**Answer the Questions…Question the Answers…**



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| 1. **Promote Problem Solving** 2. What do you need to find out? What information do you have? 3. What strategies are you going to use? 4. Will you do it mentally? With pencil and paper? Using a number line? 5. Will a calculator help? 6. What do you think the answer or result will be? | **B. Getting Students Thinking**   1. How would you describe the problem in your own words? 2. What facts do you have? What do you know that is not stated in the problem? 3. How did you tackle similar problems? 4. Could you try it with simpler numbers? Fewer numbers? Using a number line? 5. What about putting things in order? 6. Would it help to create a diagram? Make a table? Draw a picture? 7. Can you guess and check? 8. Have you compared your work with anyone else? What did other members of your group try? |
| **C. Checking Along the Way**   1. Can you explain what you have done so far? What else is there to do? 2. Why did you decide to use this method? 3. Can you think of another method that might have worked? 4. Is there a more efficient strategy? 5. What do you notice when…? 6. Why did you decide to organize your results like that? 7. Do you think this would work with other numbers? 8. Have you thought of all the possibilities? How can you be sure? | **D. Going for Deeper Thinking**   1. Why is that true? 2. How did you reach that conclusion? 3. Does that make sense? 4. Can you make a model to show that? |
| 1. **Promoting Mathematical Reasoning** 2. Is that true for all cases? Explain. 3. Can you think of a counterexample? 4. How would you prove that? 5. What assumptions are you making? | 1. **Fostering Student Reflection** 2. How did you figure that out? 3. How did you think about it? 4. Does your answer seem reasonable? Why or why not? 5. Can you describe your method to us all? Can you explain why it works? 6. What if you had started with… rather than…? 7. What if you could only use…? 8. What have you learned or found out today? 9. What are the key points or big ideas in this lesson? |
| 1. **Encouraging Conjecture** 2. What would happen if…? 3. Do you see a pattern? Can you explain the pattern? 4. What are some possibilities here? 5. Can you predict the next one? What about the last one? | 1. **Making Sense of Mathematics** 2. Who would like to share their thinking? 3. Who used this strategy to solve it? 4. What do you think about what \_\_\_\_\_\_\_\_\_\_\_ said? Do you agree? Why or why not? 5. Does anyone have the same answer but a different way to explain it? 6. Do you understand what \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is saying? 7. Can you convince the rest of us that your answer makes sense? |
| 1. **Making Connections** 2. How does this relate to…? 3. What ideas that we have learned before were useful in solving this problem? 4. What uses of mathematics did you find in the newspaper last night? 5. Can you give me an example of…? | 1. **What other questions would you add to the list?** |

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| **My questions to ask/answer with this mathematical exploration:**  **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** | |
| **Code** | **Why is this a worthwhile question?** |
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Dan Mulligan, 2014