**Classroom Connection Activity**

Please engage in the following activities and submit responses using the methods described for each activity. **We will be having another video workshop time in our next session, so you will need to do the teaching, video recording, and uploading so that you can share it.** (Depending on how you are having the participants share their videos you may need to ask them to bring a computer to the next session.)

1. *Working on reasoning with your students*

In our session this week, we watched a video where a student was explaining her way of thinking about why odd + odd = even. On the next page, we provide the prompt that was used in the video and other scaled versions of that problem. Select one of these problems to try in your classroom. Feel free to further scale the problem so that it will work well as an opportunity for your students to engage in mathematical practices and reasoning. Provide rationale for the problem you select.

In your classroom, spend 15-20 minutes working on the problem. Video record the entire activity and collect student work samples (approximately 6 samples that represent a range in student reasoning).

1. *Video workshop prompts*
   1. Watch your video and identify a 3-5 minute segment in your video that supports you in thinking about the reflection questions in (c). Record the start and stop times of the segment.

Segment start time:

Segment end time:

* 1. Provide some context for the selected video segment.
     1. Grade
     2. Current topic(s) of study in mathematics
     3. Task and lesson goals
     4. Description of what happened immediately before the segment
  2. Record responses to the following focus questions, with references to specific events in the video if possible.
     1. What conjectures do students share related to the problem?
     2. How do students justify their conjectures (logic, language, representations, etc.)?
     3. What teaching moves are you using to support students’ engagement in reasoning or the mathematical practices?
     4. Reflect on how well the video supported your thinking or learning about these questions. How might you adjust your video recording to better support your learning?
  3. (Include the description here of the method for submitting classroom records of practice that will eventually be used for sharing examples from teaching with colleagues.)

1. *Extending your thinking about reasoning in mathematics*

Read the section titled “Developing mathematical reasoning in a third-grade class” by Ball & Bass found on pages 33-40 in the *NCTM Research Companion to the Principles and Standards for School Mathematics.* This reading traces students’ opportunities to learn about mathematical reasoning across several experiences. On page 34, in discussing the Two-Coin Problem, Mei explains a way of finding all of the coin combinations. Consider how her approach connects with what your students did with that problem and with an approach you remember from our work on the problem in the professional development session. Write about these connections and bring your response to our next session.

Further, the selection in the reading also describes the segment of instruction that we watched in the “Odd + Odd = Even” classroom video. Use ideas from this reading to support your teaching of the problem described in #1 (above).

**Potential Reasoning Tasks**

**Grades 3-5 version (the original problem)**

Is the following conjecture true or false? Explain your reasoning.

Conjecture: An odd number plus an odd number equals an even number.

**Grades K-2 scalings of the problem** (2 versions)

1. Is 5 an odd or even number? Is 8 an odd or even number?

Pick a number less than 20. Is it odd or even? How could you explain to someone else why?

1. Find the answer to the addition problems below by coloring in your grids (use blue for the first number and red for the second number).

*Model/instruct students to fill the answer starting with the leftmost column and coloring columns moving the right.*

|  |  |  |  |
| --- | --- | --- | --- |
| Problem | First number | Second number | Answer |
| 1+3= | |  | | --- | |  | |  | | |  |  | | --- | --- | |  |  | |  |  | | |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  |  |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |  |  |  | |
| 1+5= | |  | | --- | |  | |  | | |  |  |  | | --- | --- | --- | |  |  |  | |  |  |  | | |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  |  |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |  |  |  | |
| 3+5= | |  |  | | --- | --- | |  |  | |  |  | | |  |  |  | | --- | --- | --- | |  |  |  | |  |  |  | | |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  |  |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |  |  |  | |
| 3+7= | |  |  | | --- | --- | |  |  | |  |  | | |  |  |  |  | | --- | --- | --- | --- | |  |  |  |  | |  |  |  |  | | |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  |  |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |  |  |  | |
| 5+7= | |  |  |  | | --- | --- | --- | |  |  |  | |  |  |  | | |  |  |  |  | | --- | --- | --- | --- | |  |  |  |  | |  |  |  |  | | |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  |  |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |  |  |  | |
| 5+9= | |  |  |  | | --- | --- | --- | |  |  |  | |  |  |  | | |  |  |  |  |  | | --- | --- | --- | --- | --- | |  |  |  |  |  | |  |  |  |  |  | | |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  |  |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |  |  |  | |

* 1. What do you notice about the numbers you were adding? Is there a pattern?
  2. What do you notice about the answers you found? Is there a pattern?