

MATHEMATICAL QUESTIONING

Help students make sense of mathematics

What strategy did you use?

Do you agree with ___?

Do you disagree with ___?

Could you share your method with me?

Can you convince me that that makes sense?

Can you retell or restate my explanation?

Where would you go for help?

How could you help another student without telling the answer?

How would you explain ___ to someone else in your class?

Help students rely more on themselves to determine whether something is mathematically correct

Is this a reasonable answer?

Does that make sense?

Why do you think that? Why is that true?

Can you draw a picture or make a model to show that?

How did you reach that conclusion?

Do you want to revise your answer?

How were you sure your answer was right?

Help students learn to reason mathematically

How did you begin to think about this problem?

What is another way you could solve this problem?

How could you prove that?

Can you explain how your answer is different from mine?

Let's see if we can break it down. What would the parts be?

Can you explain this part more specifically?

Does that always work?

Is that true for all cases?

How did you organise your information? Your thinking?

Help students evaluate their own processes

What do you need to do next?

What have you accomplished?

What are your strengths and weaknesses?

Help students with problem comprehension

What is this problem about? What can you tell me about it?

Do you need to define or set limits for the problem?

How would you interpret that?

Would you please reword that in simpler terms?

Is there something that can be eliminated or that is missing?

Would you please explain that in your own words?

What assumptions do you have to make?

What do you know about this part?

Which words were most important? Why?

Help students learn to conjecture, invent and solve problems

What would happen if ___? What if not?

Do you see a pattern?

What are some possibilities here?

Where could you find the information you need?

How would you check your steps or your answer?

What did not work?

How is your solution method the same as or different from mine?

Other than retracing your steps, how can you determine if your answers are appropriate?

What decision do you think we should make?

How did you organise the information? Do you have a record?

How could you solve this using (tables, trees, lists, diagrams, etc.)?

What have you tried? What steps did you take?

How would it look if you used these materials?

How would you draw a diagram or make a sketch to solve the problem?

Is there another possible answer? If so, explain.

How would you research that?

Is there anything you've overlooked?

How did you think about the problem?

What was your estimate or prediction?

How confident are you in your answer?

What else would you like to know?

What do you think comes next?

Is the solution reasonable, considering the context?

Did you have a system? Explain it.

Did you have a strategy? Explain it.

Did you have a design? Explain it.

Help students learn to connect mathematics, its ideas and its application

What is the relationship of this to that?

Have we ever solved a problem like this before?

What uses of mathematics did you find in the newspaper last night?

What is the same? What is different?

Did you use skills or build on concepts that were not necessarily mathematical?

Which skills or concepts did you use?

What ideas have we explored before that were useful in solving this problem?

Is there a pattern?

Where else would this strategy be useful?

How does this relate to ___?

Is there a general rule?

Is there a real-life situation where this could be used?

How would your method work with other problems?

What other problem does this seem to lead to?

Help students persevere

Have you tried making a guess?

What else have you tried?

Would another recording method work as well or better?

Is there another way to (draw, explain, say) that?

Give me another related problem. Is there an easier problem?

How would you explain what you know right now?

Help students focus on the mathematics from activities

What was one thing you learned (or two, or more)?

How many kinds of mathematics were used in this investigation?

What were the mathematical ideas in this problem?

What is mathematically different about these two situations?