Implementing Standards for Mathematical Practices

**#8 Look for and express regularity in repeated reasoning.**

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|  |  | **Summary of Standards for Mathematical Practice** | **Questions to Develop Mathematical Thinking** |  |
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|  | **8.** | **Look for and express regularity in repeated reasoning.** | Will the same strategy work in other situations? |  |
|  | • |  |  |
|  | See repeated calculations and look for generalizations and shortcuts. | Is this always true, sometimes true or never true? |  |
|  | • | See the overall process of the problem and still attend to the details. | How would you prove that...? |  |
|  | • | Understand the broader application of patterns and see the structure in similar | What do you notice about...? |  |
|  |  | situations. | What is happening in this situation? |  |
|  | • | Continually evaluate the reasonableness of their intermediate results. | What would happen if...? |  |
|  |  |  | Is there a mathematical rule for...? |  |
|  |  |  | What predictions or generalizations can this pattern support? |  |
|  |  |  | What mathematical consistencies do you notice? |  |
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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:**

* Addresses and connects to prior knowledge in a non-routine way.
* Present several opportunities to reveal patterns or repetition in thinking so generalizations can be made.
* Requires students to see patterns or relationships in order to develop a mathematical rule.
* Expects students to discover the underlying structure of the problem and come to a generalization.
* Connects to a previous task to extend learning of a mathematical concept.

**Teacher:**

* Encourages students to connect task to prior concepts and tasks.
* Prompts students to generate exploratory questions based on current tasks.
* Asks what math relationships or patterns can be used to assist in making sense of the problem.
* Asks for predictions about solutions at midpoints throughout the solution process and encourages students to monitor each other’s intermediate results.
* Questions students to assist them in creating generalizations based on repetition in thinking and procedures.

*Institute for Advanced Study/Park City Mathematics Institute*/ Created by Learning Services, Modified by Melisa Hancock, 2013

Reflections on This Week: Mathematical Practice 8

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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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