Implementing Standards for Mathematical Practices

**#2 Reason abstractly and quantitatively.**

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|  | **Summary of Standards for Mathematical Practice** | **Questions to Develop Mathematical Thinking** |  |
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|  | **2. Reason abstractly and quantitatively**. | What do the numbers used in the problem represent? |  |
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|  | • Make sense of quantities and their relationships. | What is the relationship of the quantities? |  |
|  | • Able to decontextualize (represent a situation symbolically and manipulate the | How is \_\_\_\_\_\_\_ related to \_\_\_\_\_\_\_\_? |  |
|  | symbols) and contextualize (make meaning of the symbols in a problem) quantitative | What is the relationship between \_\_\_\_\_\_and \_\_\_\_\_\_? |  |
|  | relationships. | What does\_\_\_\_\_\_\_mean to you? (e.g. symbol, quantity, diagram) |  |
|  | • Understand the meaning of quantities and are flexible in the use of operations and | What properties might we use to find a solution? |  |
|  | their properties. | How did you decide in this task that you needed to use...? Could you have used |  |
|  | • Create a logical representation of the problem. | another operation or property to solve this task? Why or why not? |  |
|  | • Attend to the meaning of quantities, not just how to compute them. |  |  |
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**Implementation Characteristics: What does it look like in planning and delivery?**

**Task**: elements to keep in mind when determining learning experiences **Teacher:** actions that further the development of math practices within their students

**Task:**

* Includes questions that require students to attend to the meaning of quantities and their relationships, not just how to compute them.
* Consistently expects students to convert situations into symbols in order to solve the problem and then requires students to explain the solution within a meaningful situation.
* Contains relevant, realistic content.

**Teacher:**

* Expects students to interpret, model, and connect multiple representations.
* Asks students to explain the meaning of the symbols in the problem and in their solution.
* Expects students to give meaning to all quantities in the task.
* Questions students so that understanding of the relationships between the quantities and/or the symbols in the problem and the solution are fully understood.

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Reflections on This Week: Mathematical Practice 2

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| What did you do to incorporate this practice into your classroom this week? Explain. |
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| Did you experience any difficulties incorporating this practice into your classroom this week? Explain. |
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| Did the use of the checklist help you to incorporate this practice into your classroom this week? Explain. |
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| Did the use of the Weebly module help you to incorporate this practice into your classroom this week? Explain. |
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