Colorado Academic Standards - Mathematics

Third Grade Proficiency Level Descriptions

Standard: Number Sense, Properties, and Operations			
Grade Level Expectation: The whole number system describes place value relationships from ones to 10,000 and forms the foundation for efficient algorithms ***DCSD Progress Report:*** *Uses numbers to 10,000; generalizes place value patterns*			
1: Beginning Understanding	**2: Meets Some Aspects of GLE**	**3: Meets GLE**	**4: Exceeds GLE**
Reads and writes numbers from one to 1,000 and explains place value for three-digit numbers with help; Is not able to generalizes the change represented when moving from one place to another place in a number; Composes and decomposes multi-digit numbers.	Reads and writes numbers from one to 1,000 and explains place value for three-digit numbers; Generalizes the change represented when moving from one place to another place in a number; Composes and decomposes multi-digit numbers based on place value.	Reads and writes numbers from one to 10,000 and explains place value for four-digit numbers; Generalizes the change represented when moving from one place to another place in a number; Composes and decomposes multi-digit numbers based on place value.	Reads and writes numbers from one to 100,000 and explains place value for five-digit numbers understanding the value of each digit and how that value is created; Generalizes the change represented when moving from one place to another place in a number and able to explain this pattern and how this pattern would change if our number system was based on 20 instead of 10; Composes and decomposes multi-digit numbers based on place value.

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Colorado Academic Standards - Mathematics
Third Grade Proficiency Level Descriptions

Standard: Number Sense, Properties, and Operations			
Grade Level Expectation: Parts of a whole can be modeled and represented in different ways ***DCSD Progress Report:*** *Represents and models fractional parts of a whole in a variety of ways*			
1: Beginning Understanding	**2: Meets Some Aspects of GLE**	**3: Meets GLE**	**4: Exceeds GLE**
Uses drawings, models, or numerals to represent fractions (halves, thirds, fourths, sixths, eighths) based on a whole shape, number set, or number line with difficulty and/or help; Does not estimate and justify the reasonableness of solutions to problems involving representations of fractions; Can explain equivalent fractions but is not able to model the same quantity using a model or drawing.	Uses drawings, models, and numerals to represent fractions (halves, thirds, fourths, sixths, eighths) based on a whole shape, number set, or number line with difficulty and/or help; Estimates the reasonableness of solutions to problems involving representations of fractions; Shows equivalent fractions with two ways of modeling the same quantity using a model or drawing.	Uses drawings, models, and numerals to represent fractions (halves, thirds, fourths, sixths, eighths) based on a whole shape, number set, or number line; Estimates and justifies the reasonableness of solutions to problems involving representations of fractions; Describes why equivalent fractions are two ways of modeling the same quantity using a model or drawing.	Uses drawings, models, and numerals to represent fractions (halves, thirds, fourths, sixths, eighths) based on a whole shape, number set, or number line and understanding how this representation changes based on the whole (ex. hour, different sizes of pizza, different sizes of candy bar, etc.); Estimates and justifies the reasonableness of solutions to problems involving representations of fractions; Describes and justifies why equivalent fractions are two ways of modeling the same quantity using a model or drawing.

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Standard: Number Sense, Properties, and Operations			
Grade Level Expectation: Formulate, represent, and use algorithms to add and subtract multi-digit whole numbers with flexibility, accuracy, and efficiency ***DCSD Progress Report:*** *Estimates using selected strategies; Uses multiple methods to +/-*			
1: Beginning Understanding	**2: Meets Some Aspects of GLE**	**3: Meets GLE**	**4: Exceeds GLE**
Does not use number sense to estimate; Uses a single method of computing, including student-generated strategies and/or standard algorithms without understanding of how that algorithm works; Estimates by rounding always.	Uses number sense to estimate and justify the reasonableness of solutions to problems with some help and level of difficulty; Uses flexible methods of computing, including student-generated strategies and standard algorithms for most problems without understanding of how those algorithms work; Estimates only using one strategy such as front-end estimation or landmark numbers, regardless of the situation.	Uses number sense to estimate and justify the reasonableness of solutions to problems; Uses flexible methods of computing, including student-generated strategies and standard algorithms; Estimates using strategies such as front-end estimation or landmark numbers.	Uses number sense to estimate in a variety of different situations and justify the reasonableness of solutions to problems in a variety of different situations; Uses flexible methods of computing, including student-generated strategies and standard algorithms and explain why that strategy is the best choice for them to use; Estimates using strategies such as front-end estimation or landmark numbers and explain when you should use each strategy to get the most accurate estimation.

