TEXAS RESPONSE TO CURRICULUM FOCAL POINTS
FOR KINDERGARTEN THROUGH GRADE 8 MATHEMATICS
REVISED 2013

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PREFACE

In 2006, in response to a call for more focused and coherent curricula in school mathematics, the National Council of Teachers of Mathematics (NCTM) published *Curriculum Focal Points for Kindergarten through Grade 8 Mathematics: A Quest for Coherence* [1]. These focal points described the most significant mathematical concepts and skills at each grade level and were based on the standards presented in the NCTM (2000) *Principles and Standards for School Mathematics* [2], a publication that provided our field with standards for teaching and learning mathematics that became the model for state standards in all curriculum areas. The NCTM focal points were organized to lend coherence to the lengthy lists of standards teachers were expected to address each year and to assist teachers in identifying the highest-priority knowledge, skills, and strategies taught at each grade level. Also, in 2006, President Bush created the National Mathematics Advisory Panel "with the responsibilities of relying upon the 'best available scientific evidence' and recommending ways '…to foster greater knowledge of and improved performance in mathematics among American students'" [3, p. xiii]. In their report, the Panel included several main findings, including one that particularly addressed focus in curricular content as an important aspect of preparing students for Algebra, saying, "A focused, coherent progression of mathematics learning, with an emphasis on proficiency with key topics, should become the norm in elementary and middle school mathematics curricula" [3, p. xvi]. In addition, the panel provided *Benchmarks for the Critical Foundations* for success in Algebra [3, p. 20] as guideposts for state frameworks and district-level curricula.

"A focused, coherent progression of mathematics learning, with an emphasis on proficiency with key topics, should become the norm in elementary and middle school mathematics curricula" [3, p. xvi].

In a similar manner to this national activity, in 2009, Texas provided focal points for the existing state mathematics curriculum by publishing the *Texas Response to Curriculum Focal Points for K-8 Mathematics* (TXRCFP). The focal points in the first version of the Texas Response to Curriculum Focal Points were used in the design of professional development and student assessment until the revision of the Texas Essential Knowledge and Skills (TEKS) in mathematics in 2012. As a response to the revision of the TEKS, the new *Texas Response to Curriculum Focal Points Revised 2013* was published to provide an updated guide for implementation of the revised TEKS. In particular, this document provides a guide for making decisions regarding areas of emphasis, pacing of instruction, curriculum design, and professional development in K-8 mathematics.

Why is the *Texas Response to Curriculum Focal Points Revised 2013* needed?

College and workforce readiness are essential educational objectives. To achieve these objectives, education policy requires that courses offered to Texas students include rigorous content and high expectations for achievement in core disciplines such as mathematics. Limited proficiency with these important mathematical knowledge and skills jeopardizes students' preparation to tackle the mathematical demands associated with college and workforce readiness. Thus, students need focused mathematics instruction across the grades that prepares them in critical areas for overall mathematics success. The *Texas Response to Curriculum Focal Points Revised 2013* was created from the 2012 revision of the TEKS as a guide for implementation of effective mathematics instruction by identifying critical areas of content at each grade level that provide the basis for pacing instruction, designing curriculum, and prioritizing professional development needs.

"In particular, this document provides a guide for making decisions regarding areas of emphasis, pacing of instruction, curriculum design, and professional development in K-8 mathematics."

Identifying areas of emphasis. Clear, consistent instructional grade-level priorities can help teachers understand the points in the curriculum at which important mathematical topics must be taught in depth at each grade level, thus providing the foundation for connections across grade levels. Providing instruction based on the focal points supports cumulative mathematics learning, with work in the later grades building on and deepening what students have learned in the earlier grades. Based on their reviews of the existing research, the National Mathematics Advisory Panel made the following recommendation: "Proficiency with whole numbers, fractions, and particular aspects of geometry and measurement should be understood as the Critical Foundations of Algebra. Emphasis on these essential concepts and skills must be provided at the elementary and middle grade levels" [3, p. 18]. The panel also acknowledged that "to prepare students for Algebra, the curriculum must simultaneously develop conceptual understanding, computational fluency, and problem-solving skills" [3, p. 19]. When instruction each year focuses on a small number of critical areas that can be built upon in later years, such experiences can more adequately prepare students to meet the demands of a rigorous mathematics curriculum at the secondary level. For example, knowledge of multiplication facts supports students' abilities to work with equivalent fractions, understanding fractions in depth supports students' abilities to use fractions meaningfully to represent ratios, fluency with ratio representations connects to concepts in prealgebra, and facility with arithmetic word problems provides the context for developing proficiency with algebraic equations. A focused and coherent curriculum can increase the likelihood that Texas students have gained the knowledge and skills that are needed for success in mathematics courses in college and the wide array of courses that require knowledge of mathematics, such as accounting, business, and science courses.

Why is the *Texas Response to Curriculum Focal Points Revised 2013* needed?

"These focal points are intended to serve as an impetus for state- and district-level endeavors to develop and refine mathematics curricula, instruction, and assessment."

Pacing instruction. Since the TEKS were first developed, decisions regarding instructional time have challenged administrators and teachers. Questions such as the following have been asked during the years: "Since we don't have enough time to treat each of the TEKS equally in terms of time, which of the TEKS are the most important?"; "Which of the strands should we spend the most time on?"; "When during the year should we teach certain strands or TEKS?" The focal points are meant to help answer these questions, by presenting the student expectations in a mathematically coherent form that highlights the development of foundational concepts across the grades. Instructional time is then measured not by exposure to individual student expectations, but to engagement in building the connections among the groups of student expectations that provide the important foundational mathematical understandings.

Designing curriculum. The *Texas Response to Curriculum Focal Points Revised 2013* identifies critical areas across grade levels, kindergarten through grade 8, that connect and integrate mathematical proficiency and understanding. These focal points are intended to serve as an impetus for state- and district-level endeavors to develop and refine mathematics curricula, instruction, and assessment. For curriculum developers, these focal points provide a concise framework for developing and sequencing mathematics curricula for each grade level.

Providing professional development. Teacher preparation at the in-service and pre-service levels is important to ensure that educators understand and can implement the curriculum focal points as part of their daily mathematics instruction. At the in-service level, such preparation is critical to help teachers obtain the best results when teaching for the depth, understanding, and proficiency emphasized by these curriculum focal points. School district and education service center mathematics specialists will need to ensure that educators are prepared to implement the focal points and to monitor students' mathematics learning. Professional development efforts should include activities that help teachers with classroom application of the curriculum focal points. These professional development efforts should ensure that teachers are aware of the advanced mathematics that underlies the mathematics they teach at their grade level. At the pre-service level, coursework and field-based experiences need to enable teachers to gain the knowledge and skills to implement the focal points with ease and confidence. Current and future instructional leaders (e.g., principals, specialists, coaches, curriculum developers) must understand how to design, deliver, and evaluate instruction based on the focal points.

How was the *Texas Response to Curriculum Focal Points for K-8 Mathematics Revised 2013* created?

