

# Mackay Elementary School



**Grade Level:** 6th

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Teacher with contact information:

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## SUBJECT INFORMATION

Mathematics

### COMMON CORE / STATE CONTENT STANDARDS/VOCABULARY OBJECTIVES

- Compare magnitudes and relative magnitudes of positive rational numbers, including whole numbers through billions, fractions, and decimals.
- Locate the position of integers on a number line.
- Convert between decimals and fractions.
- Apply number theory concepts (prime, composite, prime factorization) and identify common factor and common multiples.
- Add, subtract, multiply, and divide whole numbers, decimals, and simple fractions (including unlike denominators).
- Evaluate numerical expressions with whole numbers using the order of operations (excluding exponents).
- Use a variety of strategies to solve real-life problems.
- Identify whether a given estimate is an overestimate or underestimate.
- Select and use appropriate units and tools to make formal measurements in both standard and metric systems.
- Given the formulas, find the perimeter or circumference and area of triangles, circles, and parallelograms (all kinds).
- Convert units of measurement within each system in one-step problems (quarts to gallons and gallons to quarts).
- Solve problems involving perimeter and area of rectangles.
- Identify and write ratios and scales (on a map).
- Translate simple word statements into algebraic equations.
- Read and use symbols of  $<$ ,  $>$ , and  $=$  to express relationships.
- Use the following properties in evaluating numerical expressions: commutative, associative, identity, zero, inverse, and distributive.
- Evaluate simple algebraic expressions using substitution.
- Solve one-step equations with whole numbers.
- Extend simple patterns and state a rule (function) that generates the pattern using whole numbers, decimals, and fractions as inputs.
- Use patterns to represent and solve simple problems.
- Apply fundamental concepts, properties, and relationships among points, lines, rays, and angles.
- Identify congruence, similarities, and line symmetry of shapes.
- Read and interpret tables, charts, and graphs, including broken line graphs, bar graphs, frequency tables, line plots, and circle graphs.

## **Vocabulary:**

Billion~ a thousand millions.

Budget~ a plan for spending.

Computer~ an electronic device that can compile and retrieve information.

Consecutive~ following each other without a break.

Integer~ the whole numbers and their opposites.

Magnitude~ a number for forming a basis for comparison.

Negative Number~ any number less than zero.

Numeral~ symbol used to represent a number.

Order of Operations~ the rules to tell what operation to do first when there is more than one operation.

Percent~ a ration that compares a number to 100.

Positive Number~ any number greater than zero.

Prime Factorization~ a composite number expressed as a product of prime numbers.

Rational Number~ a number that can be written as a fraction.

Remainder~ the part that is left over.

Set~ a group of numbers or items.

Sixteenth~ one out of 16.

Square~ equal sided quadrilateral with 90 degree angle.

Square Unit ~ a unit of measure for area.

Squared ~ a number times itself.

Tax~ money that citizens and businesses are required to pay a government.

Venn Diagram ~ a type of graph used to compare and contrast.

Algebraic Equation~ a combination of numbers, variables, and at least one operation

Change~ a transformation or modification.

Expression~ a combination of numbers, variables, and operation.

Input~ values going into a sentence to replace a variable.

Inverse Property~ pairs of operations that undo each other.

Manipulative~ hands on model to represent math concepts.

Mathematical Model~ equation or system of equations representing real world patterns.

Pictorial Representation~ picture representation of math concepts.

Sequence~ set of numbers in a specific order.

Simplify~ simplest form.

Solution~ value of a variable that makes an equation true.

Solve~ find all the values of the unknowns.

Substitution~ replacing a variable with a number.

Term~ a number in a sequence.

Value~ magnitude or quantity.

Variable~ symbols usually letters to represent a number.

Coordinate Plane~ a plane on which a horizontal number line and a vertical number line intersect at zero.

Coordinate Points~ points on a coordinate plane.

Coordinates~ X and Y points on a coordinate plane.

Equilateral Triangle~ equal sided triangle.

Figure~ set of points.

Hexagon~ 6 sided polygon.

Line~ never ending straight path of points.

Symmetry~ property of a figure's halves that are congruent.

Octagon~ 8 sided polygon

Parallelogram~ quadrilateral with two pairs of parallel sides.

Pentagon~ 5 sided polygon.

Plane Figure~ shape, two dimensional, on a plane.

Reflection~ mirror image flipped over line of symmetry.

Rhombus~ parallelogram with 4 congruent sides.

Right Triangle~ one 90 degree angle.

Rotation~ transformation in which a plane figure turns around a fixed center point.

