

**Colorado Academic Standards - Mathematics**  
**Second Grade Proficiency Level Descriptions**

<b>Standard: Number Sense, Properties, and Operations</b>			
<p><b>Grade Level Expectation:</b> The whole number system describes place value relationships from ones to 1,000 and forms the foundation for efficient algorithms  <b>DCSD Progress Report:</b> <i>Uses numbers to 1000; knows relationship between ones, tens, hundreds</i></p>			
<b>1: Beginning Understanding</b>	<b>2: Meets Some Aspects of GLE</b>	<b>3: Meets GLE</b>	<b>4: Exceeds GLE</b>
<p>With help, reads and writes numbers to 100 and identifies place value for two-digit numbers; With help, represents quantities with 10s and 1s units; With help, describes relationships between ones, and tens; With help, orders a collection of whole numbers up to 100.</p>	<p>Reads and writes numbers to 100 and identifies place value for two-digit numbers; Describes relationships between ones and tens; Estimates quantities less than 1,000 and explains the value of a digit in a two-digit number; Orders a collection of whole numbers up to 100.</p>	<p>Reads and writes numbers to 1,000 and identifies place value for three-digit numbers; Describes relationships between ones, tens, and hundreds; Explains the value of a digit in a three digit number; Orders a collection of whole numbers.</p>	<p>Reads and writes numbers to 1,000 and identifies place value for three-digit numbers and describes how the position of a digit in a number affects its value; Describes relationships between ones, tens, hundreds and thousands; Explains the value of a digit in a three digit number; Orders a collection of whole numbers up to a four-digit number.</p>

## Colorado Academic Standards - Mathematics

### Second Grade Proficiency Level Descriptions

<b>Standard: Number Sense, Properties, and Operations</b>			
<b>Grade Level Expectation:</b> Formulate, represent, and use algorithms to add and subtract two-digit whole numbers with flexibility, accuracy, and efficiency <b>DCSD Progress Report:</b> <i>Knows add/sub facts to 20; models add/sub and estimates solutions</i>			
<b>1: Beginning Understanding</b>	<b>2: Meets Some Aspects of GLE</b>	<b>3: Meets GLE</b>	<b>4: Exceeds GLE</b>
With help, solves basic addition facts to sums of 20; Finds the value of a collection of coins up to \$0.25; Creates word stories from classroom life to illustrate addition; With help, selects and uses appropriate methods to estimate sums; Applies addition concepts to simple financial decision-making (PFL).	Demonstrates fluency with basic addition facts to sums of 20; Finds the value of a collection of coins; Creates word stories to illustrate addition and subtraction; Selects and uses appropriate methods to estimate sums; Applies addition and subtraction concepts to simple financial decision-making (PFL).	Demonstrates fluency with basic addition and subtraction facts to sums of 20; Finds the value of a collection of coins and choose coins to have a given value; Creates stories and models, including linear and difference, to illustrate addition and subtraction; Selects and uses appropriate methods to estimate sums and differences or calculate them mentally depending on the context and numbers involved; Applies addition and subtraction concepts to financial decision-making (PFL).	Demonstrates fluency with basic addition and subtraction facts to sums of 50; Identifies the value of paper money and finds a collection of coins that have a given value or that add up to a dollar; Analyzes the possible results of not using pennies or taking them out of circulation; Creates stories and models, including linear and difference, to illustrate addition and subtraction; Selects and uses appropriate methods to estimate two-digit sums and differences or calculate them mentally depending on the context and numbers involved; Identifies a situation in daily life and applies addition and subtraction concepts to financial decision-making (PFL).

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<b>Standard: Number Sense, Properties, and Operations</b>			
<b>Grade Level Expectation:</b> Fractions represent parts of a whole object or set <b>DCSD Progress Report:</b> Partition shapes and sets using common fractions ( $\frac{1}{2}$ , $\frac{1}{3}$ , $\frac{1}{4}$ )			
<b>1: Beginning Understanding</b>	<b>2: Meets Some Aspects of GLE</b>	<b>3: Meets GLE</b>	<b>4: Exceeds GLE</b>
Partitions basic shapes into two equal halves; Groups sets together; With help, partitions basic shapes into equal pieces smaller than halves.	Partitions basic shapes, using common fractions such as $\frac{1}{2}$ and $\frac{1}{3}$ ; Identifies the numerator and denominator in a fraction; Identifies which is bigger between $\frac{1}{2}$ and $\frac{1}{3}$ of a shape or object.	Partitions basic shapes, using common fractions such as $\frac{1}{2}$ , $\frac{1}{3}$ , and $\frac{1}{4}$ ; Partitions sets of numbers using common fractions such as $\frac{1}{2}$ , $\frac{1}{3}$ , $\frac{1}{4}$ ; Identifies the numerator and denominator in a fraction and identifies which is bigger or smaller between two fractions.	Creates drawings, models and numerals to partitions basic shapes using common fractions such as $\frac{1}{2}$ , $\frac{1}{3}$ , and $\frac{1}{4}$ and describes the relationship between $\frac{1}{2}$ and $\frac{1}{4}$ ; Partitions sets of data using common fractions such as $\frac{1}{2}$ , $\frac{1}{3}$ , $\frac{1}{4}$ ; Describes the meaning of the numerator and denominator in a fraction.