The *Texas Response to Curriculum Focal Points Revised 2013* was created directly from the revised TEKS for K–8 mathematics. In the revised TEKS document, each introductory section identifies a few focal areas. These designated areas were used as a beginning point for sorting the TEKS at each grade level into three or four categories, each category based on a common mathematical idea to which all the TEKS in that group were related. The *Texas Response to Curriculum Focal Points Revised 2013* includes a descriptive title with a brief explanatory paragraph for each focal point, followed by the related TEKS from that grade level. Each curriculum focal point also includes all of the TEKS for the underlying processes in that grade, to emphasize the use of these mathematical processes throughout the curriculum.

Since the focal points are meant to highlight connections across strands, or topics, many focal points include student expectations that involve applications of the "big idea" presented in the focal point. For example, in K–grade 4, several student expectations related to data are included in focal points that address topics such as number, place value, and operations. The rationale for this arrangement is that work with data can provide a meaningful and motivational context for deepening understanding of these ideas. For example, in grade 2, student expectation 2(10)(A) (representing data in a bar or pictograph) provides an opportunity for students to experience the use of groups of 10 and the concept of base-10 place value to count and represent large sets of data. Also, student expectations on using data to solve problems appear in one or more focal points on operations at each of these grade levels.

Connections across focal points are highlighted by some student expectations appearing in one or more focal points. For example, in grade 5, the student expectations 5(4)(G) and 5(4)(H) that deal with using formulas to calculate perimeter, area, and volume appear in both the focal point on expressions and equations and the focal point on understanding and solving problems involving these geometric measurements.

How was the *Texas Response to Curriculum Focal Points for K-8 Mathematics Revised 2013* created?

Some student expectations, when viewed in isolation, may not seem to fit within a given focal point. For example, in grade 1, student expectations 1(4)(A) (identifying coins) and 1(4)(B) (writing money amounts with a cent symbol), when considered individually, are not directly connected to the focal point topic of place value, where they appear. However, their direct relationship to student expectation 1(4)(C) (determining the value of a collection of coins) in that focal point requires that the three student expectations be kept together in a "cluster" to form a meaningful developmental sequence within that focal point. Similar clusters appear in each grade level and should be explored and explained through a variety of professional development experiences.

The few TEKS statements that did not fit into one of the three or four focal points in a grade level are listed at the end of each grade-level section and are labeled as connections. This placement does not indicate that these TEKS should be ignored; they either reinforce learning begun in an earlier grade or provide an early experience for development in a later grade. However, they are not meant to be the focus of instruction for that year.

At the beginning of each grade, there is a summary page that presents the three or four focal points for that grade level, including the title, description, and list of related TEKS. Below the focal points are listed the TEKS for that grade that have been identified as Connections, the Financial Literacy TEKS for that grade, and the major components of the Texas College and Career Readiness Standards in Mathematics that directly relate to that grade's content.

How is the *Texas Response to Curriculum Focal Points for K-8 Mathematics Revised 2013* related to TEKS and STAAR?

Although the presentation of the TEKS at each grade level in this document looks very different in some grades from the strand organization in the basic TEKS document, the *Texas Response to Curriculum Focal Points Revised 2013* contains exactly the same student expectations that are in the revised TEKS. These curriculum focal points for K–8 mathematics present an organization of the TEKS at each grade level that provides direction for making decisions related to instructional time, choice of instructional materials, and depth of questioning. Consequently, these focal points are also directly aligned with the student expectations in the State of Texas Assessments of Academic Readiness (STAAR).

". . . these focal points are also directly aligned with the student expectations in the State of Texas Assessments of Academic Readiness (STAAR)."

What are possible impacts of implementing the *Texas Response to Curriculum Focal Points for K-8 Mathematics Revised 2013*?

School districts, regional education service centers, and professional organizations for mathematics education have the responsibility of communicating with their constituencies about the *Texas Response to Curriculum Focal Points Revised 2013*. The focal points should be highly visible in conference presentations and in electronic and print material. Through a united network, Texas educators, parents, and other interested community members can learn more about the *Texas Response to Curriculum Focal Points Revised 2013* and their use. Through this knowledge, use of the focal points has the potential to impact the teaching and learning of mathematics in the following ways.

Effective instructional design. The most immediate impact of implementing the *Texas Response to Curriculum Focal Points Revised 2013* will be seen in the design of mathematics instruction in grades K–8. Effective instruction must be based on mathematical ideas, or themes, that are built from groups of TEKS that cut across strands and cannot stand alone in a meaningful way. In other words, a curriculum focal point is not a single TEKS statement; a curriculum focal point is a mathematical idea or theme that is developed through appropriate arrangements of TEKS statements at that grade level that are built on groups of TEKS from preceding grades and lead into a connected grouping of TEKS at a later grade level.

Efficient use of core instructional time. In terms of time management, each of the student expectations in the TEKS does not warrant the same emphasis. Even the focal points at a grade level do not call for equal amounts of time. The focal points that address the National Mathematics Advisory Panel's critical foundations of Algebra (i.e., proficiency with whole numbers, fractions, and particular aspects of geometry and measurement) are highly important. Other focal points may not need the same level of instructional attention.

What are possible impacts of implementing the *Texas Response to Curriculum Focal Points for K-8 Mathematics Revised 2013*?

Appropriate use of instructional resources. In addition to efficient use of instructional time, building instruction around curriculum focal points also involves judicious selection of instructional materials and activities. Certain materials and activities that do not support a curriculum focal point for a given year may need to be delegated to the teachers of the grade level in which these materials and activities do contribute to the curriculum focal points. Budgets for instructional materials can be allocated based on what is needed to address the identified focal points at each grade level, rather than providing all resources to all grades.

Improved curriculum organization to support learning for all students. The *Texas Response to Curriculum Focal Points Revised 2013* has the potential to affect future curriculum development. At the district level, this impact can happen fairly quickly. Districts can use the focal points to guide the organization of their instructional units from short bursts focusing on small clusters of TEKS to sustained involvement with larger groups of TEKS that support a common, bigger idea or theme. The focal points should be viewed as the foundational mathematics for core instruction. The T*exas Response to Curriculum Focal Points Revised 2013* can provide insight into a focused curriculum as a way to address mathematics achievement issues for all students.

"The *Texas Response to Curriculum Focal Points Revised 2013* can provide insight into a focused curriculum as a way to address mathematics achievement issues for all students."

Aligned curriculum, instruction, and assessment. A more long-term impact, and a highly desired one, is the impact that curriculum focal points can have on assessment, both at the local and state levels. The *Texas Response to Curriculum Focal Points Revised 2013* can provide a structure within which districts can design meaningful measures that are rich in terms of depth and complexity and provide information about students' abilities to connect to the next year's set of focal points, rather than providing only limited information about a student's ability to perform isolated skills. At the state level, the *Texas Response to Curriculum Focal Points Revised 2013* can provide guidance for important discussions about the next steps in assessment—for example, how to build assessment around the most important topics at each grade level to make the resulting information more useful for identifying student needs and promoting future academic success.

MATHEMATICAL PROCESS STANDARDS

The mathematical process standards are identified within each focal point by number. The full text is below.

