

Developing Mathematical Thinking with Effective Questions, cont.

To promote problem solving, ask...

- What do you need to find out?
- What information do you have?
- What strategies are you going to use?
- Will you do it mentally? With pencil and paper? Using a number line?
- Will a calculator help?
- What tools will you need?
- What do you think the answer or result will be?

To help when students get stuck, ask...

- How would you describe the problem in your own words?
- What do you know that is not stated in the problem?
- What facts do you have?
- How did you tackle similar problems?
- Could you try it with simpler numbers? Fewer numbers? Using a number line?
- What about putting things in order?
- Would it help to create a diagram? Make a table? Draw a picture?
- Can you guess and check?
- Have you compared your work with anyone else? What did other members of your group try?

To make connections among ideas and applications, ask...

- How does this relate to...?
- What ideas that we have learned before were useful in solving this problem?
- What uses of mathematics did you find in the newspaper last night?
- Can you give me an example of...?

To encourage reflection, ask...

- How did you get your answer?
- Does your answer seem reasonable? Why or why not?
- Can you describe your method to us all? Can you explain why it works?
- What if you had started with... rather than...?
- What if you could only use...?
- What have you learned or found out today?
- Did you use or learn any new words today? What did they mean? How do you spell them?
- What are the key points or big ideas in this lesson?

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