**Colorado Academic Standards - Mathematics**  
**Second Grade Proficiency Level Descriptions**

<b>Standard: Patterns, Functions, and Algebraic Structures</b>			
<b>Grade Level Expectation:</b> Patterns are based on rules			
<i>DCSD Progress Report: Counts by 2s, 5s, and 10s; describes and extends a variety of patterns</i>			
<p align="center"><b>1: Beginning Understanding</b></p> <p>Counts objects by groups of 2; Identifies a missing number in a simple sequence; Extends repeating patterns of 2-3 elements using a variety of materials such as numbers, letters, shapes, and manipulatives.</p>	<p align="center"><b>2: Meets Some Aspects of GLE</b></p> <p>Counts objects by groups of 2 and 5; Identifies a missing number in a sequence; Creates and extends repeating patterns of 2-3 elements using a variety of materials such as numbers, letters, shapes, and manipulatives.</p>	<p align="center"><b>3: Meets GLE</b></p> <p>Counts objects by groups of 2, 5, and 10; Identifies a missing number in a sequence, and describes a rule; Creates and extends repeating patterns of 3-5 elements using a variety of materials such as numbers, letters, shapes, and manipulatives.</p>	<p align="center"><b>4: Exceeds GLE</b></p> <p>Counts objects by groups of 2, 5, and 10 and recognizes the relationships between groups, such as "there are twice as many groups of 5 as groups of 10"; Identifies a missing number in a sequence, recognizes the patterns that exist and describes a rule; Creates and extends repeating patterns of 3-5 elements using a variety of materials such as numbers, letters, shapes, and manipulatives, and describes the rules they're using.</p>

**Colorado Academic Standards - Mathematics**  
**Second Grade Proficiency Level Descriptions**

<b>Standard: Patterns, Functions, and Algebraic Structures</b>			
<b>Grade Level Expectation:</b> Number relationships can be used to develop computation strategies <b>DCSD Progress Report:</b> <i>Solve +/- problems &amp; check solutions using opposite operation &amp; base 10</i>			
<p style="text-align: center;"><b>1: Beginning Understanding</b></p> <p>Uses ten-based strategies to solve addition or subtraction facts to 20; Demonstrates the structure of numbers as tens and ones in addition or subtraction;</p>	<p style="text-align: center;"><b>2: Meets Some Aspects of GLE</b></p> <p>Uses ten-based strategies to solve addition or subtraction facts to 20; Demonstrates the structure of numbers as tens and ones in addition or subtraction; Communicates the inverse relationship between addition or subtraction, or use this relationship to efficiently solve and check problems.</p>	<p style="text-align: center;"><b>3: Meets GLE</b></p> <p>Uses ten-based strategies to solve addition and subtraction facts to 20; Demonstrates the structure of numbers as tens and ones in addition and subtraction; Communicates the inverse relationship between addition and subtraction, and use this relationship to efficiently solve and check problems.</p>	<p style="text-align: center;"><b>4: Exceeds GLE</b></p> <p>Uses ten-based strategies to solve addition and subtraction facts past 20; Demonstrates the structure of numbers as tens and ones in addition and subtraction; Communicates the inverse relationship between addition and subtraction, and use this relationship to efficiently solve and check problems.</p>

