

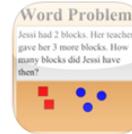


Problem Solving Websites

- ◇ <http://www.mathplayground.com/wordproblems.html>
- ◇ <http://www.gamequarium.com/problemsolving.html>
- ◇ <http://teacher.scholastic.com/maven/>
- ◇ http://www.internet4classrooms.com/skill_builders/word_problems_math_fourth_4th_grade.htm
- ◇ <http://www.topmarks.co.uk/maths-games/5-7-years/problem-solving>

APPS (itunes.apple.com)

Word Problems



MathLands - Kids Logic Game & Brain Builder for Math and Critical Thinking



ABA - Problem Solving - What does not belong?



PROBLEM SOLVING



If you have any questions, please contact Naomi Barnwell at 518-884-7250 ext 1384 or nbarnwell@bscsd.org

*Malta Avenue
Elementary School*

Problem Solving by Grade Level



Kindergarten: Operations & Algebraic Thinking K.OA2.

Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem.

Grade 1: Operations & Algebraic Thinking 1.OA

1. Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.

2. Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, drawings, and equations with a symbol for the unknown number

**Grade 2:
Operations & Algebraic Thinking 2.OA1**
Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.

Measurement & Data 2.MD8. Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using \$ and ¢ symbols appropriately. Example: If you have 2 dimes and 3 pennies, how many cents do you have?

**Grade 3:
Operations & Algebraic Thinking 3.OA**
3. Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.

8. Solve two-step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.

**Continue Grade 3:
Measurement & Data 3.MD8.** Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.

**Grade 4:
Operations & Algebraic Thinking 4.OA**
2. Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.¹

3. Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.



Continue Grade 4:

Number & Operations—Fractions 4.NF

3d. Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators, e.g., by using visual fraction models and equations to represent the problem.

4c. Solve word problems involving multiplication of a fraction by a whole number, e.g., by using visual fraction models and equations to represent the problem. *For example, if each person at a party will eat $\frac{3}{8}$ of a pound of roast beef, and there will be 5 people at the party, how many pounds of roast beef will be needed? Between what two whole numbers does your answer lie?*

Measurement & Data 4.MD

2. Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.

3. Apply the area and perimeter formulas for rectangles in real world and mathematical problems. *For example, find the width of a rectangular room given the area of the flooring and the length, by viewing the area formula as a multiplication equation with an unknown factor.*



Number & Operations—Fractions 5.NF

6. Solve real world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem.

7c. Solve real world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions, e.g., by using visual fraction models and equations to represent the problem. *For example, how much chocolate will each person get if 3 people share $\frac{1}{2}$ lb of chocolate equally? How many $\frac{1}{3}$ -cup servings are in 2 cups of raisins?*

Geometry 5.G2.

Represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation.

Mathematical Practices

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Children's Books about Problem Solving

- ♦ *The Sundae Scoop (MathStart 2)*
by Stuart J Murphy
Reading levels
Interest: Gr 1-2
- ♦ *You Can, Toucan, Math: Word Problem-Solving Fun*
by David A. Adler
Reading levels
Interest: 4-8 yrs
- ♦ *The Grapes of Math Mind Stretching Math Riddles*
by Greg Tang
Reading levels
Interest: Gr 3-4
- ♦ *Math Potatoes*
by Greg Tang
Reading levels
Interest: Gr 3-4
- ♦ *Math-terpieces: The Art of Problem-Solving*
by Greg Tang
Reading levels
Interest: Gr 3-4
- ♦ *One Grain Of Rice: A Mathematical Folktale*
by Demi
Reading levels
Interest: Gr 4-5
- ♦ *Wacky Word Problems: Games and Activities That Make Math Easy and Fun (Magical Math)*
by Lynette Long
Reading levels
Interest: Gr 4-5

