

# Lesson Planning

with

## The Helpful Chemist



### Ethos

The Helpful chemist videos are designed to fit well into a standard five-step lesson framework allowing each episode to be broken up and interspersed with pupil activity or teacher-talk when used in your lesson.

On this sheet, you will find guidance to build a whole lesson around the resources provided by the channel.

*Alternatively, you could set the whole video to be watched as homework. This will re-enforce your lesson, or, try flip-learning and have the pupils watch the video before attending your class so that they are well prepared for your teaching.*

### Lesson Structure

- 1 Check**  
Make sure the students have the necessary background first, and activate key knowledge in their memories.
- 2 Connect**  
Show why this topic matters in the world outside of the classroom and how it sits in the curriculum.
- 3 Model**  
Show how to perform the skill and transfer the expert knowledge required for the task.
- 4 Practice**  
Brains learn by doing. Perfect practice make perfect. Students have a go, learn by their mistakes and try again.
- 5 Consolidate**  
Review what was learned, explain the next steps and end with a sense of achievement.

### Here to help, never direct

Planning a lesson is a central skill of a great teacher, but even the greatest minds can sometimes find it hard to get started. The next three pages have some hints and ideas down the left hand side and then space for your notes on the right. Nothing is set in stone, everything is yours to use, adapt or ignore. Feel free to print these pages and use them in your planning.

#### Notes

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# Check

**“The greatest factor in determining the success of new learning, is prior knowledge.”** (Paraphrasing) David Ausubel



# Connect

**“We remember more when we know why the new skill or information matters.”** The Helpful Chemist

## Notes

# 3

## Model

As the 'expert in the room' this is your time to transfer the key information, demonstrate the skill and give safety advice (if required).

**“Expertise becomes transferable when we make the expert’s thinking visible.”**

The Helpful Chemist

This is the central teaching phase. You might be preparing pupils for a practical task, modelling a calculation—such as relative atomic mass, balancing an equation or reaction efficiency—or explaining how and why a reaction happens. Make the expert thinking visible and give pupils a process they can follow. As pupil confidence grows the challenge increases and the support steps back. In summary, steps 3 and 4 work together...

**Expert models → guided practice → reduced support → independent performance.**

### Using The Helpful Chemist’s Resources

Each video contains clear teaching sections, usually lasting five to ten minutes. Most episodes also contain guided examples that you can pause, discuss or model alongside.

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# 4

## Practice

Now the students get to learn by practicing the skill for themselves. Through a combination of chunked tasks and effective feedback, rapid progress is made.

**“Tell me and I forget, teach me and I may remember, involve me and I learn.”**

(Credited to) Benjamin Franklin

Learning is active.

Break their practice into manageable chunks beginning with accessible questions, build towards greater challenge and finish with a suitable exam-style question where appropriate. Check understanding while pupils work, address misconceptions quickly and ask pupils to explain answers or show their working. Normalise mistakes as part of learning while providing the support needed to improve.

This is an active part of the lesson for both teacher and student. They are working, you are 'walking the room' - checking, encouraging, correcting and extending their work.

### Using The Helpful Chemist’s Resources

Most episodes have a free worksheet that closely matches the video. This sheet makes a useful, free, in-class task or can be equally well used as a homework.

The answer sheets, which are also provided, can support whole-class feedback, peer assessment or self-assessment.

If you use the worksheet in the lesson, keep the final 'Do this later' section for homework.

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## 5

# Consolidate

Summarise what pupils have learned, revisit the lesson goal and show where the learning leads next.

**“Closure ... occurs in the minds of the learners, not the mind of the teacher.”**

Madeline Hunter

There is a real skill in bringing the lesson to a close.

Make your students' thinking visible.

Show them how much they have learned, because nothing builds motivation like a good dose of success.

Identify any follow-up support or extra practice that may be needed, give advice and send the class out on an encouraging note.

### Using The Helpful Chemist's Resources

Every episode ends with a short recap and a look ahead. Use this to support your plenary, but remember that you know your class best. Adapt the close of your lesson so that it responds to what actually happened in the room today. It may be helpful to link the episode online and then pupils can watch the video as they go through their notes.

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# Homework

**“The lesson may end at the classroom door. Learning shouldn't.”**

The Helpful Chemist

The power of homework isn't in vast quantities of it. It is getting the right amount at just the right time.

Much educational research (starting with Ebbinghaus) has shown that we forget new information quite quickly unless it is actively recalled. For the most effective transfers to long-term memory we work with the 'forgetting curve' to refresh knowledge at key points. The (fairly) immediate recall required to complete the task in phase 4 of the lesson was the first boost. The second is the homework. If there is a gap of several days between your lessons I recommend that students complete their homework in two sections, the first within 24 hours and the second a day or two later.

### Using The Helpful Chemist's Resources

The worksheets are designed to work very well as a refresher tool as well as an in class activity. This is why I would always suggest saving the 'do this later' section for homework, even if the rest of the sheet is completed in class. Pupils can also re-watch the episode on YouTube if they need support.

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