Spatial Relationship~ relationship between objects in space.  
 Translation~ transformation in which a figure is slid without turning in any direction.

Trapezoid~ quadrilateral with one pair of parallel sides.  
 Vertex~ common end point of two rays that form an angle.

Average~ also called mean, a number that represents a central tendency... a balancing point.

Broken Line Graph~ graphic representation of data which includes gaps.

Circle Graph~ graph used to compare parts of a whole.

Frequency~ how often an event occurs.

Frequency Table~ statistical record of how often each value in a set of data occurs.

Line Plot~ a diagram that shows the frequency of data on a number line.

Mean~ see average.

Pie Graph~ circular graph...see circle graph.

### INSTRUCTIONAL MATERIALS

Scott Foresman/Addison Wesley--**enVision Math**  
 Student Text and Teacher Resources  
 The Quiz Show  
 Envision Math Online Materials--PearsonVue

### UNITS WITH INSTRUCTIONAL DATES

Please note that the following lesson schedule is subject to revision according to schedule changes.

Week	Lesson	Description
1 8/22/2011	Beginning of Year Assessment	Hands-on-Activities
2 8/29/2011	1-1, 1-2, 1-3, 1-4	Place Value Comparing and Ordering Whole Numbers/ Problem Solving Exponents and Place Value Decimal Place Value/ Problem Solving
3 9/6/2011	1-5, 1-6, 1-7	Labor Day -No School-9/5/2011 Multiplying and Dividing by 10, 100, 1nd 1000 Comparing and Ordering Decimals Making an Organized List/Problem Solving
4 9/12/2011	Topic 1 Test 2-1, 2-2, 2-3,	Review/Test Using Variables to Write Expressions Properties of Operations Order of Operations/Review
5 9/19/2011	2-4, 2-5, 2-6, 2-7	The Distributive Property Mental Math/Mixed Problem Solving Evaluating Expressions Using Expressions to Describe Patterns
6 9/26/2011	2-8 Topic 2 Test 3-1,3-2 3-3	Problem Solving—Make a Table/ Review and Assessment Estimating Sums and Differences/Adding and Subtracting Estimating Products and Quotients/Mixed Problem Solving

7 10/3/2011	3-4 3-5 3-6 3-7	Multiplying Decimals Dividing by a Whole Number Dividing a Whole Number by a Decimal Dividing Decimals
8 10/10/2011	3-8 3-9 3-10 Topic 3 Test	Evaluating Expressions Scientific Notation Problem Solving—Multi Step Problems/Review and Assessment
9 10/17/2011	4-1 4-2 4-3 4-4	Properties of Equality Solving Addition and Subtraction Equations Problem Solving: Draw a Picture and Write an Equation Solving Multiplication and Division Equations
End of 1 <sup>st</sup> Quarter		
10 10/24/2011	4-5 Topic 4 Test Cumulative Test Benchmark Test	Draw a Picture and Write an Equation/Review/Assessment
11 10/31/2011	5-1 5-2 5-3 5-4	Factors, Multiples, and Divisibility Prime Factorization Greatest Common Factor Understanding Fractions
12 11/7/2011	5-5 5-6 5-7 Topic 5 Test	Equivalent Fractions Fractions in Simplest Form Make and Test Conjectures
13 11/14/2011	6-1 6-2 6-3 6-4	Fractions and Division Fractions and Decimals Improper Fractions and Mixed Numbers Decimal Forms of Fractions and Mixed Numbers
14 11/21/2011	6-5 Topic 6 Test 7-1	Draw a Picture/Review and Assessment Adding and Subtracting Like Denominators
15 11/28/2011	7-2 7-3 7-4 7-5	Least Common Multiple Adding and Subtracting Unlike Denominators Estimating Sums and Differences of Mixed Numbers Adding Mixed Numbers
16 12/5/2011	7-6 7-7 Topic 7 Test 8-1	Subtracting Mixed Numbers Make a Table/Review and Assessment Multiplying a Fraction and a Whole Number
17 12/12/2011	8-2 8-3 8-4 8-5	Estimating Products Multiplying Fractions Multiplying Mixed Numbers Problem Solving/ Multiple-Step Problems
18 12/19/2011	Topic 8 Test Cumulative Test Benchmark Test	
End of 2 <sup>nd</sup> Quarter		
19 1/3/2012	9-1, 9-2 9-3 9-4	Division of Fractions/Dividing a Whole Number by a Fraction Dividing Fractions Estimating Quotients

