, the mark scheme with indicative content, and the assessment objective breakdown.

→ **Use it for:** Custom practice when the past papers run dry.

Section 7. Communication, reports and parents

Use these to make routine comms specific, honest and quick.

28. Write a parents' evening summary

Learning principle: Communication

Here is the information to draw from: student name [X], year group [X], subject [X], current grade [X], target grade [X], one specific thing they have done well this term [paste], main area for improvement [describe precisely - e.g. 'answers 6-mark questions descriptively rather than analytically'], next checkpoint [e.g. 'mock exam in March'].

Using only this information, write a parents' evening summary as four numbered sentences, one per criterion: (1) what's going well, with the specific example provided, (2) the main focus for improvement, named precisely, (3) one concrete thing the parent can do at home to support this, (4) the next checkpoint and when it is.

→ **Use it for:** Concise, useful, parent-ready.

29. Write a follow-up note to a struggling student

Learning principle: Communication, growth mindset

I want to send a short follow-up note to a Year [10/11/12/13] student who's been struggling with [topic or behaviour]. Background: [one sentence on the recent context - e.g. 'we spoke briefly after class on Tuesday' or 'they've missed two homeworks and seem disengaged'].

The specific nextstep I want them to take is: [paste]. We will check back in at: [time and place]. Make the note warm but precise: acknowledge the difficulty without dwelling on it, name the next step clearly, and end with the check-in details.

→ **Use it for:** A personal nudge that reinforces, not shames.

30. Write a message to parents to support home learning

Learning principle: Parental engagement, home-school partnership

I want to contact parents of my Year [10/11] [subject] class to help them support their child's learning at home. Write a short message (3-4 paragraphs) that:

- (1) explains what the class is currently working on in plain language,
- (2) gives parents 2-3 specific, concrete things they can do or ask about at home,
- (3) points to any free resources students can use independently (e.g. Up Learn, revision sites),
- (4) invites parents to get in touch if they have concerns.

Keep it warm, jargon-free, and under 200 words.

→ **Use it for:** Getting parents actively involved without asking them to become teachers.

Section 8. CPD, reflection and time-saving

Use these to think more clearly about your own practice and protect your time for the work that matters.

31. Reflect on a lesson that didn't land

Learning principle: Reflective practice

Here's what I taught and what happened: [paste].

Help me work out: which assumption about prior knowledge was probably wrong, where the cognitive load spiked, and the one change I'd make next time. Be diagnostic, not just sympathetic.

→ **Use it for:** Honest post-mortems on lessons that flopped.

32. Summarise an education research paper for practical use

Learning principle: Evidence-informed practice

Summarise [paper title or paste abstract] into:

- (1) the core finding,
- (2) the strength of evidence,
- (3) two specific things I could try in my classroom,
- (4) what the paper does NOT tell me.

→ **Use it for:** Engaging with research without losing your evening to it.

33. Plan a 10-minute departmental CPD slot

Learning principle: Reflective practice, CPD

I have 10 minutes at the start of a department meeting to share something genuinely useful about [topic, e.g. retrieval practice / live modelling / EAL support]. Design the slot: one core idea, one practical example colleagues can try this week, and one question to leave them with.

→ **Use it for:** CPD that respects your colleagues' time.

Up Learn builds A Level and GCSE Science courses for students in schools across the UK. Our courses are designed by subject experts and learning scientists, and built on the same principles embedded in this guide: mastery before pace, spaced retrieval, deliberate practice, and careful management of cognitive load.

The results are measurable. Our analysis in the [Evaluation of Learning Outcomes 2025](#) found that achieving Mastery (90% or above) in 20% of course sections is linked to nine added months of student progress. And completing 90% of in-app assignments correlates with an average increase of nearly one full grade.

Here's how Up Learn helps

→ Spot gaps before they compound.

The teacher dashboard gives real-time visibility into how every student and class is progressing and where intervention is needed. Section Insights identifies those questions a class most often gets wrong, so you can focus lesson time where it matters most. Mistakes Overview lets teachers drill into individual students' specific gaps for targeted support.

→ Combat the forgetting curve automatically.

Refresh Knowledge creates personalised retrieval sessions that revisit previous material at spaced intervals, automatically targeting what each student is most at risk of forgetting. It's the same principle behind the retrieval prompts in this guide, built into the platform as a daily habit rather than a one-off task. And [our analysis](#) shows that students who complete 30 or more Refresh Knowledge sessions are 70% more likely to achieve A or A*.

→ Prepare students for the exact exam they're sitting.

Up Learn's courses are built to each exam board's specification. Exam-specific practice questions and mark schemes are baked into the courses, so the diagnostic data you see in the dashboard is always tied to the content and question styles your students will actually be assessed on.

→ Give every student access to high-quality tutoring, day or night.

Up Bot, our AI tutor, is trained directly on Up Learn's course content, not the open internet. When a student asks a question at 11pm before an exam, the answer comes from the same material they've been studying. In the past year, Up Bot resolved more than 17,000 student conversations with a 90.7% satisfaction rate. And if a student needs a human tutor, they can ask to be connected immediately.



If the approach in this guide resonates, Up Learn is worth exploring for your school. We work with 685+ schools and academic trusts across the UK, from individual departments to whole-school partnerships. And our schools team can help you understand the value Up Learn can bring to your school.

Learn more at [our schools page](#) or [book a quick chat](#) with our schools team.



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