# Structuring questions to identify misconceptions

One useful feature of hinge questions, particularly those structured as a multiple-choice question, is that they can be designed to anticipate and monitor potential misconceptions in pupil understanding.

Let's revisit the example of the hinge question from the previous page. If you look carefully at the potential answers, the teacher has designed them to include distracting options that, if selected by pupils, might highlight some of the common misconceptions in pupil thinking around this topic.

### Example

Identify all the statements that are true about the Moon:

1. It reflects light
2. It orbits the Earth
3. It can't be seen during the day because there is too much light
4. It has no gravity

Through carefully planning the questions, and aligning the possible answers to a common misconception, the teacher has been able to capture a large amount of useful assessment information from every pupil in the class. This information will enable them to make an informed decision about what steps to take next in teaching and learning.

A hinge point question is designed to be a quick and accurate snapshot of understanding from all pupils. However, you should encourage pupils to share their emerging understanding and points of confusion, so that misconceptions can be addressed. Your follow up questions should be open, such as 'Why did you answer D?' or 'Can you explain your thinking further?'.

In the clip below, you will see a primary teacher ask a hinge question around money. From the way he has designed the task and asked the question, it is evident that he has anticipated the class may have a misconception around coin size. In asking this question, and through the subsequent class discussion, he is attempting to address this misconception before independent practice begins.

Direct Link: Anticipating misconceptions - Juan Pedroza at Reach Academy
Direct Link to an audio described version of this video: Anticipating misconceptions

## Encouraging deeper thinking

A concern sometimes voiced over multiple-choice questions is that they are highly effective at assessing some knowledge, but less effective at assessing higher order thinking skills.

An example to counteract this argument can be seen in the following question:

### Example

Which of these is **the most immediate** cause of Hitler becoming chancellor?

1. Nazi violence intimidated many voters and opponents
2. Schleicher's authority collapsed
3. Hindenburg and Von Papen believed they could control Hitler as chancellor

*(example question taken from 'Responsive Teaching' (Fletcher-Wood, 2018 p. 83))*

With each answer being a correct cause of Hitler becoming chancellor, the question encourages deeper thinking, taking

away a pupil’s immediate desire to identify the correct answer and move on, but instead prompting them to examine their knowledge and identify which answer was the **most immediate** cause. This type of multiple-choice question should be followed by further questioning and discussion.