(1) Mathematical process standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:

(A) apply mathematics to problems arising in everyday life, society, and the workplace;

(B) use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and reasonableness of the solution;

(C) select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems;

(D) communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate;

(E) create and use representations to organize, record, and communicate mathematical ideas;

(F) analyze mathematical relationships to connect and communicate mathematical ideas; and

(G) display, explain, and justify mathematical ideas and arguments using precise mathematical language in written and oral communication.

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Developing an understanding of whole numbers
Students count, represent, and compare quantities and collections fluently to at least 20.
K(1)(A)(B)(C)(D)(E)(F)(G); K(2)(A)(B)(C)(D)(E)(F)(G)(H)(I); K(5)

Developing an understanding of addition and subtraction
Students use meanings of addition and subtraction as adding to and taking from, and they explain strategies for solving problems and responding to practical situations involving addition and subtraction.
K(1)(A)(B)(C)(D)(E)(F)(G); K(2)(A)(F)(I); K(3)(A)(B)(C)

Identifying and using attributes of two-dimensional shapes and three-dimensional solids
Students identify and use attributes and components of two-dimensional shapes and three-dimensional solids, including measurable attributes.
K(1)(A)(B)(C)(D)(E)(F)(G); K(6)(A)(B)(C)(D)(E)(F); K(7)(A)(B)

Grade Level Connections
K(4); K(8)(A)(B)(C)

Financial Literacy
K(9)(A)(B)(C)(D)

Connections to Texas College and Career Readiness Standards - Math

I.A.	Numeric Reasoning—Number representation
I.B.	Numeric Reasoning—Number operations
IV.A.	Measurement Involving Physical and Natural Attributes
VIII.	Problem Solving and Reasoning
IX.	Communication and Reasoning
X.	Connections

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Developing an understanding of whole numbers

Students count, represent, and compare quantities and collections fluently to at least 20.

Related Kindergarten TEKS:

K(1)(A)-(G)	The student uses mathematical processes to acquire and demonstrate mathematical understanding.
K(2)(A)	The student is expected to count forward and backward to at least 20 with and without objects.
K(2)(B)	The student is expected to read, write, and represent whole numbers from 0 to at least 20 with and without objects or pictures.
K(2)(C)	The student is expected to count a set of objects up to at least 20 and demonstrate that the last number said tells the number of objects in the set regardless of their arrangement or order.
K(2)(D)	The student is expected to recognize instantly the quantity of a small group of objects in organized and random arrangements.
K(2)(E)	The student is expected to generate a set using concrete and pictorial models that represents a number that is more than, less than, and equal to a given number up to 20.
K(2)(F)	The student is expected to generate a number that is one more than or one less than another number up to at least 20.
K(2)(G)	The student is expected to compare sets of objects up to at least 20 in each set using comparative language.
K(2)(H)	The student is expected to use comparative language to describe two numbers up to 20 presented as written numerals.
K(2)(I)	The student is expected to compose and decompose numbers up to 10 with objects and pictures.
K(5)	The student is expected to recite numbers up to at least 100 by ones and tens beginning with any given number.

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Developing an understanding of addition and subtraction

Students use meanings of addition and subtraction as adding to and taking from, and they explain strategies for solving problems and responding to practical situations involving addition and subtraction.

Related Kindergarten TEKS:

K(1)(A)-(G)	The student uses mathematical processes to acquire and demonstrate mathematical understanding.
K(2)(A)	The student is expected to count forward and backward to at least 20 with and without objects.
K(2)(F)	The student is expected to generate a number that is one more than or one less than another number up to at least 20.
K(2)(I)	The student is expected to compose and decompose numbers up to 10 with objects and pictures.
K(3)(A)	The student is expected to model the action of joining to represent addition and the action of separating to represent subtraction.
K(3)(B)	The student is expected to solve word problems using objects and drawings to find sums up to 10 and differences within 10.
K(3)(C)	The student is expected to explain the strategies used to solve problems involving adding and subtracting within 10 using spoken words, concrete and pictorial models, and number sentences.

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Identifying and using attributes of two-dimensional shapes and three-dimensional solids

Students identify and use attributes and components of two-dimensional shapes and three-dimensional solids, including measurable attributes.

Related Kindergarten TEKS:

K(1)(A)-(G)	The student uses mathematical processes to acquire and demonstrate mathematical understanding.
K(6)(A)	The student is expected to identify two-dimensional shapes, including circles, triangles, rectangles, and squares as special rectangles.
K(6)(B)	The student is expected to identify three-dimensional solids, including cylinders, cones, spheres, and cubes, in the real world.
K(6)(C)	The student is expected to identify two-dimensional components of three-dimensional objects.
K(6)(D)	The student is expected to identify attributes of two-dimensional shapes using informal and formal geometric language interchangeably.
K(6)(E)	The student is expected to classify and sort a variety of regular and irregular two- and three-dimensional figures regardless of orientation or size.
K(6)(F)	The student is expected to create two-dimensional shapes using a variety of materials and drawings.
K(7)(A)	The student is expected to give an example of a measurable attribute of a given object, including length, capacity, and weight.
K(7)(B)	The student is expected to compare two objects with a common measurable attribute to see which object has more of/less of the attribute and describe the difference.

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Connections:

K(4)	The student is expected to identify U.S. coins by name, including pennies, nickels, dimes, and quarters.
K(8)(A)	The student is expected to collect, sort, and organize data into two or three categories.
K(8)(B)	The student is expected to use data to create real-object and picture graphs.
K(8)(C)	The student is expected to draw conclusions from real-object and picture graphs.

Financial Literacy:

K(9)(A)	The student is expected to identify ways to earn income.
K(9)(B)	The student is expected to differentiate between money received as income and money received as gifts.
K(9)(C)	The student is expected to list simple skills required for jobs.
K(9)(D)	The student is expected to distinguish between wants and needs and identify income as a source to meet one's wants and needs.

TEXAS RESPONSE TO CURRICULUM FOCAL POINTS FOR GRADE 1 MATHEMATICS REVISED 2013

Developing an understanding of place value

Students count, represent, compare, and order quantities and collections fluently to 120. Students use base-10 place value to interpret numbers as groups of hundreds, tens, and ones.

1(1)(A)(B)(C)(D)(E)(F)(G); 1(2)(A)(B)(C)(D)(E)(F)(G); 1(3)(A); 1(4)(A)(B)(C); 1(5)(A)(B)(C); 1(8)(A)(B)(C)

Solving problems involving addition and subtraction

Students recognize situations involving addition and subtraction. Students develop and use efficient, accurate, and generalizable methods to add and subtract and use this knowledge to solve problems.

1(1)(A)(B)(C)(D)(E)(F)(G); 1(3)(A)(B)(C)(D)(E)(F); 1(5)(B)(C)(D)(E)(F)(G)

Analyzing attributes of two-dimensional shapes and three-dimensional solids

Students are able to identify, name, and create basic two-dimensional shapes and three dimensional solids. Students attend to attributes to compose and decompose basic two-dimensional shapes and construct more complex shapes.

