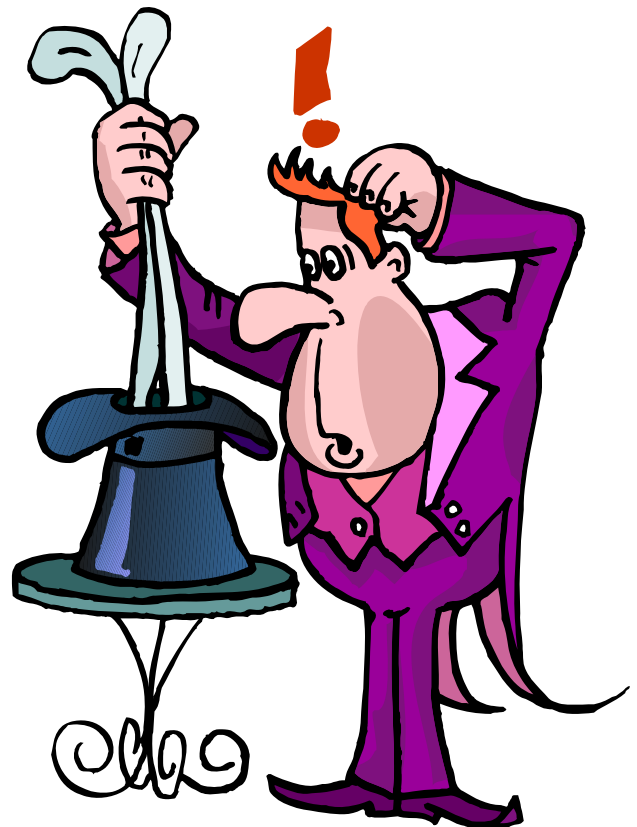


# What are Magic Words?

Magic Words help math students explain WHY they solve problems in a certain way.

Use these Magic Words when you want to explain your mathematics work:

- To find...
- To get...
- To see...
- To figure out...
- To show...
- To prove...
- Because...
- Since...
- Therefore...



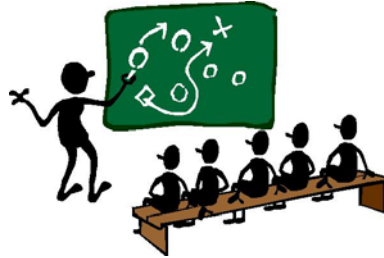
## Tips for Solving Word Problems

1. **Show** all your work on the work side.
2. **Number** each step of your work.
3. **Label** the answer of each step.
4. **Write** an explanation for each step of your work.
5. **Number** each explanation step.
6. **Tell** what you did without using any numbers.
7. **Use** *Magic Words* in each explanation.
8. **Write** your final answer, with labels.



<u>WORK</u>	<u>EXPLANATION</u>
1.	1.
Final Answer:	

# Problem Solving Strategies



- ☑ Act It Out
- ☑ Use Objects
- ☑ Choose an Operation
- ☑ Guess and Check
- ☑ Look for a Pattern
- ☑ Use Logical Reasoning
- ☑ Draw a Picture
- ☑ Make a Table
- ☑ Make an Organized List
- ☑ Work Backwards
- ☑ Solve a Simpler Problem
- ☑ Write an Equation



# Mathematics Materials List 2009



## Grade Two

### Pearson enVision, 2009

Student Edition

Premium Digital System Upgrade (Student Edition users - 6 year license)

Teacher's Edition

Teacher's Resource Package

- Teacher Resource Masters 1-20
- 1 - Topics 1-20 Teaching Tool Master
- Overview and Implementation Guide
- Topic 1 - Understanding Addition and Subtraction
- Topic 2 - Addition Strategies
- Topic 3 - Subtraction Strategies
- Topic 4 - Place Value: Numbers to 100
- Topic 5 - Counting Money
- Topic 6 - Mental Addition
- Topic 7 - Mental Subtraction
- Topic 8 - Addition Two-Digit Numbers
- Topic 9 - Subtraction Two-Digit Numbers
- Topic 10 - Using Addition and Subtraction
- Topic 11 - Geometry
- Topic 12 - Fractions
- Topic 13 - Measurement: Length and Area
- Topic 14 - Measurement: Capacity and Weight
- Topic 15 - Time and Temperature
- Topic 16 - Graphs and Probability
- Topic 17 - Numbers and Patterns to 1,000
- Topic 18 - Three-Digit Addition and Subtraction
- Topic 19- Multiplication Concepts
- Topic 20 - Division Concept and Facts

Teacher Access Pack Premium Digital System

Diagnosis and Intervention System

PSSA Math Test Prep with Teacher's Guide

Guided Problem Solving Math Library

Visual Learning Bridge Transparencies

Interactive Math Stories Big Book

Center Manipulative Kit

- 100 foam cubes, 2 number cubes, 10 number tiles

### Investigations in Number, Data, and Space

Curriculum Units Package

Resource Package

Transparencies/blackline

16 sets numeral cards

32 rulers

2 sets fraction dice

16 array cards

16 sets of bldg. straws

1 pad hundreds chart

Family letters

Pad geoboard dot paper

Pad 1" graph paper

Pad 3/4" graph paper 8X11

Pad 3/4"graph paper 11x17

Pad 1cm graph paper

Assessment Sourcebook

Student Materials Kit

3 rolls of adding mach.tape

750 coins and 320 paper \$

10 measuring tapes

1 set geometric solids

10 cm. rulers

50 lima bean seeds

400 square color tiles

100 colored cubes

16 sets wooden geoboards

2000 snap cubes

5 sets wooden blocks (250@set)

