

Mackay Elementary School



Grade Level: 2nd grade

Date: 2011-2012

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2nd grade, Mackay Elementary

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SUBJECT INFORMATION

Math is taught with Envision Math Program

COMMON CORE / STATE CONTENT STANDARDS/VOCABULARY OBJECTIVES

Common Core/State Content Standards

- **Demonstrate knowledge of our numeration system**

by counting forward by twos, fives, and tens to 100 and by counting forward and backward by ones from any given number less than 100.

- Read, write, compare, and order whole numbers to 1,000.
- Identify place value through 999.
- Count the value of a collection of pennies, nickels, dimes, and quarters up to \$1.00.
- Recognize mathematical information and select strategies appropriate for solving a problem.
- Use strategies for addition and subtraction combinations through 18.
- Add whole numbers with and without regrouping through 99.
- Add three one-digit addends.
- Estimate to predict the sum of numbers through 99.

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- Select a tool that can measure a given attribute (ruler—length, cup—volume, balance—weight, clock —time, thermometer—temperature).
 - Estimate length and time using standard units.
 - Select the most appropriate unit to measure the time of a given situation (minutes, hours).
 - Recite the months of the year, in order.
 - Write addition and subtraction problems vertically and horizontally.
 - Show the relationship between addition and subtraction using fact families.
 - Compare numbers to 999 using the vocabulary words/phrases of less than, greater than, equal to.
 - Solve addition problems using the commutative property (If $7 + 5 = 12$, then what is $5 + 7$?).
 - Translate a repeating pattern from one representation to another (e.g., even, odd, even, odd translates to ABAB).
 - Recognize, name, build, compare, and sort the two and three-dimensional shapes of triangles, rectangles, squares, circles, cones, cubes, spheres, cylinders, and pyramids.
 - Sort and classify objects by more than one attribute.
 - Indicate whether a number is above or below a benchmark number of 1000 or less on a number line.
 - Interpret information found in simple tables, charts, bar graphs, and pictographs.
 - Gather and display data in tables, charts, and bar graphs in order to answer a question.
 - Use appropriate vocabulary.

Choose addition or subtraction to solve word problems and explain the choice.

- Tell time using both digital and analog clocks to the half hour.
- Write a number sentence from an addition or subtraction problem-solving situation.
- Use tally marks to represent data.

Vocabulary

skip count: count objects in equal groups of two or more.

compare: look at objects, shapes, or numbers and see how they are alike or different.

order: sequence; arrange according to a certain rule or condition.

whole number: integer; counting number.

place value: the value given to a digit by its place in a number.

collection: group.

value: the worth of something.

strategy: a plan or method.

Addition: join together sets to find the total or sum; the opposite of subtraction.

subtraction: take away, take apart, separate, or find the difference between two sets; the opposite of addition.

regrouping: take apart a number to write in a new way.

digit: a symbol used to write numbers; one of the ten Arabic number symbols 0-9.

addends: any numbers or quantities being added together to form a sum.

estimate: find a number close to an exact amount; best guess.

predict: to say what you think will happen in the future.

sum: the answer to an addition problem.

reasonable: within acceptable limits or range.

attribute: a quality that describes a person or thing.

measure: to find the length, height, or weight using standard or nonstandard units.

length: how long or how far away something is.

volume: the amount of space taken up by a three-dimensional shape.

weight: a measurement that tells how heavy an object is.

temperature: a measure of how hot or cold something is.

standard: widely used or accepted as correct (rule or model).

digital: a clock showing time in numerals.

analog: a clock that uses hour and minute hands to show the time.

month: one of the twelve parts that make up a year.

year: a period of 365 or 366 days.

vertical: upright or straight up and down.

horizontal: flat and parallel to level ground.

fact family: addition and subtraction sentences that use the same three numbers.

less than: smaller than.

greater than: bigger than.

equal to: the same amount.

commutative property: changing the order of addends does not change their sum; e.g. $3+4 = 4+3$.

pattern: an order that a set of objects follows over and over (repeating).

two-dimensional: a shape such as a triangle or square that is flat.

three-dimensional: a shape having the three dimensions- height, width, and depth (or length).

sort: to arrange or separate things into groups.

classify: to put things into groups according to their characteristics.

line of symmetry: divides a figure into halves that are the mirror images of each other; having matching points, parts, or shapes on both sides of a dividing line.

number lintable: a chart that lists facts and figures, usually in columns.

chart: a drawing that shows information of a table, graph, or picture.

bar graph: a graph that uses lengths of bars to compare data.

pictograph: a graph that uses pictures to show information or compare data.

data: numbers or symbols, sometimes collected from a survey or experiment, that show information or facts.

tally marks: a mark used to record data collected in a survey.