1(1)(A)(B)(C)(D)(E)(F)(G); 1(6)(A)(B)(C)(D)(E)(F)(G)

Developing the understanding of length

Students gain familiarity with principles of length measurement. They reason about, explain, and use the principles as they measure lengths.

1(1)(A)(B)(C)(D)(E)(F)(G); 1(7)(A)(B)(C)(D)

Grade Level Connections

1(6)(H); 1(7)(E)

Financial Literacy

1(9)(A)(B)(C)(D)

Connections to Texas College and Career Readiness Standards - Math

I.	Numeric Reasoning
II.D.	Algebraic Reasoning—Representations
III.A.	Geometric Reasoning—Figures and Their Properties
IV.A.	Measurement Involving Physical and Natural Attributes
VIII.	Problem Solving and Reasoning
IX.	Communication and Reasoning
X.	Connections

TEXAS RESPONSE TO CURRICULUM FOCAL POINTS FOR GRADE 1 MATHEMATICS REVISED 2013

Developing an understanding of place value

Students count, represent, compare, and order quantities and collections fluently to 120. Students use base-10 place value to interpret numbers as groups of hundreds, tens, and ones.

Related Grade 1 TEKS:

1(1)(A)-(G)	The student uses mathematical processes to acquire and demonstrate mathematical understanding.
1(2)(A)	The student is expected to recognize instantly the quantity of structured arrangements.
1(2)(B)	The student is expected to use concrete and pictorial models to compose and decompose numbers up to 120 in more than one way as so many hundreds, so many tens, and so many ones.
1(2)(C)	The student is expected to use objects, pictures, and expanded and standard forms to represent numbers up to 120.
1(2)(D)	The student is expected to generate a number that is greater than or less than a given whole number up to 120.
1(2)(E)	The student is expected to use place value to compare whole numbers up to 120 using comparative language.
1(2)(F)	The student is expected to order whole numbers up to 120 using place value and open number lines.
1(2)(G)	The student is expected to represent the comparison of two numbers to 100 using the symbols $>$, $<$, or $=$.
1(3)(A)	The student is expected to use concrete and pictorial models to determine the sum of a multiple of 10 and a one-digit number in problems up to 99.
1(4)(A)	The student is expected to identify U.S. coins, including pennies, nickels, dimes, and quarters, by value and describe the relationships among them.
1(4)(B)	The student is expected to write a number with the cent symbol to describe the value of a coin.
1(4)(C)	The student is expected to use relationships to count by twos, fives, and tens to determine the value of a collection of pennies, nickels, and/or dimes.

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Developing an understanding of place value (continued)

Students count, represent, compare, and order quantities and collections fluently to 120. Students use base-10 place value to interpret numbers as groups of hundreds, tens, and ones.

Related Grade 1 TEKS:

1(5)(A)	The student is expected to recite numbers forward and backward from any given number between 1 and 120.
1(5)(B)	The student is expected to skip count by twos, fives, and tens to determine the total number of objects up to 120 in a set.
1(5)(C)	The student is expected to use relationships to determine the number that is 10 more and 10 less than a given number up to 120.
1(8)(A)	The student is expected to collect, sort, and organize data in up to three categories using models/representations such as tally marks or T-charts.
1(8)(B)	The student is expected to use data to create picture and bar-type graphs.
1(8)(C)	The student is expected to draw conclusions and generate and answer questions using information from picture and bar-type graphs.

TEXAS RESPONSE TO CURRICULUM FOCAL POINTS FOR GRADE 1 MATHEMATICS REVISED 2013

Solving problems involving addition and subtraction

Students recognize situations involving addition and subtraction. Students develop and use efficient, accurate, and generalizable methods to add and subtract and use this knowledge to solve problems.

Related Grade 1 TEKS:

1(1)(A)-(G)	The student uses mathematical processes to acquire and demonstrate mathematical understanding.
1(3)(A)	The student is expected to use concrete and pictorial models to determine the sum of a multiple of 10 and a one-digit number in problems up to 99.
1(3)(B)	The student is expected to use objects and pictorial models to solve word problems involving joining, separating, and comparing sets within 20 and unknowns as any one of the terms in the problem such as $2 + 4 = [\,]$; $3 + [\,] = 7$; and $5 = [\,] - 3$.
1(3)(C)	The student is expected to compose 10 with two or more addends with and without concrete objects.
1(3)(D)	The student is expected to apply basic fact strategies to add and subtract within 20, including making 10 and decomposing a number leading to a 10.
1(3)(E)	The student is expected to explain strategies used to solve addition and subtraction problems up to 20 using spoken words, objects, pictorial models, and number sentences.
1(3)(F)	The student is expected to generate and solve problem situations when given a number sentence involving addition or subtraction of numbers within 20.
1(5)(B)	The student is expected to skip count by twos, fives, and tens to determine the total number of objects up to 120 in a set.
1(5)(C)	The student is expected to use relationships to determine the number that is 10 more and 10 less than a given number up to 120.
1(5)(D)	The student is expected to represent word problems involving addition and subtraction of whole numbers up to 20 using concrete and pictorial models and number sentences.
1(5)(E)	The student is expected to understand that the equal sign represents a relationship where expressions on each side of the equal sign represent the same value(s).
1(5)(F)	The student is expected to determine the unknown whole number in an addition or subtraction equation when the unknown may be any one of the three or four terms in the equation.
1(5)(G)	The student is expected to apply properties of operations to add and subtract two or three numbers.

TEXAS RESPONSE TO CURRICULUM FOCAL POINTS FOR GRADE 1 MATHEMATICS REVISED 2013

Analyzing attributes of two-dimensional shapes and three-dimensional solids

Students are able to identify, name, and create basic two-dimensional shapes and three dimensional solids. Students attend to attributes to compose and decompose basic two-dimensional shapes and construct more complex shapes.

Related Grade 1 TEKS:

1(1)(A)-(G)	The student uses mathematical processes to acquire and demonstrate mathematical understanding.
1(6)(A)	The student is expected to classify and sort regular and irregular two-dimensional shapes based on attributes using informal geometric language.
1(6)(B)	The student is expected to distinguish between attributes that define a two-dimensional or three-dimensional figure and attributes that do not define the shape.
1(6)(C)	The student is expected to create two-dimensional figures, including circles, triangles, rectangles, and squares, as special rectangles, rhombuses, and hexagons.
1(6)(D)	The student is expected to identify two-dimensional shapes, including circles, triangles, rectangles, and squares, as special rectangles, rhombuses, and hexagons and describe their attributes using formal geometric language.
1(6)(E)	The student is expected to identify three-dimensional solids, including spheres, cones, cylinders, rectangular prisms (including cubes), and triangular prisms, and describe their attributes using formal geometric language.
1(6)(F)	The student is expected to compose two-dimensional shapes by joining two, three, or four figures to produce a target shape in more than one way if possible.
1(6)(G)	The student is expected to partition two-dimensional figures into two and four fair shares or equal parts and describe the parts using words.

