

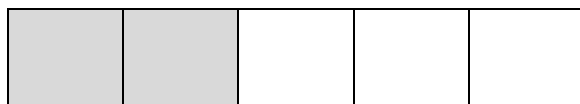
MC² Test Question Protocol

TEACHER'S GUIDE

The protocol works with any “constructed answer” math or science question. The following example is a released item from the publishers of the New Mexico Standards Based Assessment (NMSBA).

One Have students solve the problem or answer the question using a standard #2 pencil. Students should work silently and should not share answers.

Jon and his friends painted a mural in art class. The shaded part of the figure below represents the part of the mural that Jon painted.



Which of the following best represents the percent of the mural that Jon painted?

- A. 20%
- B. 25%
- C. 33%
- D. 40%

Circle the correct answer. In the rectangle below, use words, numbers, or diagrams to justify your answer.

Two When students have completed their answers, have them discuss them with a partner. *Do the two of you agree on the answer? Did you use the same equation or thinking process to find the answer?* Encourage students to make changes to their answers and/or the work shown in the rectangle, using a **colored pencil**. Suggest that they do not erase their original work.

Three When all partners have completed their discussions, work together as a class to identify the correct answer and exchange suggestions for finding it. Ask for volunteers to explain how they got the answer to the question. Encourage them to make their explanations as complete as possible by asking them for details. When equations are involved, have them write them on your board.

Let students know that they are welcome to make further changes to their answers and/or work based on this discussion, using a **second colored pencil**.

This version of the Test Question Protocol was developed by the Mathematically Connected Communities (MC²) project of New Mexico State University. MC²'s mission is to improve student achievement and the teaching and learning of middle-school mathematics by building a statewide learning community of mathematics educators, mathematicians, and public school leaders.

For more information about MC² and the protocol, visit <http://mc2.nmsu.edu>. Teachers using the protocol with Amazing Bugs kits, Earth Day Science Symposium, and Earth's Birthday Project's pre-post questions, email info@earthsbirthday.org for assistance.