

1

What's the method? Give students the aim of the practical and the equipment required to complete it. Using the equipment as a prompt, encourage them to write their own method. Compare this method to the AQA Required Practicals Handbook. www.aqa.org.uk/resources/science/gcse/teach/practical

2

It's your practical! With groups who have ability but lack confidence, be deliberately unhelpful. When asked for clarification, reply 'It's up to you, it's your experiment' (within reason and where safe and appropriate!).

3

Troubleshooters. Show students a set of equipment that is set up incorrectly and ask them to troubleshoot it.

4

Method improvement. Give students a method that would not yield valid results and ask them to improve the method so it would (Assessment Objective 3).

5

Table help. Print off ready-made results tables, not only to save time but also as a support resource for students. A well designed table can often help students figure out what they are meant to be doing more quickly than by reading a method.

6

AT skills. Refer to the 'Use of Apparatus and Technique' (AT) skills required for each practical and ensure that these are included in the learning objectives. The AQA handbooks are *suggested* activities; they are not necessarily the practicals that students will see in the exams.

7

Application of knowledge. After completing the required practical, give students a similar practical and ask them to design a method, identify variables and risk assess to support them in application of knowledge (AO2).

8

Past papers. Where possible, give students past paper or specimen questions about the practicals that they are working on, to answer as they do the practical.

9

Vocabulary. Make sure students are familiar with AQA subject specific vocabulary as this will help them understand and answer exam questions.

filestore.aqa.org.uk/resources/science/AQA-SCIENCE-GCSE-SUBJECT-VOCAB.PDF

10

Command words. Make sure they are familiar with the command words used in the exams. Many students lose marks for explaining rather than describing and vice versa. filestore.aqa.org.uk/resources/science/AQA-SCIENCE-GCSE-COMMAND-WORDS.PDF

11

Log-it. Encourage students to keep an organised log of the required practicals. Students could make notes on required practicals stand out by highlighting the edge of the page in their exercise books. Simple, but very effective (and looks amazing!).

12

Ready to go. When tight for time in lessons or for more complicated practicals, ask science technicians to organise sets of equipment at each work station so students have what they need to hand to complete the practicals.

13

Time saver. For practicals where AT1 (accurate measuring using appropriate equipment) is not one of the AT Skills focus, science technicians can be asked to measure out substances required to save time in both getting ready for the practical and the washing up at the end.

14

Which ATs? Give students a list of the ATs and ask them to identify which can be 'ticked off' at the beginning of each required practical. A full list can be found in each of the AQA Science specifications under section 8.1 in Physics, Chemistry and Biology, and section 10.1 in Combined Science.
www.aqa.org.uk/subjects/science/gcse

15

Evidence. Ask students to record evidence of the ATs being ticked off, either as a written statement describing how they achieved each one, or even using cameras on phones to record each other performing the skill.

16

Scientific nouns. Practise scientific names and spellings of lab equipment, common chemicals, and techniques and encourage students to answer questions like a scientist. A scientist would never call an evaporating basin a 'dish thing'!

17

All scientists here. Make students believe they are capable of carrying out these practicals! At the end of the day, they are designed for 15/16 year olds. Refer to your classes as 'Biologists', 'Chemists', or 'Physicists', (depending on the subject) when addressing the whole class. A little positive reinforcement never hurts!

18

Start young. There is no reason why KS3 classes can't have a go at some of the required practicals. They should already be familiar with a lot of the AT skills. Identifying them and highlighting them will only make it easier at KS4.

19

Rise to the challenge. We are training the next generation of scientists. Some of these students will go on to change the world due to your influence in the classroom now. The new specification is more challenging. Don't apologise for it, rise to the challenge. This generation of scientists will be the best prepared yet!

20

Have fun! Some students won't get it all no matter how much support they are given. Make their experience of science as positive as possible. Focus on the skills for the practical and support them in what they can achieve. They may not go on to be nuclear physicists but will fondly remember science lessons, and students who enjoy learning are more likely to achieve than students who are not engaged.