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OpenLearn course Assessment in secondary science

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The table below lists and describes some assessment techniques that you might see teachers using to gauge pupils' understanding as the lesson proceeds. These techniques provide a general 'dipstick' indication of the pupils' understanding. These techniques are not being recommended as such; most are blunt instruments and open to criticism, but can be refined. However, used with thought and expertise, they can be a useful part of a teacher's assessment toolkit. Some are more commonly used than others and some more appropriate in some subject areas than others. When selecting assessment techniques, it is very important that they are appropriate for your subject and you are aware of the pros and cons of each in order to make an informed choice.

Technique	Description
Traffic lights	Pupils have a red, orange and green card, or page in their book and use it to indicate their understanding (green = confident; orange = understands most but not all; red = don't understand). They might use their cards to indicate their understanding as they work on a task or in response to a question from the teacher.
Thumbs up/ down/horizontal	The same principle as 'traffic lights' but using thumbs to indicate understanding.
Mini whiteboards	Pupils write their responses to a question on a small reusable whiteboard, which they hold up for the teacher to read.
Team quiz	Commonly used in the plenary, pupils work in small teams to answer questions or complete a task.
Whole-class questioning	The teacher asks questions and selects a pupil to answer. Commonly, pupils are picked to answer on the basis of 'hands up'. There are other techniques for selecting pupils e.g. names on lollipop sticks, computer random generation of names, number on the register.
Think-pair-share	The teacher poses a question. Pupils are given a minute to think on their own before getting into pairs to discuss question and agree a response to share with the class.
Question generating	Pupils are given an 'answer' and have to generate the questions. For example, if the answer is '7', questions might be: How many dwarves helped Snow White? How many days in the week?
Ordering activity	Pupils are given a list of items and have to put them in order. Items might be objects of a different size or complexity, events or a process.
Completion activity	Pupils are given the start of a sentence, piece of music, diagram and complete it. Statements might be a definition, category, cause-and-effect relationship, rationale or controversy.

Technique	Description
Brainstorming	Pupils are presented with an open-ended question to discuss or solve. They work individually, in pairs or small groups, or as a class (or combination of these) to write down their thoughts. Ideas are collected on the board. No initial idea is rejected or commented on (this can stifle brainstorming). Once completed, the brainstorm can be examined more critically and ideas challenged, opposing points of view noted and the main points summarised.
Reflective writing	Pupils take a few minutes to think and write down their thoughts about a particular question, problem or work they are doing; or write about what they have learned and what they found most difficult to understand.
Spot the mistake	Spot the mistake – pupils listen to or are given a statement, equation or visual that has a deliberate error that they have to spot and correct.