**MATH TEXT ALIGNMENT TO ASSESSMENT ANCHORS – GRADE 2**

<b>Lesson</b>	<b>Assessment Anchor</b>	<b>Lesson Title</b>
<b>Topic 1: Understanding Addition and Subtraction</b> <sup>3</sup> Daily Lessons includes Problem Solving: M3.A.2.1.2		
1-1	M3.A.3.1.1	Writing Addition Number Sentences
1-2	M3.A.3.1.1; M3.A.2.1.2	Stories About Joining
1-3	M3.A.3.1.1	Writing Subtraction Number Sentences
1-4	M3.A.3.1.1; M3.A.2.1.2	Stories About Separating
1-5	M3.A.3.1.1; M3.A.2.1.2	Stories About Comparing
1-6	M3.A.2.1.1	Connecting Addition and Subtraction
1-7	M3.A.3.1.1; M3.A.2.1.2	Problem Solving: Use Objects
<b>Topic 2: Addition Strategies</b> <sup>3</sup> Daily Lessons includes Problem Solving: M3.A.2.1.2		
2-1	M3.A.3.1.1	Adding 0,1,2,
2-2	M3.A.3.1.1; M3.D.2.2.1	Doubles
2-3	M3.A.3.1.1	Near Doubles
2-4	M3.A.3.1.1; M3.2.1.1.1	Adding in Any Order
2-5	M3.A.3.1.1	Adding Three Numbers
2-6	M3.A.3.1.1	Making 10 to Add 9
2-7	M3.A.3.1.1	Making 10 to Add 8
2-8	M3.A.3.1.1; M3.A.2.1.2; M3.D.2.1.2	Problem Solving: Draw a Picture and Write a Number Sentence
<b>Topic 3: Subtraction Strategies</b> <sup>3</sup> Daily Lessons includes Problem Solving: M3.A.2.1.2		
3-1	M3.A.3.1.1; M3.A.1.1.1	Subtracting 0, 1, 2
3-2	M3.A.3.1.1; M3.D.2.1.1	Thinking Addition to Subtract Doubles
3-3	M3.A.3.1.1; M3.D.2.1.1	Thinking Addition to 10 to Subtract
3-4	M3.A.3.1.1; M3.D.2.1.1	Thinking Addition to 18 to Subtract
3-5	M3.A.3.1.1; M3.D.2.2.1	Finding the Missing Part
3-6	M3.A.3.1.1; M3.A.2.1.2	Problem Solving: Two Question Problems
<b>Topic 4: Place Value Numbers to 1003</b> Daily Lessons includes Problem Solving: M3.A.2.1.2		
4-1	M3.A.1.1.5	Models for Tens
4-2	M3.A.1.1.5	Models for Tens and Ones
4-3	M3.A.1.1.1; M3.A.2.1.2	Reading and Writing Numbers
4-4	M3.A.1.1.3	Using Models to Compare Numbers
4-5	M3.A.1.1.3	Using Symbols to Compare Numbers
4-6	M3.A.1.1.4;	Before, After, and Between
4-7	M3.D.1.1.2; M3.A.1.1.4	Order Numbers
4-8	M3.D.1.1.2; M3.A.1.1.4	Number Patterns on a Hundreds Chart
4-9	M3.A.1.1.2	Even and Odd
4-10	M3.A.1.1.3; M3.E.1.1.1; M3.E.1.1.2	Problem Solving: Use Data from a Chart

**MATH TEXT ALIGNMENT TO ASSESSMENT ANCHORS – GRADE 2**

<b>Lesson</b>	<b>Assessment Anchor</b>	<b>Lesson Title</b>
<b>Topic 5: Counting Money<sup>3</sup></b> Daily Lessons includes Problem Solving: M3.A.2.1.2		
5-1	M3.A.1.3.1	Dime, Nickel, and Penny
5-2	M3.A.1.3.1	Quarter and Half Dollar
5-3	M3.A.1.3.1	Counting Collections of Coins
5-4	M3.A.1.3.1	Ways to show the same amount
5-5	M3.A.1.3.1	One Dollar
5-6	M3.A.1.3.1; M3.1.2.1	Problem Solving: Make an Organized List
<b>Topic 6: Mental Addition<sup>3</sup></b> Daily Lessons includes Problem Solving: M3.A.2.1.2		
6-1	M3.A.3.1.1	Adding Tens
6-2	M3.A.3.1.1	Adding Ones
6-3	M3.A.3.1.1; M3.A.2.1.2	Adding Tens and Ones
6-4	M3.A.3.1.1	Adding on a Hundred Chart
6-5	M3.A.3.1.1; M3.D.1.1.1	Problem Solving: Looking for a Pattern
<b>Topic 7: Mental Subtraction<sup>3</sup></b> Daily Lessons includes Problem Solving: M3.A.2.1.2		
7-1	M3.A.3.1.1	Subtracting Tens
7-2	M3.A.3.1.1; M3.A.2.1.2	Finding Parts of 100
7-3	M3.A.3.1.1	Subtracting on a Hundreds Chart
7-4	M3.A.2.1.2; M3.A.3.1.1	Adding on a to Subtract
7-5	M3.A.2.1.2; M3.A.3.1.1; M3.D.2.1.1	Problem Solving: Missing or Extra Information
<b>Topic 8: Adding Two-Digit Numbers<sup>3</sup></b> Daily Lessons includes Problem Solving: M3.A.2.1.2		
8-1	M3.A.3.1.1; M3.A.1.1.5	Regrouping 10 Ones for 1 Ten
8-2	M3.A.3.1.1; M3.A.1.1.5	Model to Add Two-and One Digit Numbers
8-3	M3.A.3.1.1	Adding Two-and One Digit Numbers
8-4	M3.A.3.1.1; M3.A.1.1.5	Models to Add Two-Digit Numbers
8-5	M3.A.3.1.1	Adding Two-Digit Numbers
8-6	M3.A.3.1.1; M3.A.2.1.2	Adding Three Numbers
8-7	M3.A.3.1.2; M3.D.2.1.2; M3.E.1.2.1	Problem Solving: Draw a Picture & Write a Number Sentence
<b>Topic 9: Subtracting Two-Digit Numbers<sup>3</sup></b> Daily Lessons includes Problem Solving: M3.A.2.1.2		
9-1	M3.A.3.1.1; M3.A.1.1.5	Regrouping 1 Ten for 10 Ones
9-2	M3.A.3.1.1; M3.A.1.1.5	Model- Subtract Two- & One-Digit Numbers
9-3	M3.A.3.1.1	Subtracting Two and One Digit Numbers
9-4	M3.A.3.1.1; M3.A.1.1.5	Model to Subtract Two Digit Numbers
9-5	M3.A.3.1.1	Subtracting Two-Digit Numbers
9-6	M3.A.3.1.1; M3.A.2.1.2	Using Addition to Check Subtraction
9-7	M3.A.3.1.1; M3.A.2.1.1	Problem Solving: Two Question Problems
<b>Topic 10: Using Addition and Subtraction<sup>3</sup></b> Daily Lessons includes Problem Solving: M3.A.2.1.2		
10-1	M3.A.3.1.1	Adding Money
10-2	M3.A.3.2.1	Estimating Sums
10-3	M3.A.2.1.2; M3.A.3.1.1	Ways to Add
10-4	M3.A.3.1.1	Subtracting Money
10-5	M3.A.3.2.1	Estimating Differences
10-6	M3.A.2.1.2; M3.A.3.1.1	Ways to Subtract