INSTRUCTIONAL MATERIALS

Envision Math Program

UNITS WITH INSTRUCTIONAL DATES

1st semester	Topic 1 Understanding addition and subtraction.	1-1 Addition: Writing addition number sentences. 1-2 Addition: Stories about joining. 1-3 Subtraction: Writing subtraction number sentences. 1-4 Subtraction: Stories about separating. 1-5 Subtraction: Stories about comparing. 1-6 Subtraction: Connecting addition and subtraction. 1-7 Unit test and re-teach.
	Topic 2 Addition strategies.	2-1 Addition: Adding 0,1,2. 2-2 Addition: Doubles. 2-3 Addition: Near doubles. 2-4 Addition: Adding in any order. 2-5 Addition: Adding three numbers 2-6 Addition: Making 10 to add 9. 2-7 Addition Making 10 to add 8. 2.8 Test 2, re-teach.
	Topic 3	3-1Subtraction: Subtracting 0,1,2.

	Subtraction strategies.	<p>3-2 Subtraction: Thinking addition to subtract doubles.</p> <p>3-3 Subtraction: Thinking addition to 10 to subtract.</p> <p>3-4 Subtraction: Thinking addition to 18 to subtract.</p> <p>3-5 Subtraction: Finding the missing part.</p> <p>3-6 Test 3, re-teach.</p>
	Topic 4 Place Value: numbers to 100	<p>4-1 Number: Models for tens.</p> <p>4-2 Number: Models for tens and ones.</p> <p>4-3 Number: Reading and writing numbers.</p> <p>4-4 Number: Using models to compare numbers.</p> <p>4-5 Number: Using symbols to compare numbers.</p> <p>4-6 Number: Before, after and between.</p> <p>4-7 Patterns: Number order.</p> <p>4-8 Patterns: Even and odd numbers.</p> <p>4-10 Test 4, reteach.</p>
	Topic 5 Counting money	<p>5-1 Money: Dime, nickel, penny.</p> <p>5-2 Money: Quarter, half dollar.</p> <p>5-3 Money: Counting collection of coins.</p> <p>5-4 Money: Ways to show the same amount.</p> <p>5-5 Money: One dollar.</p> <p>5-6 Test 5, re-teach.</p>
2nd 9 weeks	Topic 6 Mental addition	<p>6-1 Addition: Adding tens.</p> <p>6-2 Addition: Adding ones.</p>

		<p>6-3 Addition: Adding tens and ones.</p> <p>6-4 Addition: Adding on a hundred chart.</p> <p>6-5 Test 6, re-teach.</p>
	<p>Topic 7</p> <p>Mental subtraction</p>	<p>7-1 Subtraction: Subtracting tens.</p> <p>7-2 Subtraction: Finding parts of 100.</p> <p>7-3 Subtraction: Subtraction on a hundred chart.</p> <p>7-4 Subtraction: Adding on to subtract.</p> <p>7-5 Subtraction: Test 7, re-teach.</p>
	<p>Topic 8</p> <p>Adding two-digit numbers</p>	<p>8-1 Addition: Regrouping 10 ones for 1 ten.</p> <p>8-2 Addition: Models to add two and one digit numbers.</p> <p>8-3 Addition: Adding two and one digit numbers.</p> <p>8-4 Addition: Models to add two-digit numbers.</p> <p>8-5 Addition: Adding two-digit numbers.</p> <p>8-6 Addition: Adding three numbers.</p> <p>8-7 Test 8, re-teach.</p>
	<p>Topic 9</p> <p>Subtracting two-digit numbers</p>	<p>9-1 Subtraction: Regrouping 1 ten for 10 ones.</p> <p>9-2 Subtraction: Models to subtract two and one-digit numbers.</p> <p>9-3 Subtraction: Subtracting two and one-digit numbers.</p> <p>9-4 Subtraction: Models to subtract two-digit numbers.</p> <p>9-5 Subtraction: Subtracting two-digit numbers.</p> <p>9-6 Subtraction: Using addition to check subtraction.</p> <p>9-7 Test 9, reteach.</p>
	<p>Topic 10</p> <p>Using addition</p>	<p>10-1 Addition: Adding money.</p>

	and subtraction	<p>10-2 Addition: Estimating sums.</p> <p>10-3 Addition: Ways to add.</p> <p>10-4 Subtraction: Subtracting money.</p> <p>10-5 Subtraction: Estimating differences</p> <p>10-6 Subtraction: Ways to subtract.</p> <p>10-7 Test 10, re-teach.</p>
3rd Quarter	Topic 11 Geometry	<p>11-1 Geometry: Flat surfaces, vertices and edges.</p> <p>11-2 Geometry: Relating plane shapes to solid figures.</p> <p>11-3 Geometry: Making new shapes.</p> <p>11-4 Geometry: Cutting shapes apart.</p> <p>11-5 Geometry: Congruence.</p> <p>11-6 Geometry: Ways to move shapes.</p> <p>11-7 Geometry: Symmetry</p> <p>11-8 Test 11, re-teach.</p>
	Topic 12 Fractions	<p>12-1 Fractions: Whole and equal parts.</p> <p>12-2 Fractions: Unit fractions and regions.</p> <p>12-3 Fractions: Non-unit fractions and regions.</p> <p>12-4 Fractions: Estimating fractional parts.</p> <p>12-5 Fractions: Fractions of a set.</p> <p>12-6 Test 12, re-teach.</p>
	Topic 13 Measurement;	<p>13-1 Measurement: Thinking about attributes.</p>

