Grade Level Expectations for the Sunshine State Standards

Mathematics
Second Grade

FLORIDA DEPARTMENT OF EDUCATION
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Sunshine State Standards
Grade Level Expectations
Mathematics
Second Grade

The second grade student:

Number Sense, Concepts, and Operations

- reads and writes numerals to 1000 or more.
- reads and writes number words to “twenty” or higher.
- understands and uses ordinal numbers 1\textsuperscript{st} - 100\textsuperscript{th} or higher.
- compares and orders whole numbers to 1000 or more using concrete materials, drawings, number lines, symbols (<, =, >), and vocabulary such as more than, equal to, or less than.
- represents real-world applications of whole numbers, to 1000 or more, using concrete materials, drawings, and symbols.
- represents, compares, and explains halves, thirds, quarters, and eighths as part of a whole and part of a set, using concrete materials, drawings, and real-life situations.
- knows that the total of equivalent fractional parts makes a whole (for example, eight eighths equal one whole).
- represents equivalent forms of the same number through the use of concrete materials (including coins), diagrams and number expressions.
- counts to 1000 or more by 2s, 3s, 5s, 10s, 25s, 50s and 100s using a variety of ways, such as mental mathematics, paper and pencil, hundred chart, calculator, and coins in various increments.
- demonstrates the place value groupings of numbers to 1000 or more using concrete materials, pictures, and symbols.
- counts by tens from any given number less than 1000.
- counts forward or backward by one beginning with any number less than 1000.
- counts coins using “mixed” counting (using coin values of 50, 25, 10, 5, and 1).
- counts and groups objects into hundreds, tens, and ones, and relates the groupings to the corresponding written numeral (for example, 4 groups of 100, 2 groups of ten, and 6 ones is 426).
- knows place value patterns using zero as a place holder (for example, trading 10 tens for 100).
- knows the place value of a designated digit in whole numbers to 1000.
- recalls (from memory) the addition facts and corresponding subtraction facts.
- knows the related facts that represent the inverse relationships between addition and subtraction.
- predicts the relative size of solutions in addition and subtraction (for example, adding two whole numbers results in a number that is larger than either of the two original numbers).
adds and subtracts two-digit numbers with or without regrouping using models, concrete materials, and algorithms.

demonstrates knowledge of multiplication (for the repeated addition and array models) using manipulatives, drawings, and story problems.

demonstrates knowledge of division (for the repeated subtraction and partitive models) using manipulatives, drawings, and story problems.

solves problems involving addition and subtraction using a variety of strategies (such as drawings, role playing, and working backward) and explains the solution strategy.

writes and solves number problems with one operation involving addition or subtraction.

writes number sentences associated with addition and subtraction situations.

knows appropriate methods (for example, concrete materials, mental mathematics, paper and pencil, calculator) to solve real-world problems involving addition and subtraction.

chooses and explains the computing method that is more appropriate (that is faster, more accurate, easier) for varied real-world tasks (for example, recall of basic facts is faster than using a calculator whereas recording data from survey results may be easier with a calculator).

makes predictions of quantities of objects (to 50 or more) and explains the reasoning supporting that prediction (for example, the number of pieces of candy in a large jar may be estimated by finding the number of pieces in a small jar and estimating how many small jars would fill the larger one).

estimates reasonable solutions for addition and subtraction problems (sums to 100) and explains the procedure used (for example, the sum of 34 and 57 is more than 80 since 30 + 50 is 80).

knows reasonable and unreasonable estimates.

demonstrates and explains the difference between odd and even numbers using concrete objects or drawings.

