



Thinking Protocol for Uncovering Student Thinking

Teacher Preparation for the MC² Thinking Protocol

- **Choose a task** that addresses content studied in the current or previous curriculum units during your math instruction. Make a paper copy of the problem for each student with the questions listed in Step 1 below.
 - **Think About:** What is the math content in the problem? What math practices could be highlighted? How does it connect to what students are learning in class?
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MC² Thinking Protocol Steps (At least 15-20 minutes)

1. Students **think individually** about the task and respond to the three questions below. (3+ minutes)
 - What do I know about the problem?
 - What questions do I have?
 - Explain my reasoning or thinking in solving the problem.
 2. Students **think with a partner** about the task and add to their solution in a different color making sure not to erase any original ideas. (5+ minutes)
 - Have students discuss their thinking about their responses to the questions with a partner.
 - Make sure both partners have a chance to share.
 - Students may add to their thinking or change their responses in a different color.
 3. Students **think with the class** while sharing strategies for solving the task. (6+ minutes)
 - Select 2-3 students or partners to share their ideas with whole class.
 - The purpose is to add new ideas/strategies to the whole group's thinking.
 4. Students **reflect** on the task and identify what was easy/hard about the problem. (1+ minutes)
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Teacher Reflection on the MC² Thinking Protocol

In your PLC, discuss what data this process/task provides. Consider what instructional strategies are needed to support students' development of Mathematical Practices and flexibility in problem solving. Reflect about:

- What do students understand? Where is the evidence in the student work?
- What were misconceptions/gaps in the students' knowledge? Where is the evidence in the student work?
- What were the instructional strategies or classroom experiences that can help move the learning forward?
- How can the protocol be used to build math confidence in students?
- How are the Common Core and Math Practice Standards advanced using the MC² Thinking Protocol as classroom warm-up problems?