**Colorado Academic Standards - Mathematics  
Second Grade Proficiency Level Descriptions**

<b>Standard: Data Analysis, Statistics, and Probability</b>			
<b>Grade Level Expectation:</b> Visual displays of data can be constructed in a variety of formats <i>DCSD Progress Report:</i> Reads/Constructs simple graphs; describes data using median and range			
<p align="center"><b>1: Beginning Understanding</b></p> <p>With help, constructs a bar graph of at least two bars using information already grouped together; Reads and explains a bar graph; Identifies the highest and lowest number in a range and groups the numbers in order.</p>	<p align="center"><b>2: Meets Some Aspects of GLE</b></p> <p>Constructs bar graphs from a data set; Reads and explains information in picture graphs and bar graphs; Describes data using concept of range.</p>	<p align="center"><b>3: Meets GLE</b></p> <p>Constructs picture graphs and bar graphs from a data sets; Interprets information in picture graphs and bar graphs; Describes data using concepts of median and range.</p>	<p align="center"><b>4: Exceeds GLE</b></p> <p>Collects data and creates line graphs, picture graphs and bar graphs; Reads, explains and describes the implications or limitations of information in picture graphs and bar graphs; Describes data using concepts of median and range.</p>

**Colorado Academic Standards - Mathematics**  
**Second Grade Proficiency Level Descriptions**

<b>Standard: Data Analysis, Statistics, and Probability</b>			
<b>Grade Level Expectation:</b> Mathematical models are used to describe the likelihood of an outcome or event <b>DCSD Progress Report:</b> Use chance devices to describe events as likely/unlikely (life events)			
<b>1: Beginning Understanding</b>	<b>2: Meets Some Aspects of GLE</b>	<b>3: Meets GLE</b>	<b>4: Exceeds GLE</b>
Collects data using chance devices, such as spinners; With help, identifies situations in daily life that have chance outcomes.	Collects data using chance devices, such as spinners and identifies which outcomes are more common; Identifies a chance outcome from daily life (PFL).	Collects data using chance devices, such as spinners and describe outcomes as likely or unlikely; Applies the concepts of likely or not likely to decisions from daily life (PFL).	Collects data using chance devices, such as, determines the appropriate method or graph for displaying the results, and describes future outcomes as likely or unlikely; Describes a common chance event in daily life and applies the concepts of likely or not likely to it's outcome (PFL).

**Colorado Academic Standards - Mathematics  
Second Grade Proficiency Level Descriptions**

<b>Standard: Shape, Dimension, and Geometric Relationships</b>			
<b>Grade Level Expectation:</b> Shapes can be created and described by quantifiable attributes			
<b>DCSD Progress Report:</b> <i>Creates/recognizes shapes based on attributes (# of sides, symmetry)</i>			
<b>1: Beginning Understanding</b>	<b>2: Meets Some Aspects of GLE</b>	<b>3: Meets GLE</b>	<b>4: Exceeds GLE</b>
With help, recognizes geometric figures according to given quantifiable attributes such as number of sides and size; Displays an understanding of the concept of symmetry; With help, describes the size or shape of an object	Recognizes and creates geometric figures according to given quantifiable attributes such as number of sides and size; With help, identifies symmetry in two-dimensional figures; Uses quantifiable attributes to describe the size of objects	Recognizes, describes, and creates geometric figures according to given quantifiable attributes such as number of sides and size; Identifies symmetry in two-dimensional figures; Uses quantifiable attributes to describe and estimate size of objects	Creates and describes two- and three-dimensional figures according to given quantifiable attributes such as number of sides and size; Identifies symmetry in three-dimensional figures; Uses quantifiable attributes to describe and estimate size of objects

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<b>Standard: Shape, Dimension, and Geometric Relationships</b>			
<b>Grade Level Expectation:</b> Some attributes of objects are measurable and can be quantified using different tools <b>DCSD Progress Report:</b> <i>Measures attributes of objects using appropriate units and tools</i>			
<b>1: Beginning Understanding</b>	<b>2: Meets Some Aspects of GLE</b>	<b>3: Meets GLE</b>	<b>4: Exceeds GLE</b>
With help, identifies the various methods for taking measurements of various objects; With help, uses common whole units to measure distance and time.	Identifies the measurable attribute for an object; Uses standard linear measuring tools to measure to the nearest whole unit; Identifies common units of time, weight, and temperature.	Identifies the measurable attribute and appropriate unit of measure for an object; Uses common objects as non-standard units; Uses standard linear measuring tools to measure to the nearest whole unit; Identifies common units of time, weight, and temperature and their appropriate use.	Identifies the measurable attribute and appropriate unit of measure for an object; Uses common objects as non-standard units to describe the various measurements of an object; Uses standard and non-standard linear measuring tools to measure to the nearest whole unit; Uses common units of time, weight, and temperature to take various measurements of common objects.