**MATH TEXT ALIGNMENT TO ASSESSMENT ANCHORS – GRADE 2**

10-7	M3.A.2.1.2; M3.A.3.1.1	Problem Solving: Try, Check, and Revise
<b>Lesson</b>	<b>Assessment Anchor</b>	<b>Lesson Title</b>
<b>Topic 11: Geometry<sup>3</sup></b>		Daily Lessons includes Problem Solving: M3.A.2.1.2
11-1	M3.C.1.1.1	Flat Surfaces, Vertices, and Edges
11-2	M3.C.1.1.1; M3.C.1.1.2	Relating Plane Shapes to Solid Figures
11-3	M3.C.1.1.1; M3.C.1.1.2	Making New Shapes
11-4	M3.C.1.1.1	Cutting Shapes Apart
11-5	M3.C.1.1.1; M3.C.1.1.2	Congruence
11-6	M3.C.2.1.1	Ways to Move Shapes
11-7	M3.C.2.1.1; M3.C.2.2	Symmetry
11-8	M3.C.1.1.1; M3.C.1.1.2	Problem Solving: Using Reasoning
<b>Topic 12: Fractions<sup>3</sup></b>		Daily Lessons includes Problem Solving: M3.A.2.1.2
12-1	M3.A.1.2.1	Wholes and Equal Parts
12-2	M3.A.1.2.1	Unit Fractions and Regions
12-3	M3.A.1.2.1	Non-Unit Fractions and Regions
12-4	M3.A.1.2.1	Estimating Fractional Parts of a Whole
12-5	M3.A.1.2.1, M3.A.1.2.2	Fractions of a Set
12-6	M3.A.1.2.1, M3.A.1.2.2	Problem Solving: Use Objects
<b>Topic 13: Measurement: Length and Area<sup>3</sup></b>		Daily Lessons includes Problem Solving: M3.A.2.1.2
13-1	M3.B.1.2.1	Thinking About Attributes
13-2	M3.B.2.1.1; M3.B.2.2.1	Exploring Length
13-3	M3.B.2.1.1	Measuring Length Using Non-Standard Units
13-4	M3.B.2.1.1; M3.B.1.2.1	Inches, Feet, and Yards
13-5	M3.B.2.1.1; M3.B.1.2.1	Centimeters and Meters
13-6	M3.B.2.1.2	Exploring Perimeter
13-7	M3.B.2.1.3	Exploring Area
13-8	M3.B.2.1.2; M3.1.2.1	Problem Solving: Use Objects
<b>Topic 14: Measurement: Capacity and Weight<sup>3</sup></b>		Daily Lessons includes Problem Solving: M3.A.2.1.2
14-1	M3.B.1.2.1	Exploring Capacity
14-2	M3.B.1.2.1; M3.B.2.2.1	Measuring Capacity Using Non-Standard Units
14-3	M3.B.1.2.1	Cups, Pints, and Quarts
14-4	M3.B.1.2.1	Liters
14-5	M3.B.1.2.1	Exploring Weight
14-6	M3.B.1.2.2	Ounces and Pounds
14-7	M3.B.1.2.1	Grams and Kilograms
14-8	M3.B.1.2.1; M3.B.2.1	Problem Solving: Use Objects
<b>Topic 15: Time and Temperature<sup>3</sup></b>		Daily Lessons includes Problem Solving: M3.A.2.1.2
15-1	M3.B.1.1.1	Telling Time to Five Minutes
15-2	M3.B.1.1.1	Telling Time Before and After the Hour
15-3	M3.B.1.1.2	Estimating Time
15-4	M3.B.1.1	Using a Calendar
15-5	M3.B.1.2.1	Fahrenheit and Celsius
15-6	M3.B.1.1.2; M3.A.3.1.1	Problem Solving: Multiple Step Problems