TEXAS RESPONSE TO CURRICULUM FOCAL POINTS FOR GRADE 1 MATHEMATICS REVISED 2013

Developing the understanding of length

Students gain familiarity with principles of length measurement. They reason about, explain, and use the principles as they measure lengths.

Related Grade 1 TEKS:

1(1)(A)-(G)	The student uses mathematical processes to acquire and demonstrate mathematical understanding.
1(7)(A)	The student is expected to use measuring tools to measure the length of objects to reinforce the continuous nature of linear measurement.
1(7)(B)	The student is expected to illustrate that the length of an object is the number of same-size units of length that, when laid end-to-end with no gaps or overlaps, reach from one end of the object to the other.
1(7)(C)	The student is expected to measure the same object/distance with units of two different lengths and describe how and why the measurements differ.
1(7)(D)	The student is expected to describe a length to the nearest whole unit using a number and a unit.

TEXAS RESPONSE TO CURRICULUM FOCAL POINTS FOR GRADE 1 MATHEMATICS REVISED 2013

Connections:	
1(6)(H)	The student is expected to identify examples and non-examples of halves and fourths.
1(7)(E)	The student is expected to tell time to the hour and half hour using analog and digital clocks.
Financial Literacy:	
1(9)(A)	The student is expected to define money earned as income.
1(9)(B)	The student is expected to identify income as a means of obtaining goods and services, oftentimes making choices between wants and needs.
1(9)(C)	The student is expected to distinguish between spending and saving.
1(9)(D)	The student is expected to consider charitable giving.

TEXAS RESPONSE TO CURRICULUM FOCAL POINTS FOR GRADE 2 MATHEMATICS REVISED 2013

Developing proficiency in the use of place value within the base-10 numeration system

Students continue to develop an understanding of the base-10 place value system and place value concepts up to 1,200. Students use base-10 place value to count in multiples of thousands, hundreds, tens, and ones and demonstrate number relationships in a variety of ways.

2(1)(A)(B)(C)(D)(E)(F)(G); 2(2)(A)(B)(C)(D)(E)(F); 2(5)(A)(B); 2(7)(B); 2(10)(A)(B)

Using place value and properties of operations to solve problems involving addition and subtraction of whole numbers within 1,000

Students identify situations in which addition and subtraction are useful to solve problems. Students develop and use strategies based on place value and properties of operations to add and subtract multi-digit whole numbers.

2(1)(A)(B)(C)(D)(E)(F)(G); 2(4)(A)(B)(C)(D); 2(7)(B)(C); 2(10)(C)(D)

Measuring length

Students will identify length as an attribute that can be measured and select and use appropriate units to measure it. Students understand that the value of a length measurement depends on the size of the unit.

2(1)(A)(B)(C)(D)(E)(F)(G); 2(9)(A)(B)(C)(D)(E)

Applying knowledge of two-dimensional shapes and three-dimensional solids, including exploration of early fraction concepts

Students use attributes to classify, sort, compose, and decompose two-dimensional shapes and three-dimensional solids. Students partition objects into equal parts, name the parts, and compare the sizes of parts.

2(1)(A)(B)(C)(D)(E)(F)(G); 2(3)(A)(B)(C)(D); 2(8)(A)(B)(C)(D)(E)

Grade Level Connections

2(6)(A)(B); 2(7)(A); 2(9)(F)(G)

Financial Literacy

2(11)(A)(B)(C)(D)(E)(F)

Connections to Texas College and Career Readiness Standards - Math

I.	Numeric Reasoning
II.D.	Algebraic Reasoning—Representations
III.A.	Geometric Reasoning—Figures and Their Properties
IV.A.	Measurement Involving Physical and Natural Attributes
VIII.	Problem Solving and Reasoning
IX.	Communication and Reasoning
X.	Connections

TEXAS RESPONSE TO CURRICULUM FOCAL POINTS FOR GRADE 2 MATHEMATICS REVISED 2013

Developing proficiency in the use of place value within the base-10 numeration system

Students continue to develop an understanding of the base-10 place value system and place value concepts up to 1,200. Students use base-10 place value to count in multiples of thousands, hundreds, tens, and ones and demonstrate number relationships in a variety of ways.

Related Grade 2 TEKS:

2(1)(A)-(G)	The student uses mathematical processes to acquire and demonstrate mathematical understanding.
2(2)(A)	The student is expected to use concrete and pictorial models to compose and decompose numbers up to 1,200 in more than one way as a sum of so many thousands, hundreds, tens, and ones.
2(2)(B)	The student is expected to use standard, word, and expanded forms to represent numbers up to 1,200.
2(2)(C)	The student is expected to generate a number that is greater than or less than a given whole number up to 1,200.
2(2)(D)	The student is expected to use place value to compare and order whole numbers up to 1,200 using comparative language, numbers, and symbols (>, <, or =).
2(2)(E)	The student is expected to locate the position of a given whole number on an open number line.
2(2)(F)	The student is expected to name the whole number that corresponds to a specific point on a number line.
2(5)(A)	The student is expected to determine the value of a collections of coins up to one dollar.
2(5)(B)	The student is expected to use the cent symbol, dollar sign, and the decimal point to name the value of a collection of coins.
2(7)(B)	The student is expected to use an understanding of place value to determine the number that is 10 or 100 more or less than a given number up to 1,200.
2(10)(A)	The student is expected to explain that the length of a bar in a bar graph or the number of pictures in a pictograph represents the number of data points for a given category.
2(10)(B)	The student is expected to organize a collection of data with up to four categories using pictographs and bar graphs with intervals of one or more.

TEXAS RESPONSE TO CURRICULUM FOCAL POINTS FOR GRADE 2 MATHEMATICS REVISED 2013

Using place value and properties of operations to solve problems involving addition and subtraction of whole numbers within 1,000

Students identify situations in which addition and subtraction are useful to solve problems. Students develop and use strategies based on place value and properties of operations to add and subtract multi-digit whole numbers.

Related Grade 2 TEKS:

2(1)(A)-(G)	The student uses mathematical processes to acquire and demonstrate mathematical understanding.
2(4)(A)	The student is expected to recall basic facts to add and subtract within 20 with automaticity.
2(4)(B)	The student is expected to add up to four two-digit numbers and subtract two-digit numbers using mental strategies and algorithms based on knowledge of place value and properties of operations.
2(4)(C)	The student is expected to solve one-step and multi-step word problems involving addition and subtraction within 1,000 using a variety of strategies based on place value, including algorithms.
2(4)(D)	The student is expected to generate and solve problem situations for a given mathematical number sentence involving addition and subtraction of whole numbers within 1,000.
2(7)(B)	The student is expected to use an understanding of place value to determine the number that is 10 or 100 more or less than a given number up to 1,200.
2(7)(C)	The student is expected to represent and solve addition and subtraction word problems where unknowns may be any one of the terms in the problem.
2(10)(C)	The student is expected to write and solve one-step word problems involving addition or subtraction using data represented within pictographs and bar graphs with intervals of one.
2(10)(D)	The student is expected to draw conclusions and make predictions from information in a graph.