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Third Grade Proficiency Level Descriptions

Standard: Number Sense, Properties, and Operations			
Grade Level Expectation: Multiplying and dividing are inverse operations modeled in a variety of ways *DCSD Progress Report: Knows multiplication/division facts; models multiplication/division*			
1: Beginning Understanding	**2: Meets Some Aspects of GLE**	**3: Meets GLE**	**4: Exceeds GLE**
Working on fluency with multiplication and division facts with single-digit factors but is only memorizing the facts instead of building the concept; Does not see the relationships between related facts and between multiplication and division; Represents multiplication and division problems with only one of the following strategies: drawings, models, number sentences, or stories; Can solve a problem of a personal financial goal using arithmetic operations if the problem is set up for them (PFL).	Working on fluency of their multiplication and division facts with single-digit factors; With help can see that there is a relationship between between multiplication and division; With help and difficulty, represents multiplication and division problems with drawings, models, number sentences, and/or stories; Uses one strategy to achieve a personal financial goal using arithmetic operations (PFL).	Demonstrates fluency with multiplication and division facts with single-digit factors; Describes relationships between related facts and between multiplication and division; Represents multiplication and division problems with drawings, models, number sentences, and stories; Models strategies to achieve a personal financial goal using arithmetic operations (PFL).	Demonstrates fluency with multiplication and division facts 0-12; Uses the relationships between multiplication and division to find other multiplication and division facts; Represents a variety of way multiplication and division problems with drawings, models, number sentences, and stories and can justify that their strategies are correct; Models a variety of strategies to achieve a personal financial goal using arithmetic operations (PFL).

Colorado Academic Standards - Mathematics
Third Grade Proficiency Level Descriptions

Standard: Patterns, Functions, and Algebraic Structures			
Grade Level Expectation: Number patterns are based on operations and relationships *DCSD Progress Report: Analyzes & uses patterns in multiples (2, 3, 5, 9, 10, 11, 25, 50, 100)*			
1: Beginning Understanding	**2: Meets Some Aspects of GLE**	**3: Meets GLE**	**4: Exceeds GLE**
Extends simple arithmetic and geometric sequences; Counts by and analyze patterns using a couple of the following multiples of 2, 3, 5, 9, 10,11,25, 50 and 100; Uses known multiplication facts to solve unknown multiplication problems.	Extends simple arithmetic and geometric sequences; Counts by and analyze patterns using some of the following multiples of 2, 3, 5, 9, 10,11,25, 50 and 100; Uses known multiplication facts to solve unknown multiplication problems.	Extends simple arithmetic and geometric sequences; Counts by and analyze patterns in multiples of 2, 3, 5, 9, 10,11,25, 50 and 100; Uses known multiplication facts to solve unknown multiplication problems.	Extends complex arithmetic and geometric sequences; Counts by and analyze patterns in multiples of 2, 3, 5, 9, 10,11,25, 50 and 100; Uses known multiplication facts to solve unknown multiplication problems.

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Third Grade Proficiency Level Descriptions

Standard: Patterns, Functions, and Algebraic Structures			
Grade Level Expectation: Number properties can be used to solve problems ***DCSD Progress Report:*** *Uses number properties (commutative, associative) to solve problems*			
1: Beginning Understanding	**2: Meets Some Aspects of GLE**	**3: Meets GLE**	**4: Exceeds GLE**
Uses the commutative property to solve addition; Uses the associative property to solve addition problems; Uses the relationship between addition to solve problems.	Uses the commutative property to solve addition and multiplication problems; Uses the associative property to solve addition problems; Uses the relationship between addition to solve problems.	Uses the commutative property to solve addition and multiplication problems; Uses the associative property to solve addition problems; Uses the relationship between addition and multiplication to solve problems.	Uses the commutative property to solve complex addition and multiplication problems; Uses the associative property to solve complex addition problems; Uses the relationship between addition and multiplication to solve complex problems.

