Practice with Problem Solving

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Topics:
Problem Solving, Recursion, Tree Diagrams

Purpose:
Students will develop and practice problem-solving techniques while solving a math story.

Materials:
- 'Tim and Doreen' Story

Time Required:
5 min.-Introduction, 25 min.-Group Work, 10 min.-Whole class discussion

Procedure:
1. Problem will be introduced to class.
2. Problem Solving Process will be reviewed in class.
3. Class will meet in groups to work on problems.
4. Groups will share their answers on the board.
5. Teacher can review recursive thinking and how it pertains to this problem.

Explorations:
Students can work to find a procedure that determines the number of people that know the secret in 'n' hours...using the first scenario from the sheet.

Assessment Tools:
- Group work on sheet.
- Informal observations.
- Work done on finding recursive formula in the exploration.

Content Standard Connections: NCTM

- Build new mathematical knowledge through problem solving;

- Solve problems that arise in mathematics and in other contexts;
- Apply and adapt a variety of appropriate strategies to solve problems;
- Create and use the representations to organize, record, and communicate mathematical ideas;
- Make and investigate mathematical conjectures:
- Formulate generalizations and conjectures about observed regularities;

Internet Sites:
http://mathcounts.org/Problems/strategies.html
http://www.shodor.org/interactivate/lessons/tree.html
http://www-2.cs.cmu.edu/~cburch/survey/recurse/

Comments:

Peer Feedback: