

- 1** **Learning objectives.** Write your learning objective for the lesson as a question. This can then be used to check students' learning as a plenary. For example: What is a subatomic particle and where can these be found within an atom?
- 2** **Hooks.** Use questions to engage students and set the context for the lesson. 'What does a chocolate egg have to do with photosynthesis?' will get students thinking, discussing and recalling what they know about photosynthesis.
- 3** **True or false?** Write a statement (or series of them) and ask if each is true or false. Extend the task by asking what could be changed to make false statements true.
- 4** **Odd one out.** Write a set of statements and ask which is the odd one out and why?
- 5** **Similar or different?** Provide two linked ideas and ask students 'How are they similar? How are they different?' Examples could be animal and plant cells, series and parallel circuits or addition and condensation polymers.
- 6** **Which other words?** When introducing key terms ask students to think of other similar words to help construct meaning. For example, 'exothermic' - make the links with exit (or exoskeleton) and thermometer or isotherm.
- 7** **Higher or lower?** Help students understand unit conversion by playing a version of 'higher or lower?', where students have to compare quantities measured in different units. For example, is 330 ml higher or lower than 0.275 dm<sup>3</sup>?
- 8** **Quiz, quiz, trade.** A good follow-up at the end of the lesson. Students write a question on a topic. The answer, at the bottom of the sheet, is obscured. Students circulate, then pair and take it in turns to ask each other their question. They should say if the answer is correct or give the answer if necessary. They swap questions and find new partners to repeat the process.
- 9** **Find someone who.** Print a set of questions on a topic, setting out as a grid. Each student has a set. They have to find answers to all the questions but they can only ask each person one question.
- 10** **What is the question?** Provide a key term or statement and challenge students to write their own question. Challenge them to write another question using a different command word e.g. name, describe or explain.

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**Who do you agree with?** Show a concept cartoon where different characters are responding to a question and ask students which character they agree with and why. This is a good way of addressing misconceptions.

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**Spot the deliberate mistake.** Provide students with a set of calculations in which there are errors and challenge them to find and correct the mistakes.

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**Which answer is best?** Provide a range of answers to an exam question, and ask students to rank them from worst to best, explaining why they have put them in that order.

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**Hinge-point questions.** Use these to check if students are ready to move on. They are (usually) multiple choice questions that include the most common wrong answers or misconceptions. Give students a set time to respond e.g. by holding up a numbered card. This will give a quick snapshot of your students understanding.

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**Dialogic questions.** Open questions that encourage critical thinking and discussion amongst students. For example, Fritz Haber, hero or villain? Justify your answer.

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**Question treasure hunt.** An activity where students compete to correctly answer a set of questions, given to them one at a time, using information displayed around the room.

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**What questions could we ask?** At the end of a topic, or after carrying out a practical, get students to suggest the sorts of exam questions that could be asked. Extend the task by suggesting the command word, assessment objective or number of marks.

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**Annotated questions.** When introducing students to exam questions it helps to annotate them with comments that guide the students' thinking. Mark up the first paper; let the student mark up the next one.

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**How would you explain?** Give students a concept/phenomenon - such as gravity and ask them how they would explain to a given audience, for example - a peer, a primary school sibling, a parent or a grandparent.

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**How might you use this?** Give students the opportunity to think about how they might apply a skill or piece of knowledge by asking how they might use something in a different context. For example, electromagnets - design a circuit that sets off an alarm. How could scientists use viruses?