	length and area.	<p>13-2 Measurement: Exploring length.</p> <p>13-3 Measurement: Measuring length using nonstandard units.</p> <p>13-4 Measurement: Inches, feet and yards.</p> <p>13-5 Measurement: Centimeters and meters.</p> <p>13-6 Measurement: Exploring perimeter.</p> <p>13-7 Measurement: Exploring Area.</p> <p>13-8 Measurement: Test 13, reteach.</p>
	Topic 14: Measurement: Capacity and Weight.	<p>14-1 Measurement: Exploring capacity.</p> <p>14-2 Measurement: Measuring capacity using nonstandard units.</p> <p>14-3 Measurement: Cups, pints, and quarts.</p> <p>14-4 Measurement: Liters</p> <p>14-5 Measurement: Exploring weight.</p> <p>14-6 Measurement: Ounces and pounds.</p> <p>14-7 Measurement: Grams and kilograms.</p> <p>14-8 Test 14, reteach.</p>
4th quarter	Topic 15: Time and Temperature.	<p>15-1 Time: Telling time to five minutes.</p> <p>15-2 Time: Telling time before and after the hour.</p> <p>15-3 Time: Estimating time.</p> <p>15-4 Time: Using a calendar.</p> <p>15-5 Temperature: Fahrenheit and Celsius.</p> <p>15-6 Test 15, re-teach.</p>

	<p>Topic 16</p> <p>Graphs and probability.</p>	<p>16-1 Graphs: Organizing data.</p> <p>16-2 Graphs: Pictographs.</p> <p>16-3 Graphs: Bar graphs.</p> <p>16-4 Graphs: Coordinate graphs.</p> <p>16-5 Probability: Likely and unlikely.</p> <p>16-6 Probability: Certain, probable, and impossible.</p> <p>16-7 Test 17, re-teach.</p>
	<p>Topic 17</p> <p>Numbers and Patterns to 1,000.</p>	<p>17-1 Number: Building 1,000.</p> <p>17-2 Number: Counting hundreds, tens and ones.</p> <p>17-3 Number: Reading and writing numbers to 1,000.</p> <p>17-4 Number: Changing numbers by hundreds and tens.</p> <p>17-5 Patterns: Patterns with numbers on hundreds charts.</p> <p>17-6 Number: Comparing numbers</p> <p>17-7 Number: Before, after, and between.</p> <p>17-8 Number: Ordering numbers.</p> <p>17-9 Test 18, re-teach.</p>
	<p>Topic 18</p> <p>Three-digit addition and subtraction.</p>	<p>18-1 Addition: Mental math</p> <p>18-2 Addition: Estimating sums.</p> <p>18-3 Addition: Models for adding with three digit numbers.</p> <p>18-4 Addition: Adding three-digit numbers.</p> <p>18-5 Addition: Mental math: ways to find missing parts.</p> <p>18-6 Subtraction: Estimating differences</p> <p>18-7 Subtraction: Models for subtracting with three-digit numbers.</p>

		18-8 Subtraction: Subtracting three-digit numbers. 18-9 Test 18, re-teach.
	Topic 19 Multiplication concepts	19-1 Multiplication: Repeated addition and multiplication. 19-2 Multiplication: Building arrays. 19-3 Multiplication: Writing stories in multiplication. 19-4 Multiplication: vertical form. 19-5 Multiplication: in any order. 19-6 Test 19, re-teach.
	Topic 20 Division concepts and facts.	20-1 Division: as sharing. 20-2 Division: as repeated subtraction. 20-3 Division: Writing stories. 20-4 Division: as related to multiplication. 20-5 Test 20, re-teach. Year end test.

ASSESSMENTS / TESTS

Aimsweb Benchmark tests, 3 times per year. Topic Tests, post test, Quarter review test, Year end test, subjective teacher observation- a continual process daily.

GRADING PROCEDURES

Grading is based on the year end goal set by the state department for the Aimsweb tests. Quarter and semester grade is based on topic tests and quarterly tests. Teacher observation is taken into account in the report card grade.

CLASS RULES

Work is finished daily with explanation for students along with assistance on daily assignments. Grades are taken on topic tests. Homework that includes math is also taken into account into the grade. The homework is due the following Monday with exceptions considered on an individual basis.

MISCELLANEOUS

Assignments and progress are continually monitored by the teacher. Syllabus is subject to change due to the needs of the individual students and the class as a whole.