**MATH TEXT ALIGNMENT TO ASSESSMENT ANCHORS – GRADE 2**

<b>Lesson</b>	<b>Assessment Anchor</b>	<b>Lesson Title</b>
<b>Topic 16: Graphing</b> <sup>3</sup> Daily Lessons includes Problem Solving: M3.A.2.1.2		
16-1	M3.E.1.2.1	Organizing Data
16-2	M3.E.1.2.1, M3.E.1.2.2	Pictographs
16-3	M3.E.1.2.1, M3.E.1.2.2	Bar Graphs
16-4	M4.E.1.1	Coordinate Graphs
16-5	M3.E.1.1.2	Likely and Unlikely
16-6	M3.E.1.1.2	Certain, Probable, and Impossible
16-7	M3.E.1.1.1, M3.E.1.1.2	Problem Solving: Use a graph
<b>Topic 17: Numbers and Patterns to 1,000</b> <sup>3</sup> Daily Lessons includes Problem Solving: M3.A.2.1.2		
17-1	M3.A.1.1.1	Building 1,000
17-2	M3.A.1.1.1; M3.A.1.1.4	Counting Hundreds, Tens, and Ones
17-3	M3.A.1.1.1	Reading and Writing Numbers to 1,000
17-4	M3.A.1.1.1; M.3.1.1.5	Changing Numbers by Hundreds and Tens
17-5	M3.A.1.1.3	Comparing Numbers
17-6	M3.A.1.1.4	Before, After, and Between
17-7	M3.D.1.1.2; M3.A.1.1.4	Ordering Numbers
17-8	M3.D.1.1.1; M3.D.1.1.2	Problem Solving: Look for a Pattern
<b>Topic 18: Three-Digit Addition and Subtraction</b> <sup>3</sup> Daily Lessons includes Problem Solving: M3.A.2.1.2		
18-1	M3.A.2.1.1; M3.A.3.1.2	Mental Math
18-2	M3.A.3.2.1, M3.A.3.1.1	Estimating Sums
18-3	M3.A.3.1.3	Models for Adding with Three Digit Numbers
18-4	M3.A.3.1.3, M3.A.3.2.1	Adding Three Digit Numbers
18-5	M3.D.2.2.1	Mental Math: Ways to Find Missing Parts
18-6	M3.A.3.2.1, M3.A.3.1.1	Estimating Differences
18-7	M3.A.3.1.3	Models for Subtracting with Three-Digit Numbers
18-8	M3.A.3.1.1	Subtracting Three-Digit Numbers
18-9	M3.E.1.2.1; M3.E.1.2.2	Problem Solving: Make a Graph
<b>Topic 19: Multiplication Concepts</b> <sup>3</sup> Daily Lessons includes Problem Solving: M3.A.2.1.2		
19-1	M3.A.2.1.1; M3.A.3.1.2	Repeated Addition and Multiplication
19-2	M3.A.2.1.1; M3.A.3.1.2	Building Arrays
19-3	M3.A.3.1.2; M3.D.2.2.1	Writing Multiplication Stories
19-4	M3.A.3.1.2	Vertical Form
19-5	M3.A.2.1.1	Multiplying in Any Order
19-6	M3.A.3.1.2	Problem Solving: Draw a Picture & Write a Number Sentence
<b>Topic 20: Division Concepts and Facts</b> <sup>3</sup> Daily Lessons includes Problem Solving: M3.A.2.1.2		
20-1	M3.A.2.1.1	Division as Sharing
20-2	M3.A.3.1.2	Division as Repeated Subtraction
20-3	M3.A.2.1.1	Writing a Division Stories
20-4	M3.A.2.1.1	Relating Multiplication and Division
20-5	M3.D.1.2.1;	Problem Solving: Make a Table and Look for a Pattern



## Mathematics Assessment Anchor Glossary Grades 3 & 4

*The definitions for this glossary were taken from one or more of the following sources: Webster's Dictionary, various mathematics dictionaries, the PA Mathematics Standards glossary and various textbook glossaries.*

**Acute angle:** An angle with a measure less than  $90^\circ$ .

**Addend:** Any number that is being added.

**Analog time:** Time displayed on a timepiece having hour and minute hands.

**Area:** The measure, in square units, of the inside of a plane figure.

**Array:** A rectangular arrangement of objects in equal rows or columns.

**Combination:** A group of items. Placing these items in a different order does not create a new combination.

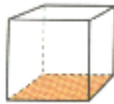
**Cone:** A solid figure that has a circular base and one vertex.



**Congruent:** Having the same size and shape.

- Congruent angles have the same measure.
- Congruent segments have the same length.

**Cube:** A rectangular solid having six congruent square faces.



**Cylinder:** A three-dimensional figure with two circular bases, which are parallel and congruent.



**Edge:** The line segment where two faces of a solid figure meet.

**Equation:** A statement that two mathematical expressions are equal.

**Equivalent:** Having the same value.

**Expression:** A variable, or any combination of numbers, variables, and symbols that represents a mathematical relationship (e.g.,  $24 \times 2 + 5$  or  $4a - 9$ ).

**Face:** A plane figure that serves as one side of a solid figure.

**Fact family:** A set of related addition and subtraction, or multiplication and division equations using the same numbers (e.g.,  $6+9=15$ ,  $15-9=6$ ,  $9+6=15$ ,  $15-6=9$ ).

**Factor:** A whole number that divides evenly into another whole number (e.g., 1, 3, 5, and 15 are factors of 15).

**Function:** A relation in which every input value has a unique output value.

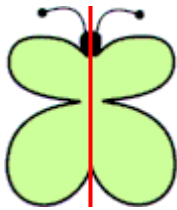
**Hexagon:** A polygon with 6 sides.

**Inequality:** A mathematical sentence that contains a symbol that shows the terms on either side of the symbol are unequal (e.g.,  $3+4>6$ ).

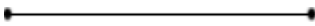
**Line:** A straight path extending in both directions with no endpoints.



**Line of symmetry:** A line that divides a figure into two halves that are mirror images of each other.



**Line segment:** A part of a line with two endpoints.



**Mean (average):** The number found by dividing the sum of a set of numbers by the number of addends.

**Median:** The middle number in an ordered set of data, or the average of the two middle numbers when the set has two middle numbers.

**Mode:** The number(s) that occurs most often in a set of data.

**Multiples:** The product of a given whole number and another whole number (e.g., multiples of 4 are 4, 8, 12, 16....).

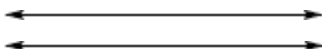
**Number sentence:** An equation or inequality with numbers.

**Obtuse angle:** An angle with a measure more than  $90^\circ$ .

**Octagon:** A polygon with 8 sides.

**Ordered pair:** A pair of numbers used to locate a point on a coordinate grid. The first number tells how far to move horizontally, and the second number tells how far to move vertically.

**Parallel lines:** Lines that never intersect and are always the same distance apart.



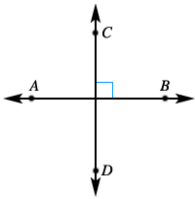
**Parallelogram:** A quadrilateral whose opposite sides are parallel and congruent.



