

Developing Students' Problems of the Week (PoW) Participation

The Math Forum @ Drexel

Reading Comprehension

1. **PoW I.Q.** – Make a list and/or drawing of the key **Information** you will use from the problem and the **Question** you have to answer. Compare and discuss which information is essential and which is not.
2. **Wonder-Like** - A student reads the problem out loud and then go around the group sharing one thing you like/understand and one thing you wonder about. Record the “wonder abouts” and after you have finished going around, see which “wonder abouts” are still active. Brainstorm strategies for figuring out answers to those. Each student goes away with responsibility for figuring out the answer to [2?] key “wonder abouts” for him or her. (At some point brainstorming strategies will no longer be necessary except for the occasional new situation.)
3. **MASV** (pronounced “massive”. Make a simpler version.) – Write a problem like this one that is easier. Swap problems with a buddy. Compare and discuss if your problems are the same, just with different numbers, or do they reflect different understandings of the original problem. Resolve differences.

Problem-solving

1. **Do It Wrong** – Give an example of the situation using numbers. Don't worry about whether the numbers work out right completely; just point out what should happen.
2. **Strategy RoundUp**: As a group, brainstorm possible strategies that could be used with this problem. Over the course of the year, shift this to having students identify strategies on their own and then have them list these and try to identify strategies that could have been used. Discuss the merits of different strategies, why some are getting used a lot, etc.
3. **Working Backwards**: Give students the numerical answer (i.e. There were 14 bananas.) and ask them to figure out how it works.

Writing

1. **First draft**:
 - a. **Summarize** what is going on in the situation and conclusions you can easily draw from the information given.
 - b. **What and Why?** *Show* what you have done so far and *explain* why you did that, why your steps make sense for this situation.
 - c. **Note** where you have questions or still need to figure something out.
2. **Feedback review**: Have a partner read the mentor feedback sentence by sentence. After each one, identify what is being affirmed, corrected, or requested. Make a note of the corrections and tasks for the revision.
3. **Over My Shoulder**: Type in your draft. Then explain what you wrote to a partner who is looking over your shoulder at what you wrote while you explain. The partner should point out information that you are adding while you talk, and you should type in these additions as you go.

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