TEXAS RESPONSE TO CURRICULUM FOCAL POINTS FOR GRADE 2 MATHEMATICS REVISED 2013

Measuring length

Students will identify length as an attribute that can be measured and select and use appropriate units to measure it. Students understand that the value of a length measurement depends on the size of the unit.

Related Grade 2 TEKS:

2(1)(A)-(G)	The student uses mathematical processes to acquire and demonstrate mathematical understanding.
2(9)(A)	The student is expected to find the length of objects using concrete models for standard units of length.
2(9)(B)	The student is expected to describe the inverse relationship between the size of the unit and the number of units needed to equal the length of an object.
2(9)(C)	The student is expected to represent whole numbers as distances from any given location on a number line.
2(9)(D)	The student is expected to determine the length of an object to the nearest marked unit using rulers, yardsticks, meter sticks, or measuring tapes.
2(9)(E)	The student is expected to determine a solution to a problem involving length, including estimating lengths.

TEXAS RESPONSE TO CURRICULUM FOCAL POINTS FOR GRADE 2 MATHEMATICS REVISED 2013

Applying knowledge of two-dimensional shapes and three-dimensional solids, including exploration of early fraction concepts
Students use attributes to classify, sort, compose, and decompose two-dimensional shapes and three-dimensional solids. Students partition objects into equal parts, name the parts, and compare the sizes of parts.

Related Grade 2 TEKS:

2(1)(A)-(G)	The student uses mathematical processes to acquire and demonstrate mathematical understanding.
2(3)(A)	The student is expected to partition objects into equal parts and name the parts, including halves, fourths, and eighths, using words.
2(3)(B)	The student is expected to explain that the more fractional parts used to make a whole, the smaller the part; and the fewer the fractional parts, the larger the part.
2(3)(C)	The student is expected to use concrete models to count fractional parts beyond one whole using words and recognize how many parts it takes to equal one whole.
2(3)(D)	The student is expected to identify examples and non-examples of halves, fourths, and eighths.
2(8)(A)	The student is expected to create two-dimensional shapes based on given attributes, including number of sides and vertices.
2(8)(B)	The student is expected to classify and sort three-dimensional solids, including spheres, cones, cylinders, rectangular prisms (including cubes as special rectangular prisms), and triangular prisms, based on attributes using formal geometric language.
2(8)(C)	The student is expected to classify and sort polygons with 12 or fewer sides according to attributes, including identifying the number of sides and number of vertices.
2(8)(D)	The student is expected to compose two-dimensional shapes and three-dimensional solids with given properties or attributes.
2(8)(E)	The student is expected to decompose two-dimensional shapes such as cutting out a square from a rectangle, dividing a shape in half, or partitioning a rectangle into identical triangles and identify the resulting geometric parts.

TEXAS RESPONSE TO CURRICULUM FOCAL POINTS FOR GRADE 2 MATHEMATICS REVISED 2013

Connections:	
2(6)(A)	The student is expected to model, create, and describe contextual multiplication situations in which equivalent sets of concrete objects are joined.
2(6)(B)	The student is expected to model, create, and describe contextual division situations in which a set of concrete objects is separated into equivalent sets.
2(7)(A)	The student is expected to determine whether a number up to 40 is even or odd using pairings of objects to represent the number.
2(9)(F)	The student is expected to use concrete models of square units to find the area of a rectangle by covering it with no gaps or overlaps, counting to find the total number of square units, and describing the measurement using a number and the unit.
2(9)(G)	The student is expected to read and write time to the nearest one-minute increment using analog and digital clocks and distinguish between a.m. and p.m.
Financial Literacy:	
2(11)(A)	The student is expected to calculate how money saved can accumulate into a larger amount over time.
2(11)(B)	The student is expected to explain that saving is an alternative to spending.
2(11)(C)	The student is expected to distinguish between a deposit and a withdrawal.
2(11)(D)	The student is expected to identify examples of borrowing and distinguish between responsible and irresponsible borrowing.
2(11)(E)	The student is expected to identify examples of lending and use concepts of benefits and costs to evaluate lending decisions.
2(11)(F)	The student is expected to differentiate between producers and consumers and calculate the cost to produce a simple item.

TEXAS RESPONSE TO CURRICULUM FOCAL POINTS FOR GRADE 3 MATHEMATICS REVISED 2013

Understanding and applying place value and properties of operations to solve problems involving addition and subtraction of whole numbers within 1,000

Students extend their understanding of the base-10 system to numbers up to 100,000 and represent addition and subtraction of numbers within 1,000 using pictorial models, number lines, and equations. They use efficient, accurate, and generalizable methods based on place value, properties of operations, and the relationship between addition and subtraction to solve problems involving addition and subtraction of whole numbers within 1,000.

3(1)(A)(B)(C)(D)(E)(F)(G); 3(2)(A)(B)(C)(D); 3(4)(A)(B)(C); 3(5)(A); 3(7)(C); 3(8)(A)(B)

Solving problems with multiplication and division within 100

Students develop an understanding of multiplication and division of whole numbers through the use of representations. Students use properties of addition and multiplication to multiply whole numbers and apply increasingly sophisticated strategies based on these properties to solve multiplication and division problems. Students relate multiplication and division as inverse operations.

3(1)(A)(B)(C)(D)(E)(F)(G); 3(4)(D)(E)(F)(G)(H)(I)(J)(K); 3(5)(B)(C)(D)

Understanding fractions as numbers and representing equivalent fractions

Students develop an understanding of the fraction $\frac{A}{B}$ as A parts, each of size $\frac{1}{B}$ of the whole using models. Students use fraction models, names, and symbols to describe and compare fractional parts of whole objects, sets of objects, and points or distances on a number line. Students construct models of equivalent fractions.

3(1)(A)(B)(C)(D)(E)(F)(G); 3(3)(A)(B)(C)(D)(E)(F)(G)(H); 3(6)(E); 3(7)(A)

Describing characteristics of 2-D and 3-D geometric figures, including measurable attributes

Students use attributes to sort, classify, and measure two- and three-dimensional figures. Students use the decomposition of rectangles into rows of squares to determine that the area can be found by multiplying.

3(1)(A)(B)(C)(D)(E)(F)(G); 3(6)(A)(B)(C)(D); 3(7)(B)(D)(E)

Grade Level Connections

3(5)(E)

Financial Literacy

3(9)(A)(B)(C)(D)(E)(F)

Connections to Texas College and Career Readiness Standards - Math

I.	Numeric Reasoning
II.D.	Algebraic Reasoning—Representations
III.A.	Geometric Reasoning—Figures and Their Properties
IV.A.	Measurement Involving Physical and Natural Attributes
IV.C.	Measurement Involving Geometry and Algebra
VI.B.	Statistical Reasoning—Describe Data
VIII.	Problem Solving and Reasoning
IX.	Communication and Reasoning

TEXAS RESPONSE TO CURRICULUM FOCAL POINTS FOR GRADE 3 MATHEMATICS REVISED 2013

Understanding and applying place value and properties of operations to solve problems involving addition and subtraction of whole numbers within 1,000

Students extend their understanding of the base-10 system to numbers up to 100,000 and represent addition and subtraction of numbers within 1,000 using pictorial models, number lines, and equations. They use efficient, accurate, and generalizable methods based on place value, properties of operations, and the relationship between addition and subtraction to solve problems involving addition and subtraction of whole numbers within 1,000.