**Pentagon:** A polygon with 5 sides.

**Perimeter:** The distance around a figure.

**Perpendicular lines:** Two lines, segments or rays that intersect to form right angles.



**Pictograph:** A graph that uses pictures to show and compare information.

**Pyramid:** A solid figure with a polygon base and triangular sides that meet at a single point (vertex).



rectangular pyramid



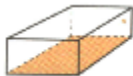
triangular pyramid

**Quadrilateral:** A polygon with 4 sides.

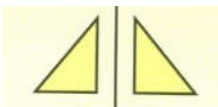
**Ray:** A part of a line that has one endpoint and continues without end in one direction.



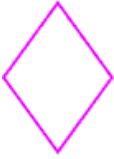
**Rectangular prism:** A solid figure in which all six faces are rectangles.



**Reflection (flip):** A transformation that produces the mirror image of a figure.



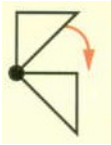
**Rhombus:** A parallelogram with four equal sides.



**Right angle:** An angle that measures exactly  $90^\circ$ .

**Right triangle:** A triangle that has a  $90^\circ$  angle.

**Rotation (turn):** A movement of a figure that turns that figure around a fixed point.



**Sphere:** A solid figure that has all points the same distance from the center.

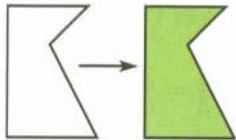


**Tally chart:** A table that uses tally marks to record data.

**Favorite School Lunches**

Hamburger		
Pizza		
Salad		
Hotdog		

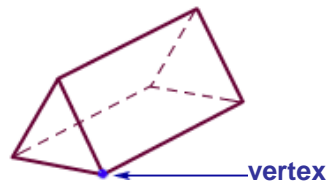
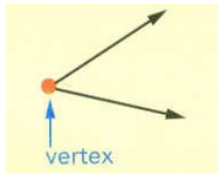
**Translation (slide):** A movement of a figure to a new position without turning or flipping it.



**Trapezoid:** A quadrilateral with exactly one pair of parallel sides.



**Vertex:** A point where lines, rays, sides of a polygon or edges of a polyhedron meet (corner).



**Volume (capacity):** The amount of space (in cubic units) that a solid figure can hold.

## My Mathematics



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### Mathematics and Children's Literature

#### enVision Math Start Literature Ties (by Topic)

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- Spunky Monkeys on Parade – after Lesson 12-7
- Super Sand Castle Saturday – after Lesson 14-3, 20

#### Websites that have book lists of children's literature in mathematics:

<http://www.math.youngzones.org/literature.html>

Children's Literature in Mathematics

<http://www.luc.edu/schools/education/csismath/zbib.htm>

A selected bibliography of available books to teach and reinforce math concepts

<http://mathforum.org/t2t/faq/brandenburg.new.html>

Guy Brandenburg compiled a list of over 140 math and science-related books, mostly recent, for his geometry students to choose from, read, and do a report on, using recommendations from others and his own reading as well. This page includes the assignment he gave to his students and also the list, organized by topic, with links to Amazon.com.

<http://www.cde.ca.gov/ci/scimathlit/>

*Literature for Science and Mathematics: Kindergarten Through Grade Twelve* is a collection of outstanding science- and mathematics-related literature for children and adolescents. The recommended titles reflect the quality and the complexity of the types of materials students should be reading at school and outside of class.

#### Mathematical Poetry

“Finding Time” - JoAnne Growney

“Asparagus X Plus Y [An Arithmetic and Poetic Error]” - Ken Stange

“Pi” - Robert Morgan

“The Icosasphere” - Marianne Moore

“Plane Geometry” - Emma Rounds

“Geometry Class” - JoAnne Growney

“The Starfish” - Robert P. Tristram

“Coffin Arithmetic” - Carl Sandburg

“Tulips” - Padraic Colum

“E = MC<sup>2</sup>” - Morris Bishop

“Euclid Alone Has Looked on Beauty Bare” - Edna St. Vincent Millay

“Landscape VI from Six Significant Landscapes” - Wallace Stevens

“My Dance is Mathematics” - JoAnne Growney

“Euclid” - Vachel Lindsay

“Geometry” - Rita Dove Pi - Wislawa Szymborska

## CHILDREN'S TRADE BOOKS IN MATH

Selected Bibliography of Available Books to Teach & Reinforce Math Concepts. Compiled: Dorothy Giroux, Ph.D. & Denise G. Dwyer, Ph.D.

