

Questions for Problem Solving

Problem Comprehension:

- What is the problem about? What can you tell me about it?
- How would you interpret that?
- Would you please explain that in your own words?
- What do you know about this part?
- Do you need to define or set limits for the problem?
- Is there something that can be eliminated or that is missing?
- What assumptions do you have to make?

Approach and Reasoning:

- Where could you find the needed information?
- What have you tried so far? What steps did you take?
- What didn't work? How did you decide that? What did you discover?
- What do you understand now that you didn't before?
- How did you organize the information? Do you have a record?
- Do you have a system, a strategy?
- How would you research that?
- Have you solved any problems like this before?
- Give me another related problem. Is there an easier problem?
- Is there another way to solve this problem? Is there another way to communicate that?
- What were your first thoughts about the task?
- Are there any relationships in this problem that will always be present in similar problems?
- Are there other ways to solve this problem?

Connections

- Can you predict what will happen?
- What was your estimate or prediction? Why?
- How do you feel about your answer?
- What else would you like to know?
- Is there a general rule?
- Is the solution reasonable?

- What made you think that was what you should do?
- How is this like the mathematics of a real-life problem?
- What were the mathematical ideas in this problem?
- What was the one thing you learned?
- What kinds of mathematics were used in this investigation?
- Where else would this strategy be useful?
- What other problems does this lead to?
- How would this work with other problems?
- What questions does this task raise for you?

Solution

- Are you sure your solution is correct? Why/How?
- Is that the only possible answer?
- How would you check the steps you have taken for your answers?
- Other than retracing your steps, how can you determine if your answers are appropriate?
- Is there anything you overlooked?
- How did you know you were done?

Communication

- Could you explain what you know right now?
- How would you explain this process to a younger child?
- Could you write an explanation for next year's students (or some other audience) of how to do this?
- Which words were most important? Why?
- Could you explain that another way?
- Can you explain your reasoning?
- What pictures do you have in your mind to help you think about the task?