Related Grade 3 TEKS:

3(1)(A)-(G)	The student uses mathematical processes to acquire and demonstrate mathematical understanding.
3(2)(A)	The student is expected to compose and decompose numbers up to 100,000 as a sum of so many ten thousands, so many thousands, so many hundreds, so many tens, and so many ones using objects, pictorial models, and numbers, including expanded notation as appropriate.
3(2)(B)	The student is expected to describe the mathematical relationships found in the base-10 place value system through the hundred thousands place.
3(2)(C)	The student is expected to represent a number on a number line as being between two consecutive multiples of 10; 100; 1,000; or 10,000 and use words to describe relative size of numbers in order to round whole numbers.
3(2)(D)	The student is expected to compare and order whole numbers up to 100,000 and represent comparisons using the symbols $>$, $<$, or $=$.
3(4)(A)	The student is expected to solve with fluency one-step and two-step [multi-step] problems involving addition and subtraction within 1,000 using strategies based on place value, properties of operations, and the relationship between addition and subtraction.
3(4)(B)	The student is expected to round to the nearest 10 or 100 or use compatible numbers to estimate solutions to addition and subtraction problems.
3(4)(C)	The student is expected to determine the value of a collection of coins and bills.
3(5)(A)	The student is expected to represent one- and two-step problems involving addition and subtraction of whole numbers to 1,000 using pictorial models, number lines, and equations.
3(7)(C)	The student is expected to determine the solutions to problems involving addition and subtraction of time intervals in minutes using pictorial models or tools such as a 15-minute event plus a 30-minute event equals 45 minutes.
3(8)(A)	The student is expected to summarize a data set with multiple categories using a frequency table, dot plot, pictograph, or bar graph with scaled intervals.
3(8)(B)	The student is expected to solve one- and two-step problems using categorical data represented with a frequency table, dot plot, pictograph, or bar graph with scaled intervals.

TEXAS RESPONSE TO CURRICULUM FOCAL POINTS FOR GRADE 3 MATHEMATICS REVISED 2013

Solving problems with multiplication and division within 100

Students develop an understanding of multiplication and division of whole numbers through the use of representations. Students use properties of addition and multiplication to multiply whole numbers and apply increasingly sophisticated strategies based on these properties to solve multiplication and division problems. Students relate multiplication and division as inverse operations.

Related Grade 3 TEKS:

3(1)(A)-(G)	The student uses mathematical processes to acquire and demonstrate mathematical understanding.
3(4)(D)	The student is expected to determine the total number of objects when equally-sized groups of objects are combined or arranged in arrays up to 10 by 10.
3(4)(E)	The student is expected to represent multiplication facts by using a variety of approaches such as repeated addition, equal-sized groups, arrays, area models, equal jumps on a number line, and skip counting.
3(4)(F)	The student is expected to recall facts to multiply up to 10 by 10 with automaticity and recall the corresponding division facts.
3(4)(G)	The student is expected to use strategies and algorithms, including the standard algorithm, to multiply a two-digit number by a one-digit number. Strategies may include mental math, partial products, and the commutative, associative, and distributive properties.
3(4)(H)	The student is expected to determine the number of objects in each group when a set of objects is partitioned into equal shares or a set of objects is shared equally.
3(4)(I)	The student is expected to determine if a number is even or odd using divisibility rules.
3(4)(J)	The student is expected to determine a quotient using the relationship between multiplication and division.
3(4)(K)	The student is expected to solve one-step and two-step problems involving multiplication and division within 100 using strategies based on objects; pictorial models, including arrays, area models, and equal groups; properties of operations; or recall of facts.
3(5)(B)	The student is expected to represent and solve one- and two-step multiplication and division problems within 100 using arrays, strip diagrams, and equations.
3(5)(C)	The student is expected to describe a multiplication expression as a comparison such as 3 x 24 represents 3 times as much as 24.
3(5)(D)	The student is expected to determine the unknown whole number in a multiplication or division equation relating three whole numbers when the unknown is either a missing factor or product.

TEXAS RESPONSE TO CURRICULUM FOCAL POINTS FOR GRADE 3 MATHEMATICS REVISED 2013

Understanding fractions as numbers and representing equivalent fractions

Students develop an understanding of the fraction $\frac{A}{B}$ as *A* parts, each of size $\frac{1}{B}$ of the whole using models. Students use fraction models, names, and symbols to describe and compare fractional parts of whole objects, sets of objects, and points or distances on a number line. Students construct models of equivalent fractions.

Related Grade 3 TEKS:

3(1)(A)-(G)	The student uses mathematical processes to acquire and demonstrate mathematical understanding.
3(3)(A)	The student is expected to represent fractions greater than zero and less than or equal to one with denominators of 2, 3, 4, 6, and 8 using concrete objects and pictorial models, including strip diagrams and number lines.
3(3)(B)	The student is expected to determine the corresponding fraction greater than zero and less than or equal to one with denominators of 2, 3, 4, 6, and 8 given a specified point on a number line.
3(3)(C)	The student is expected to explain that the unit fraction $\frac{a}{b}$ represents the quantity formed by one part of a whole that has been partitioned into b equal parts where *b* is a non-zero whole number.
3(3)(D)	The student is expected to compose and decompose a fraction $\frac{a}{b}$ with a numerator greater than zero and less than or equal to b as a sum of parts $\frac{a}{b}$.
3(3)(E)	The student is expected to solve problems involving partitioning an object or a set of objects among two or more recipients using pictorial representations of fractions with denominators of 2, 3, 4, 6, and 8.
3(3)(F)	The student is expected to represent equivalent fractions with denominators of 2, 3, 4, 6, and 8 using a variety of objects and pictorial models, including number lines.
3(3)(G)	The student is expected to explain that two fractions are equivalent if and only if they are both represented by the same point on the number line or represent the same portion of a same size whole for an area model.
3(3)(H)	The student is expected to compare two fractions having the same numerator or denominator in problems by reasoning about their sizes and justifying the conclusion using symbols, words, objects, and pictorial models.
3(6)(E)	The student is expected to decompose two congruent two-dimensional figures into parts with equal areas and express the area of each part as a unit fraction of the whole and recognize that equal shares of identical wholes need not have the same shape.
3(7)(A)	The student is expected to represent fractions of halves, fourths, and eighths as distances from zero on a number line.

TEXAS RESPONSE TO CURRICULUM FOCAL POINTS FOR GRADE 3 MATHEMATICS REVISED 2013

Describing characteristics of 2-D and 3-D geometric figures, including measurable attributes
Students use attributes to sort, classify, and measure two- and three-dimensional figures. Students use the decomposition of rectangles into rows of squares to determine that the area can be found by multiplying.