### COUNTING AND NUMBER BOOKS

- \* Aker, Suzanne. What Comes in 2's, 3's and 4's? New York: Simon & Schuster, 1990. (ISBN 0-671-79247-4)
- \* Anno, Mitsumasa. Anno's Counting Book. New York: Thomas Y. Crowell, (Harper/Collins Pub.) 1975. (ISBN 0-690-01288-8)
- \* Aylesworth, Jim. One Crow A Counting Rhyme. New York: J.B. Lippincott, 1988. (ISBN 0-397-32175-9)
- \* Bang, Molly. Ten, Nine, Eight. New York: Greenwillow Publishers (ISBN 0-688-00906-9); Also available in paperback
- \* Blumenthal, Nancy. Count-a-Saurus. New York: MacMillan Publishing Company/Aladdin Books, 1992. (ISBN 0-689-71633-8)
- \* Butler, M. Christina. Too Many Eggs. Boston, MA: David R. Godine, Publisher Inc., 1988. (ISBN 0-87923-741-4)
- \* Carter, David A. How Many Bugs in a Box? New York: Simon and Schuster, 1988. (ISBN 0-671-64965-5)
- \* Clements, Andrew and Johnson, Lonni Sue. Mother Earth's Counting Book. Picture Book Studio (distributed in USA by Simon & Schuster), 1992. (ISBN 0-88708-138-X)
- \* Demi. Demi's Count the Animals 1-2-3. New York: Grossett & Dunlap, 1986. (ISBN 0-448-18980-1)
- \* Falwell, Cathryn. Feast for 10. New York: Clarion Books, 1993. (ISBN 0-395-62037-6)
- \* Friedman, Aileen. The King's Commissioners. New York, New York: Scholastic Inc. (A Marilyn Burns Brainy Day Book), 1994. (ISBN 0-590-48989-5)
- \* Grossman, Virginia and Long, Sylvia. Ten Little Rabbits. San Francisco, CA: Chronicle Books, 1991. (ISBN 0-87701-552-X)
- \* Haskins, Jim. Count Your Way through Israel. Minneapolis: Carolrhoda Books, 1991. (ISBN 0-87614-415-6)
- \* Hague, Kathleen. Numbears. New York, NY: Henry Holt & Company, 1986. (ISBN 0-8050-1679-1)
- \* Hellen, Nancy. The Bus Stop. Shapleigh, ME: Orchard Books, 1988. (ISBN 0-531-05765-8)
- \* Hutchins, Pat. 1 Hunter. New York: Mulberry Books, 1982. (ISBN 0-688-06522-8)
- \* Kitamura, Satoshi. When Sheep Cannot Sleep: The Counting Book. Farrar, Strauss, Giroux, 1986.
- \* Maestro, Betsy. Harriet Goes to the Circus: A Number Concept Book. New York: Crown, 1977 (ISBN 0-517-55303-1)
- \* McGrath, Barbara Barbieri. The M&M's Counting Book. Watertown, MA: Charlesbridge Publishing, 1994. (ISBN 0-88106-853-5)
- \* Micklethwait, Lucy. I Spy Two Eyes: Numbers in Art. New York: Greenwillow Books, 1993. (ISBN 0-688-12640-5)
- \* Moerbeek, Kees and Carla Dijks. Six Brave Explorers. Los Angeles: Price Stern Sloan, 1988. (ISBN 0-8431-2253-6)
- \* Pittman, Helena Clare. Counting Jennie. Minneapolis, MN: Carolrhoda Books, Inc., 1994. (ISBN 0-87614-745-7)
- \* Pluckrose, Henry. Numbers. New York: Franklin Watts, 1988. (ISBN 0-531-10453-2)

### NUMBER OPERATIONS

- \* Anno, Mitsumasa. Anno's Counting House. New York: Philomel Books, 1982. (ISBN 0-399-20896-8) (addition; subtraction)
- \* Anno, Mitsumasa. Anno's Mysterious Multiplying Jar. New York: Philomel, 1983. (ISBN 0-399-20951-4) (introduces factorials)
- \* Christelow, Eileen. Five Little Monkeys Jumping on the Bed. New York: Clarion Books, 1989. (ISBN 0-395-55701-1)
- \* Chwast, Seymour. The 12 Circus Rings. Orlando, FL: Harcourt, Brace Jovanovich, 1993. (ISBN 0-15-200627-3)
- \* Dee, Ruby. Two Ways to Count to Ten. New York: Henry Holt and Co., 1988. (ISBN 0-8050-1314-8)
- \* Ehlert, Lois. Fish Eyes: A Book You Can Count On. Orlando, FL: Harcourt Brace Jovanovich, Inc., 1990. (ISBN 0-15-228050-2) (reinforces addition) paperback version (ISBN 0-15-228051-0)
- \* Gerstein, Mordicai. Roll Over! New York: Crown, 1984. (ISBN 0-517-55209-4) (reinforces subtraction)
- \* Giganti, Paul, Jr. Each Orange Had Eight Slices. New York: Greenwillow Books, 1992. (ISBN 0-688-10428-2) (multiply)

## CHILDREN'S TRADE BOOKS IN MATH

### NUMBER OPERATIONS con't

- \* Hutchins, Pat. The Doorbell Rang. New York: Greenwillow Publishers, 1986. (ISBN 0-688-05251-7) (division)
- \* Leedy, Loreen. 2 x 2 = Boo! New York: Holiday House, 1995. (ISBN 0-8234-1190-7) (reinforces multiplication)
- \* Mathews, Louise. Bunches and Bunches of Bunnies. New York: Scholastic, 1978. (ISBN 0-590-41880-7)(multiply)
- \* Merriam, Eve. 12 Ways to Get to 11. New York: Simon & Schuster, 1993. ISBN 0-671-75544-7) (addition)
- \* Owen, Annie. Annie's One to Ten. New York: Alfred A. Knopf, 1988. (ISBN 0-394-82791-0)
- \* Pinczes, Elinor J. One Hundred Hungry Ants. Boston: Houghton Mifflin Company, 1993. (ISBN 0-395-63116-5) (division)
- \* Pinczes, Elinor J. A Remainder of One. Boston: Houghton Mifflin Company, 1995. (ISBN 0-395-69455-8) (division)
- \* Rand, Ann and Rand, Paul. Little 1. New York, NY: Harry N. Abrams, Inc., 1991. (ISBN 0-8109-3558-9)
- \* Wise, William. Ten Sly Piranhas. New York: Dial Books for Young Readers, 1993. (ISBN 0-8037-1200-6) (counting/subtraction)
- \* Zaslavsky, Claudia. Zero: Is It Something? Is It Nothing? New York: Franklin Watts, 1989. (ISBN 0-531-10693-4)