**Measurement**

knows how to communicate measurement concepts.

demonstrates an understanding of customary and metric measurement of length and distance, selecting appropriate units of measurement (for example, inches, feet, yards, centimeters, meters).

demonstrates an understanding of customary and metric measurement of weight by selecting appropriate units of measurement (for example, ounces, pounds, grams, kilograms).

demonstrates an understanding of time using digital and analog clocks (for example, quarter-hour, five-minute intervals).
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- demonstrates an understanding of temperatures using Fahrenheit and Celsius thermometers.
- demonstrates an understanding of capacity by using appropriate units of measurement (for example, ounces, cups, pints, quarts, gallons, liters, milliliters).
- measures length, weight, and capacity of objects using standard and nonstandard units.
- uses nonstandard methods, and customary and metric units to measure, compare, and order objects according to their lengths, weights, or capacities.
- knows that a standard unit of measure is used in real-world situations to describe the measure of an object (for example, length, weight, time, capacity).
- estimates, measures, and compares distances.
- knows the passage of time using minutes, half-hours, and hours.
- knows and compares amounts of money in coins, to one dollar or more.
- selects and uses an appropriate nonstandard unit to measure length, distance, weight, time, and capacity.
- knows appropriate standard tools for measuring linear dimensions, weight, capacity, and temperature.
- knows appropriate tools (clocks and calendar) for measuring time (including days, weeks, months, and years).

Geometry and Spatial Sense
- describes attributes of two- and three-dimensional shapes using mathematical language (for example, curves, vertices, edges, faces, angles).
- sorts two- and three-dimensional figures according to their attributes.
- knows the names of both two-dimensional and three-dimensional figures presented in various orientations in the environment.
- describes symmetry in two-dimensional shapes.
- determines lines of symmetry of two-dimensional shapes by using concrete materials.
- knows congruent shapes.
- identifies shapes that can be combined or separated (for example, a rectangle can be separated into two triangles).
- predicts the reflection of a given two-dimensional shape.
- identifies and demonstrates slides, flips, and turns of simple figures using concrete materials.
- compares and contrasts two- and three-dimensional real-life objects (for example, circle and sphere, square and cube, triangle and pyramid, rectangle and rectangular solid).
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- describes and classifies two-dimensional shapes and three-dimensional geometric objects according to the number of bases, faces, edges, and vertices.
- locates and explains known and unknown numbers to 1000 or more on a number line.
- locates and identifies the coordinate points of objects on a coordinate grid (first quadrant).

**Algebraic Thinking**
- recognizes that patterning results from repeating an operation, using a transformation, or making some other change to an attribute.
- describes a given pattern and explains the pattern rule.
- identifies number patterns using a hundred chart or a calculator.
- predicts, extends, and creates patterns that are concrete, pictorial or numerical.
- combines two attributes in creating a pattern (for example, size and color).
- transfers patterns from one medium to another (for example, pictorial to symbolic).
- identifies patterns in the real-world (for example, repeating, rotational, tessellating, and patchwork).
- identifies and generates patterns in a list of related number pairs based on real-life situations (for example, T-chart with number of tricycles to number of wheels).

<table>
<thead>
<tr>
<th>Number of Tricycles</th>
<th>Number of Wheels</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>2</td>
<td>6</td>
</tr>
</tbody>
</table>
- explains generalizations of patterns and relationships.
- solves a variety of number sentences where the missing number is represented by a geometric shape (for example, 10-\(\square\)=6).
- solves a variety of number sentences with equalities and inequalities (using the symbols >, =, <).
- uses concrete objects, paper and pencil, or mental mathematics to solve real-world equations with one unknown (such as, There are 28 students in the room, and 16 brought their lunches. How many are buying lunch?).

**Data Analysis and Probability**
- poses questions and collects data to answer questions with two, three, or more categories or choices (for example, favorite ice cream, left handed/right handed).
- uses mathematical language to read and interpret data on a simple concrete graph, pictorial graph, or chart.
- uses concrete materials, pictures, graphs, or tally marks to display data and identify range, mode, and median.
• predicts the outcome for a larger population by analyzing data from a smaller group.
• uses a calculator to compare data.
• constructs a graph using computer software.
• knows if an event is certain, probable, or impossible.
• records results of activities involving chance and makes predictions based upon data (for example, coin flips, number cube rolls, bean toss on area divided into unequal portions).
• knows if a given event is equally likely, most likely, or least likely to occur (for example, spinners, coin toss, election results).
• collects data for two or more categories and creates a line graph, pictograph, or chart to display results.
• analyzes and explains orally or in writing the results from a survey.
• determines questions for a survey with two, three, or more categories so that the collected information will be relevant to the questions.
• knows appropriate methods to display and interpret information.