

Walk-a-thon

Grade 5, Problem Solving: Open-ended (CMT strand 25) prompt #1

Lesson Objectives

Students will be able to:

- Read through a real-world problem and determine what the problem is asking
- Explain his/her approach to solving a real-world problem
- Use manipulatives to represent solutions
- Evaluate other students' approaches

Language Objectives

Students will be able to:

- Read through a real-world problem and restate it in their own words
- Identify unfamiliar vocabulary in a word problem
- Give concrete examples of the terms “each”, “at least”, and “exactly”

Materials

Think cards #1, 2, 3

Play money – Denominations of \$2, \$3, \$4, \$5, \$7

Chart paper to record student responses

Math journals

Warm-up

- Math message
- Discuss yesterday's prompt experience

Procedures

1. Post and read objectives aloud with students.
2. Hand out prompts
3. Read through the problem aloud.
4. Link to student prior knowledge – make sure they know what a walk-a-thon is!
5. Ask students to list words in the problem that might have tricked them (these should have been underlined the day the prompt was given). Record student responses on the board. Ask other students if they can explain these words. Be sure to cover the phrases “each”, “at least”, and “exactly”. Ask students to give an example of a number that is “at least” 2, 4, etc. Also discuss what these phrases mean in the problem.
6. Ask students to restate the problem in their own words in their math journals (individually), then share as a class
7. Have students identify:
 - a. the units they are working with in the problem
 - b. the important constraints stated in the problem
 - c. possible ways to begin to solve the problem (not full solutions)
8. Explain that students will work in groups on the problem. (Classroom established groups are fine for this one – they are mixed-ability).

9. Discuss group expectations and only allow “group question.”. Remind students that more than one answer is possible, so if they have a different solution, they need to be able to explain it to their group.
10. Introduce manipulatives. (Remind students that these are tools to help them, not toys.) Hand out manipulatives and let students explore the problem.
11. Hand out Think Cards in order if students need a hint.
12. If students finish early, ask them to try to come up with another way to solve the problem.
13. Bring the group back to a whole-class discussion. Remind the class of the rules for sharing.
14. Possible questions to discuss:
 - a. How did using play money make the problem easier?
 - b. Did any one change their solution while working with the money?
15. Allow each group to share a solution. They may explain from their seats or write on the board to make their thoughts clear. Ask other students to restate their ideas, or ask questions. Then ask them to evaluate the solution.
16. Once students feel more confident about solutions, ask each group to post 1 of their solutions in the class chart. An example is below:

Group Names	Mike	Troy	Emily	Andrea	Kristen	Total
Juan, Carmen	5	5	5	4	4	90

17. Discuss similarities and differences in solutions found in the chart.

Closure

- Exit slip: What is one thing you learned while working on this problem? What is still confusing?
- Transition to math puzzle/game. (I have/who has or I’m thinking of a number...)

Assessments

- Observations
- Definitions of key mathematical vocabulary
- Group-work observations
- Class discussion