20 1/9/2012	9-5 9-6 9-7 Topic 9 Test	Dividing Mixed Numbers Solving Equations Look for a Pattern/Review and Assessment
21 1/16/2012	10-1 10-2 10-3 10-4, 10-5	Integers Comparing and Ordering Integers Rational Numbers on a Number Line Adding Integers/ Subtracting Integers
22 1/23/2012	10-6/10-7 10-8 10-9 10-10	Multiplying Integers/Dividing Integers Solving Equations with Integers Graphing Points on a Coordinate Plane Work Backward/Review and Assessment
23 1/30/2012	Topic 10 Test 11-1 11-2,11-3 11-4, 11-5	Basic Geometric Ideas Measuring and Drawing Angles/ Angle Pairs Triangles/Quadrilaterals
24 2/6/2012	11-6 11-7,11-8 11-9 Topic 11 Test	Circles Transformations and Congruence/Symmetry Make a Table and Look for a Patten/Review and Assessment
25 2/13/2012	12-1 12-2 12-3 12-4	Understanding Ratios Equal Ratios and Proportions/Problem Solving Understanding Rates and Unit Rates Comparing Rates
26 2/20/2012	12-5, 12-6 Topic 12 Test 13-2,13-3 13-5,13-6	Distance/Rate/Time/Problem Solving: Draw A Picture Review and Assessment Using Ratio Tables/ Using Unit Rates Similar Figures/Maps and Scale Drawings
27 2/27/2012	14-1,14-2 14-3,14-5 14-6 Topic 14 Test	Understanding Percents/Fractions, Decimals, and Percents Percents Greater than 100/Finding the Percent of a Number Tips, Taxes, Discounts, and Simple Interest
28 3/5/2012	16-1 16-2 16-3,16-4 16-5,16-6	Converting Customary Measures Converting Metric Measures Units Precision/Relating Customary and Metric Units Elapsed Time/Use Reason
End of 3 <sup>rd</sup> Quarter		
29 3/12/2012	Topic 16 Test Cumulative/Benchmark 17-1,17-2 17-3	Perimeter/Area of Rectangles and Irregular Figures Area of Parallelograms and Triangles
30 3/19/2012	17-4,17-5 Topic 17 Test 18-1,18-2 18-3	Circumference/Area of a Circle  Solid Figures/Surface Area Volume of Rectangular Prisms
31 3/26/2012	18-4/18-5 Topic 18 Test 19-1/19-2 19-3,19-4	Volume of Triangular Prisms & Cylinders/Objects & Reas. Review and Assessment Reading and Making Graphs/Circle Graphs Comparing Graphs/Make a Graphs
32 4/2/2012	19-5 19-6/19-7	Mean, Median, Mode, and Range Frequency Tables & Histograms/Stem-and-Leaf Plots

	19-8,19-9	Statistical Measures/Samples and Surveys
33 4/9/2012	19-10,19-11 Topic 19 Test 20-1,20-2 20-3,20-4	Using Statistics to Draw a Conclusion/Try/Check/Revise Review and Assessment Counting Methods/Permutations & Combinations Probability/Theoretical and Experimental Probability
34 4/16/2012	20-5,20-6 Topic 20 Test 15-1 15-2	Independent/Dependent Events/Organized List Review and Assessment Equations with More than One Operation Patterns and Equations
35 4/23/2012	15-3 15-4 15-5 15-6	More Patterns and Equations Graphing Equations Graphing Equations with More than One Operation Functions
36 4/30/2012	15-7 Topic 15 Test	Problem Solving—Act It Out And Use Reasoning Review and Assessment Review Review
37 5/7/2012		Review Review Review Review
38 5/14/2012	Cumulative Test Benchmark Test	
39 5/21/2012	End-of -Year Assessment	

### ASSESSMENTS / TESTS

Beginning of Year and Ending of Year Assessments, Topic Tests, Cumulative and Benchmark Tests every 4 Topics, Daily Spiral Reviews, and Daily Quick Checks

### GRADING PROCEDURES

	Daily Homework (1 per lesson)	5 pts
	Daily Math Lesson From Text	100 pts (%)
	Topic Test	100 pts (%)

Percentage Values:

99-100—A+	94-98—A	90-93—A-
86-89—B+	83-85—B	80-82—B-
76-79—C+	73-75—C	70-72—C-
66-69—D+	63-65—D	60-62—D-
59↓-- F		

\*Students will be able to correct errors on homework for additional points to increase their scores

### CLASS RULES

Students are expected to arrive prepared for class with homework complete and items required for class.

Students are expected to actively participate in discussions and engage in activities related to class assignments.

Students are expected to treat one another with respect and the same courtesy they need to complete assignments quietly and cooperatively.

### **MISCELLANEOUS**

\*This Syllabus is subject to revision according to schedule changes