

ONE QUESTION

As its name implies, this diagnostic assessment technique involves asking students to answer just one multiple-choice question that gets at a central idea related to the topic you are about to introduce.

The question addresses one or more common misconceptions about the content, and the incorrect answers are written to reveal those misconceptions so you know if they need attention.

Here is an example of one question that is based on a learning progression about the solar system (Briggs, Alonzo, Schwab, & Wilson, 2006). Each of the answer choices is linked to developmental levels of student understanding, so an analysis of student responses can reveal what individual students and the class as a whole understand.

Which is the best explanation for why it gets dark at night?

- ☒ The Moon blocks the Sun at night. *[Level 1 response]*
- ☐ The Earth rotates on its axis once a day. *[Level 4 response]*
- ☐ The Sun moves around the Earth once a day. *[Level 2 response]*
- ☐ The Earth moves around the Sun once a day. *[Level 3 response]*
- ☐ The Sun and Moon switch places to create night. *[Level 2 response]*

For instance, if one quarter of the students in a class chooses option D, which suggests that they believe that darkness is caused by the Earth moving around the Sun once a day, you might decide to have small group discussions between students who do and do not understand the day-night cycle. More intensive interventions could be implemented for the students who scored selected options A, C, or E.

These questions can be challenging to develop but are great opportunities to collaborate on with peers.

Recommended for grades 3-12.