

Tips for Creating a Language-Rich Math Class

216 small cubes are put together to form a $6 \times 6 \times 6$ large cube. If one layer of cubes is removed from each of its faces, how many cubes are removed?

Ground Rules

1. Remember, it's not about task completion.
2. It's not about speed.
3. Give group mates the gift of time.
4. When you want to tell or show a group mate how to do something, think of questions you could ask instead.
5. If someone tries to tell you the answer say, "Wait! Don't tell me. Let me think.
6. Don't be the answer key.
7. If you disagree, ask a question to help the person change his/her mind.

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1. Be quiet.
2. Consider sitting down.
3. Ask, "Are you sure? How did you get your answer?" whether the student is correct or incorrect.
4. Encourage students to defend their answers. Don't be the answer key.
5. Don't prevent mistakes.
6. Have students ask questions to help their peers change their minds.
7. Use think-pair-share and turn and talk—tell me what your partner said.
8. Use four representations—concrete, pictorial, verbal, and symbolic whenever possible.
9. Use conceptual language versus symbolic decoding as much as possible.

Tips for Debriefing

1. Launch with "What answers did you get ...?"
2. Record all of the answers given, correct or incorrect.
3. Do not indicate if an answer is correct or incorrect with your face or with gestures.
4. Ask and discuss, "Is this a single-answer question or a multi-answer question?"
5. Ask, "Which of these don't work?"

Follow-up Choices

Why not?

If you disagree with an answer, what question could you ask to help your friend change his/her mind?

What didn't they understand if they got this answer?