### GEOMETRY

- \* Burns, Marilyn. The Greedy Triangle. New York, NY: Scholastic Inc. (A Marilyn Burns Brainy Day Book) 1994. (ISBN 0-590- 48991-7)
- \* Cohen, Don. Calculus By and For Young People (7+)
- \* Ehlert, Lois. Color Farm. New York: J. B. Lippincott, 1990. (ISBN 0-397-32440-5) (shapes)
- \* Ehlert, Lois. Color Zoo. HarperCollins Publishers, 1989. (ISBN 0-397-32259-3 (shapes, colors)
- \* Emberley, Ed. The Wing of a Flea: A Book about Shapes. Boston: Little Brown and Company, 1988. (ISBN 0-316-23600-4)
- \* Falwell, Cathryn. Shape Space. New York: Clarion Books, 1992. (ISBN 0-395-61305-1)
- \* Friedman, Aileen. A Cloak for the Dreamer. Scholastic Inc. (A Marilyn Burns Brainy Day Book), 1994. (ISBN 0-590-48987-9)
- \* Froman, Robert. Angles Are As Easy As Pie. New York: Thomas Y. Crowell, 1975. (ISBN 0-690-00916-X)
- \* Hoban, Tana. Circles, Triangles and Squares. New York: Macmillan, 1974. (ISBN 0-02744830-4)
- \* Hoban, Tana. Is It Larger? Is It Smaller? New York: Greenwillow Books, 1985. (ISBN 0-688-04028-4)
- \* Hoban, Tana. Round, Round, Round. New York, NY: Scholastic, Inc., 1983. (ISBN 0-590-33364-X)
- \* Hoban, Tana. Shapes, Shapes, Shapes. New York: Greenwillow Books, 1986. (ISBN 0-688-05833-7)
- \* Hoban, Tana. Spirals, Curves, Fanshapes & Lines. New York, NY: Greenwillow Books, 1992. (ISBN 0-688-11228-5)
- \* Paul, Ann Whitford. Eight Hands Round: A Patchwork Alphabet. HarperCollins Publishers, 1991. (ISBN 0-06-024689-8)
- \* Pluckrose, Henry. Capacity. New York: Franklin Watts, 1988. (ISBN 0-531-10547-4)
- \* Walter, Marion. Look at Annette. M. Evans & Company, 1977. (ISBN 0-87131-071-6)
- \* Walter, Marion. Make A Bigger Puddle, Make a Smaller Worm. M. Evans and Company, 1971. (ISBN 0-87131-073-2)
- \* Walter, Marion. The Mirror Puzzle Book. Tarquin Publications, 1988 (ISBN 0-906212-39-1)

### \$\$ MONEY \$\$

- \* Axelrod, Amy. Pigs Will Be Pigs. New York: Four Winds Press, 1994. (ISBN 0-02-765415-X)
- \* Hoban, Tana. Twenty-Six Letters and Ninety-Nine Cents. New York: Greenwillow Books, 1987. (ISBN 0-688-06362-4)
- \* Leedy, Loreen. The Monster Money Book. New York: Holiday House, 1992. (ISBN 0-8234-0922-8)
- \* Maestro, Betsy. The Story of Money. New York: Clarion Books, 1993. (ISBN 0-395-56242-2)
- \* Merrill, Jean. The Toothpaste Millionaire. Boston: Houghton Mifflin Company, 1972.
- \* Schwartz, David. If You Made A Million. New York: Lothrop, Lee & Shepard, 1989. (ISBN 0-688-07017-5) Also available in paperback from Scholastic Inc. (ISBN 0-590-43608-2)
- \* Viorst, Judith. Alexander Who Used to Be Rich Last Sunday. New York: MacMillan, 1980. (ISBN 0-689-71199-



## CHILDREN'S TRADE BOOKS IN MATH

### LARGE NUMBERS

- \* Myers, Bernice. The Millionth Egg. New York: Lothrop, Lee & Shepard Books, 1991. (ISBN 0-688-09886-X)
- \* Schwartz, David How Much is a Million? New York: Lothrop, Lee & Shepard, 1985. (ISBN 0-688-04049-7) Also available in paperback from Scholastic Inc. (ISBN 0-590-33966-4)
- \* Wells, Robert E. Is a Blue Whale the Biggest Thing There Is? Morton Grove, IL: Albert Whitman Company, 1993. (ISBN 0-8075-3655-5)

### MISC. MATH TOPICS

- \* Abbott, Edwin Abbott. Flatland: A Romance of Many Dimensions. Princeton University Press, 1991. (ISBN 0-691-02525-8)
- \* Adler, David A. Roman Numerals. New York: Thomas Y. Crowell Books/Harper/Collins Pub., 1977. (ISBN 0-690-01302-7)
- \* Anno, Mitsumasa. Anno's Magic Seeds. New York: Philomel Books, 1995. (ISBN 0-399-22538-2)
- \* Barry, David. The Rajah's Rice. New York: W. H. Freeman and Company, 1994. (ISBN 0-7167-6568-3)
- \* Birch, David. The King's Chessboard. New York: Dial Books for Young Readers, 1988. (ISBN 0-8037-0365-1)
- \* Clement, Rod. Counting on Frank. Milwaukee, WI: Gareth Stevens Publishing, 1991. (ISBN 0-8368-0960-2)
- \* Fisher, Leonard Everett. Number Art: Thirteen 1, 2, 3s from around the World. New York: Four Winds, 1982. (ISBN 0-02-735340-4)
- \* Hong, Lily Toy. Two of Everything. Morton Grove, IL: Albert Whitman Company, 1993. (ISBN 0-8075-8157-7)
- \* Hulme, Joy N. Sea Squares. Hyperion Books for Children, 1991. (ISBN 0-56282-079-6)
- \* Jonas, A. Round Trip. New York: Scholastic, Inc., 1983. (ISBN 0-590-40956-5)
- \* Juster, Norton. The Dot and The Line: A Romance in Lower Mathematics. New York: Random House, 1977. (ISBN 0-394-73352-5)
- \* Juster, Norton. The Phantom Tollbooth. New York: Random House, 1972. (ISBN 0-394-82199-8)
- \* Kaye, Marilyn. A Day with No Math. Orlando, FL: Harcourt, Brace Jovanovich, Inc., 1992. (ISBN 0-15-301037-1)
- \* Lasky, Kathryn. The Librarian Who Measured the Earth. Boston: Little, Brown & Company, 1994. (ISBN 0-316-51526-4)
- \* Lumpkin, Beatrice. Senefer. Trenton, NJ: Africa World Press, Inc. 1992. (ISBN 0-86543-245-7) (story-Egyptian number system)
- \* Mahy, Margaret. 17 Kings and 42 Elephants. New York: A Puffin Pied Piper Book, 1990. ISBN 0-14-054597-2 (problem-solving)
- \* McMillan, Bruce. Eating Fractions. New York: Scholastic, Inc. 1991. (ISBN 0-590-43770-4)
- \* Merrill, Jean. The Pushcart War. New York: Dell Yearling Books, 1987. (ISBN 0-440-47147-8)
- \* Mori, Tuyosi. Socrates and the Three Little Pigs. New York: Philomel Books, 1986. (ISBN 0-399-61291-2)
- \* Munsch, Robert. Moira's Birthday. Annick, 1987. (ISBN 0-920303-85-4) (reinforces estimation)
- \* Myller, Rolf. How Big Is a Foot? New York, NY: A Young Yearling Book, Dell Publishing Co., 1990. (ISBN 0-440-40495-9)
- \* Nesbit, E. Melisande. Orlando, Florida: Harcourt, Brace Jovanovich, 1989. (ISBN 0-15-253164-5) (exponents and measurement)
- \* Pappas, Theoni. Math Talk: Mathematical Ideas in Poems for Two Voices. San Carlos, CA: Wide World Publishing Tetra, 1991. (ISBN 0-933174-74-8)
- \* Phillips, Louis. 263 Brain Busters: Just How Smart Are You Anyway? Viking, 1985. (ISBN 0-670-80412-6)
- \* Pittman, Helen Clare. A Grain of Rice. Mamaroneck, New York: Hastings House Publishers, 1986. (ISBN 0-8038-2728-8) (also in paperback: A Bantam Skylark Book, ISBN 0-533-15986-0)
- \* Rand, Ted. Arithmetic by Carl Sandburg. San Diego, CA: Harcourt, Brace Jovanovich Publishers, 1993. (ISBN 0-15-203865-5)
- \* Reimer, Luetta and Reimer, Wilbert. Mathematicians Are People, Too, Volume One. Palo Alto, CA: Dale Seymour Publications, 1990. (ISBN 0-86651-509-7) (short biographies of famous mathematicians)

