

Math Constructive Conversation Skills Poster

Clarify Problem and Ideas for Solving It



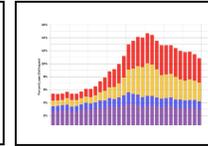
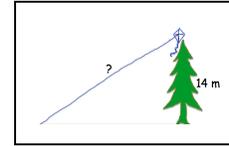
Prompt starters:

- What are we trying to do?
- What is the problem asking?
- How does the problem begin?
- What happens in the problem?
- What do we need to know?
- How can we break this down?
- What type of problem is this?
- What patterns do we notice?
- What's a possible plan for solving it?
- What is your estimate for the answer?
- Why are you doing that?
- Where did that number come from?

Response starters:

- In order to ____, we need to ...
- In other words,
- More specifically, it is ... because...
- Let's see, it is similar to the problem about ... that we did because...
- It is important to ____ because
- Let's stay focused on
- Let's get back to the idea of...
- In future problems like this one we need to remember to...

Generate & Try Multiple Methods & Representations



$$\int_0^{\infty} \sum_{l=0}^{\infty} \frac{A_l(x)}{2\pi}$$

Prompt starters:

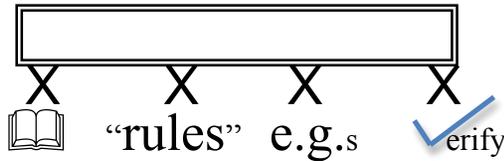
- How else can we show this?
- How can we draw or graph this?
- What symbols can we use?
- How can we explain this to others?
- How can we write what we are thinking/doing?
- How can we translate this into symbols?
- Let's back up and try a different way.
- Which method is most useful? Why?

Response starters:

- Maybe we can use...
- Another way to show this is...
- In math symbols we could write...
- We can draw it like this because it says...
- Let's try to... and see what happens.

Build Math Ideas & Understandings

Explain & Support Reasoning



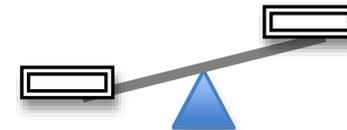
Prompt starters:

- Can you explain why you...?
- What does that mean?
- What are you doing?
- What math rule are you using?
- Can you give an example?
- How does the sample problem help us?
- What are examples of this problem from real life?
- Can you clarify where you...?
- How did you get this answer?

Response starters:

- If we ____, then we need to ____ because...
- A key mathematical principle is making sure that you...
- In real life this is similar to when you want to...
- An example from my life is
- One case that illustrates this is...
- In math, we always need to...
- Let me show you what I mean.
- We can't do that because it...

Negotiate Ideas



Prompt starters:

- How can we add to the idea of...
- What do you think about this strategy for solving it?
- What else could support this idea?
- Do you agree?
- What contradicts this? What are other points of view?
- What did we learn from doing this problem? How will it help in life?
- Let's create a similar problem.

Response starters:

- That reminds me of...
- I want to add on to your idea of...
- That idea connects to...
- I see it a different way,
- On the other hand, ...
- That makes me think of...
- We can agree that...