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Third Grade Proficiency Level Descriptions

Standard: Data Analysis, Statistics, and Probability			
Grade Level Expectation: Visual displays of data can be used to answer questions of interest ***DCSD Progress Report:*** *Collects and displays data; describe data using mode, clusters, and gaps*			
1: Beginning Understanding	**2: Meets Some Aspects of GLE**	**3: Meets GLE**	**4: Exceeds GLE**
Collects and organizes data from simple experiments or surveys in class; Creates picture graphs, bar graphs, dot plots, or frequency tables from a data set	Collects and organizes data from simple experiments or surveys in class; Creates picture graphs, bar graphs, dot plots, and frequency tables from a data set; Describes data using the concepts of mode, clusters and gaps.	Composes questions to generate data; Collects and organizes data from simple experiments or surveys in class; Creates picture graphs, bar graphs, dot plots, and frequency tables from a data set; Describes data using the concepts of mode, clusters and gaps.	Composes questions to generate data; Collects and organizes data from experiments or surveys in class; Creates picture graphs, bar graphs, dot plots, and frequency tables from a data set; Describes data using the concepts of mode, clusters and gaps. Describes which graphical representation is the best in answering specific questions.

Standard: Data Analysis, Statistics, and Probability			
Grade Level Expectation: Mathematical models are used to explore and describe fairness ***DCSD Progress Report:*** *Describes chance devices using impossible, likely/unlikely, fair/unfair*			
1: Beginning Understanding	**2: Meets Some Aspects of GLE**	**3: Meets GLE**	**4: Exceeds GLE**
Investigates chance devices such as coins, spinners, or number cubes; Applies the concepts of impossible, unlikely or likely	Investigates chance devices such as coins, spinners, and number cubes; Applies the concepts of impossible, unlikely and likely	Investigates chance devices such as coins, spinners, and number cubes; Applies the concepts of impossible, unlikely and likely; Determines if a chance device is fair or unfair.	Investigates chance devices such as coins, spinners, and number cubes; Applies the concepts of impossible, unlikely and likely; Determines if a chance device is fair or unfair. Explain how the device can be altered to make it more fair or unfair.

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Third Grade Proficiency Level Descriptions

Standard: Shape, Dimension, and Geometric Relationships			
Grade Level Expectation: Geometric figures are described by their attributes and position in the plane ***DCSD Progress Report:*** *Construct/Describe 2D shapes; demonstrate transformations*			
1: Beginning Understanding	**2: Meets Some Aspects of GLE**	**3: Meets GLE**	**4: Exceeds GLE**
Describes two dimensional shapes by attributes and properties such as sides, angles, and symmetry; Recognizes or demonstrates transformations – reflections, translations, or rotations – of basic shapes or designs; Uses geometric properties of points and line segments to describe figures.	Constructs and describes two dimensional shapes by attributes and properties such as sides, angles, and symmetry; Recognizes and demonstrates transformations – reflections, translations, or rotations – of basic shapes or designs; Uses geometric properties of points and line segments to describe figures.	Constructs and describes two dimensional shapes by attributes and properties such as sides, angles, and symmetry; Recognizes and demonstrates transformations – reflections, translations, and rotations – of basic shapes or designs; Uses geometric properties of points and line segments to describe figures.	Constructs and describes two dimensional shapes by attributes and properties such as sides, angles, and symmetry; Recognizes and demonstrates transformations – reflections, translations, and rotations – of any shape or design; Uses geometric properties of points and line segments to describe figures. What words in geometry are also used in daily life? Are the meanings of these words the same or different?

Standard: Shape, Dimension, and Geometric Relationships			
Grade Level Expectation: Objects have distinct attributes that can be measured with appropriate tools ***DCSD Progress Report:*** *Measures to nearest ½ or whole unit; measure distance and perimeter*			
1: Beginning Understanding	**2: Meets Some Aspects of GLE**	**3: Meets GLE**	**4: Exceeds GLE**
Uses standard units to measure to the nearest 1/2 or whole inch or centimeter; Measures distance.	Uses standard units to measure to the nearest 1/2 or whole inch or centimeter; Measures distance and perimeter.	Uses standard units to measure to the nearest 1/2 or whole inch or centimeter; Estimates and measures distance and perimeter.	Uses standard units to measure to the nearest 1/2 or whole inch or centimeter; Estimates and measures distance and perimeter. How important is precise measurement? How close is close enough? Why are there different units to measure different things? Does everyone in the world agree on the length of an inch?