## CHILDREN'S TRADE BOOKS IN MATH

### MISC. MATH TOPICS

- \* Reimer, Luetta and Reimer, Wilbert. Mathematicians Are People, Too. Volume Two. Palo Alto, CA: Dale Seymour Publications, 1995. (ISBN 0-86651-823-1)
- \* Sachar, Louis. Sideways Arithmetic from Wayside School. New York: Scholastic, 1989. (ISBN 0-590-42416-5)
- \* Sharmat, Marjorie Weinman. The 329th Friend. New York: Four Winds Press, 1992. (ISBN 0-02-782259-1)
- \* Sitomer, Mindel and Sitomer, Harry. How Did Numbers Begin? New York: Thomas Y. Crowell, 1976. (ISBN 0-690-00794-9)
- \* Scieszka, Jon and Lane Smith. Math Curse. New York: Viking, 1995. (ISBN 0-670-86194-4)
- \* Tompert, Ann. Grandfather Tang's Story. New York: Crown, 1990. (ISBN 0-517-57272-9)
- \* Van Der Meer, Ron and Bob Gardner. The Math Kit. New York, NY: Charles Scribner's Sons, 1994. (ISBN 0-02-621535-7)
- \* White, Laurence B. and Broekel, Ray. Math-A-Magic: Number Tricks for Magicians. Niles, Illinois: Albert Whitman & Company, 1990. (ISBN 0-8075-4994-0)
- \* Zimelman, Nathan. How the Second Grade Got \$8205.50 to Visit the Statue of Liberty. Morton Grove, IL: Albert Whitman & Company, 1992. (ISBN 0-8075-3431-5) (income, expenses, profit)

## ***Careers Related to Mathematics***

- \*Banker
- \*Engineer
- \*Math Professor
- \*Map Maker
- \*Astronaut
- \*Architect
- \*Accountants
- \*Cashier
- \*Waitress
- \*Pharmacist
- \*Weather reporting
- \*Video game designer
- \*Environmental forecasting
- \*Police information systems
- \*Salary and benefit analyst
- \*Bank loan officer
- \*Stock and bond analyst
- \*Investment analysis
- \*Portfolio management
- \*Cash flow analysis
- \*Cost accounting
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- \*Time study and methods
- \*Casualty insurance
- \*Life insurance agent
- \*Group insurance agent
- \*Demographic analysis
- \*Production planning
- \*Consumer behavior analysis
- \*Economic analysis
- \*Taxation systems
- \*Tax consultant
- \*Modeling genetic systems
- \*Modeling biological systems
- \*Air traffic control modeling
- \*Modeling economic systems
- \*Transportation modeling
- \*Medical information systems
- \*Inventory control
- \*Production control
- \*Factory scheduling
- \*Traffic control
- \*Weapons analysis
- \*Contract negotiations
- \*Management consulting
- \*Corporate planning
- \*Administration
- \*Customer service
- \*Marketing services
- \*Safety coordinator
- \*Statistical support
- \*Forecasting
- \*Human resources allocation
- \*Teacher
- \*Computer aided design
- \*Telecommunications
- \*Communications systems
- \*Computer network design
- \*Computer system performance
- \*Computer privacy techniques
- \*Customer software support
- \*Data processing
- \*Research data analysis
- \*Programmed instruction
- \*Programmer analyst
- \*Storage and retrieval systems
- \*Banking system
- \*Library systems
- \*Retail transactions systems
- \*Energy allocation management development
- \*Labor resource and allocation
- \*Employee relations management
- \*Fault sensing systems
- \*Population dynamics
- \*Experimental design
- \*Agriculture efficiency studies
- \*Test analysis
- \*Interpret social data
- \*Trade analysis
- \*Product performance analysis
- \*Conversational computer systems
- \*Exploration management
- \*Man-environment analysis
- \*Urban planning coordinator
- \*Psychological categorizations
- \*Psychological scaling
- \*Student information systems
- \*Management information systems
- \*Law-case storage and retrieval
- \*Inertial navigation systems
- \*Computerized cartography
- \*Industrial process control
- \*Engineering studies
- \*Pollution studies
- \*Critical path analysis
- \*Computer animation
- \*Chartered accountancy
- \*Statistical research
- \*Statistical analysis
- \*Survey design and analysis
- \*Public opinion sampling