

# Problem Solving

## Poster Method

### Sequence to Follow

1. Students should be in groups of 3 or 4
2. Each student needs an individual piece of paper that they will label data sheet and a pencil.
3. Explain to students what a data sheet is and how to use one. (*A data sheet is a place to record your thoughts about solving a problem. It doesn't matter if the ideas are correct or not. Write down anything that you try.*)
4. Read the problem to the students. Read the problem with the students twice.
5. Have the students try the problem individually for 8-10 minutes.
6. Have students stop working and write 2 complete sentences on their individual data sheet about what they did to try to solve the problem. Students stand up when they are finished writing.
7. When all students are standing, have 2 or 3 students read their sentences to the class. Do not comment on the sentences. Simply say, "*Thank you for sharing*". These sentences provide information for all students to consider as they move into the collaborative part of this method.
8. Students work in their groups to solve the problem and try to reach agreement on a solution. It's fine if they can't agree. They can agree to disagree.
9. Provide students with poster paper and marking pens.
10. Students create a group data sheet that indicates the group's solution (or solutions if they can't agree) and ideas from each member of the group.
11. Before the group data sheets are complete, do the "Visit." The "Visit" involves one student remaining at their group's location to explain the ideas on the group data sheet. The remaining group members visit other groups to discuss their ideas about solving the problem (2-3 minutes).
12. Everyone returns to their group. Each group has a brief discussion about the visit and makes a decision about their solution. Do they want to change their solution or stay with their solution?
13. Finalize group data sheets
14. Have students complete the written explanation on the back of the group data sheet. Students answer the following questions in detail: How did your group solve the problem? How does your group know the answer is correct mathematically?
15. Provide rehearsal time for the "circle discussion" if necessary
16. Circle Discussion: all groups state their solution; have a group that is confident about their solution defend their solution; start the math discussion by asking which groups agree and which groups disagree. Call on groups to say why they agree or disagree. The teacher's role is to ask questions to keep the discussion going but not to comment on anything being stated by students.
17. Use a group data sheet to explain the solution to the class.