Related Grade 3 TEKS:

3(1)(A)-(G)	The student uses mathematical processes to acquire and demonstrate mathematical understanding.
3(6)(A)	The student is expected to classify and sort two- and three-dimensional solids, including cones, cylinders, spheres, triangular and rectangular prisms, and cubes, based on attributes using formal geometric language.
3(6)(B)	The student is expected to use attributes to recognize rhombuses, parallelograms, trapezoids, rectangles, and squares as examples of quadrilaterals and draw examples of quadrilaterals that do not belong to any of these subcategories.
3(6)(C)	The student is expected to determine the area of rectangles with whole number side lengths in problems using multiplication related to the number of rows times the number of unit squares in each row.
3(6)(D)	The student is expected to decompose composite figures formed by rectangles into non-overlapping rectangles to determine the area of the original figure using the additive property of area.
3(7)(B)	The student is expected to determine the perimeter of a polygon or a missing length when given perimeter and remaining side lengths in problems.
3(7)(D)	The student is expected to determine when it is appropriate to use measurements of liquid volume (capacity) or weight.
3(7)(E)	The student is expected to determine liquid volume (capacity) or weight using appropriate units and tools.

TEXAS RESPONSE TO CURRICULUM FOCAL POINTS FOR GRADE 3 MATHEMATICS REVISED 2013

Connections:	
3(5)(E)	The student is expected to represent real-world relationships using number pairs in a table and verbal descriptions.
Financial Literacy:	
3(9)(A)	The student is expected to explain the connection between human capital/labor and income.
3(9)(B)	The student is expected to describe the relationship between the availability or scarcity of resources and how that impacts cost.
3(9)(C)	The student is expected to identify the costs and benefits of planned and unplanned spending decisions.
3(9)(D)	The student is expected to explain that credit is used when wants or needs exceed the ability to pay and that it is the borrower's responsibility to pay it back to the lender, usually with interest.
3(9)(E)	The student is expected to list reasons to save and explain the benefit of a savings plan, including for college.
3(9)(F)	The student is expected to identify decisions involving income, spending, saving, credit, and charitable giving.

TEXAS RESPONSE TO CURRICULUM FOCAL POINTS FOR GRADE 4 MATHEMATICS REVISED 2013

Developing fluency with efficient use of the four arithmetic operations on whole numbers and using this knowledge to solve problems

Students add, subtract, multiply, and divide whole numbers fluently; justify these procedures; and use them to solve problems, including developing formulas for perimeter and area.

4(1)(A)(B)(C)(D)(E)(F)(G); 4(4)(A)(B)(C)(D)(E)(F)(G)(H); 4(5)(A)(B)(C)(D); 4(8)(A)(B)(C); 4(9)(A)(B)

Measuring angles

Students understand and apply the characteristics of angles and angle measure.

4(1)(A)(B)(C)(D)(E)(F)(G); 4(6)(A)(C)(D); 4(7)(A)(B)(C)(D)(E)

Understanding decimals and addition and subtraction of decimals

Students use understanding of base-10 place value and equivalent fractions to develop understanding of decimals as numbers and of procedures for adding and subtracting decimals.

4(1)(A)(B)(C)(D)(E)(F)(G); 4(2)(A)(B)(C)(D)(E)(F)(G)(H); 4(3)(G); 4(4)(A); 4(9)(A)(B)

Building foundations for addition and subtraction of fractions

Students use their understanding of fractions as numbers along with their understanding of addition and subtraction to develop understanding of and procedures for adding and subtracting fractions with like denominators. Students use these understandings and procedures to solve problems.

4(1)(A)(B)(C)(D)(E)(F)(G); 4(3)(A)(B)(C)(D)(E)(F)(G); 4(9)(A)(B)

Grade Level Connections

4(6)(A)(B)

Financial Literacy

4(10)(A)(B)(C)(D)(E)

Connections to Texas College and Career Readiness Standards - Math

I.	Numeric Reasoning
II.D.	Algebraic Reasoning—Representations
III.A.	Geometric Reasoning—Figures and Their Properties
IV.A.	Measurement Involving Physical and Natural Attributes
IV.C.	Measurement Involving Geometry and Algebra
VI.A.	Statistical Reasoning—Describe Data
VIII.	Problem Solving and Reasoning
IX.	Communication and Reasoning
X.	Connections

TEXAS RESPONSE TO CURRICULUM FOCAL POINTS FOR GRADE 4 MATHEMATICS REVISED 2013

Developing fluency with efficient use of the four arithmetic operations on whole numbers and using this knowledge to solve problems

Students add, subtract, multiply, and divide whole numbers fluently; justify these procedures; and use them to solve problems, including developing formulas for perimeter and area.

Related Grade 4 TEKS:

4(1)(A)-(G)	The student uses mathematical processes to acquire and demonstrate mathematical understanding.
4(4)(A)	The student is expected to add and subtract whole numbers and decimals to the hundredths place using the standard algorithm.
4(4)(B)	The student is expected to determine products of a number and 10 or 100 using properties of operations and place value understandings.
4(4)(C)	The student is expected to represent the product of 2 two-digit numbers using arrays, area models, or equations, including perfect squares through 15 by 15.
4(4)(D)	The student is expected to use strategies and algorithms, including the standard algorithm, to multiply up to a four-digit number by a one-digit number and to multiply a two-digit number by a two-digit number. Strategies may include mental math, partial products, and the commutative, associative, and distributive properties.
4(4)(E)	The student is expected to represent the quotient of up to a four-digit whole number divided by a one-digit whole number using arrays, area models, or equations.
4(4)(F)	The student is expected to use strategies and algorithms, including the standard algorithm, to divide up to a four-digit dividend by a one-digit divisor.
4(4)(G)	The student is expected to round to the nearest 10, 100, or 1,000 or use compatible numbers to estimate solutions involving whole numbers.
4(4)(H)	The student is expected to solve with fluency one- and two-step problems involving multiplication and division, including interpreting remainders.
4(5)(A)	The student is expected to represent multi-step problems involving the four operations with whole numbers using strip diagrams and equations with a letter standing for the unknown quantity.
4(5)(B)	The student is expected to represent problems using an input-output table and numerical expressions to generate a number pattern that follows a given rule representing the relationship of the values in the resulting sequence and their position in the sequence.
4(5)(C)	The student is expected to use models to determine the formulas for the perimeter of a rectangle ($l + w + l + w$ or $2l + 2w$), including the special form for perimeter of a square ($4s$) and the area of a rectangle ($l \times w$).

TEXAS RESPONSE TO CURRICULUM FOCAL POINTS FOR GRADE 4 MATHEMATICS REVISED 2013

Developing fluency with efficient use of the four arithmetic operations on whole numbers and using this knowledge to solve problems (continued)

Students add, subtract, multiply, and divide whole numbers fluently; justify these procedures; and use them to solve problems, including developing formulas for perimeter and area.

Related Grade 4 TEKS:

4(5)(D)	The student is expected to solve problems related to perimeter and area of rectangles where dimensions are whole numbers.
4(8)(A)	The student is expected to identify relative sizes of measurement units within the customary and metric systems.
4(8)(B)	The student is expected to convert measurements within the same measurement system, customary or metric, from a smaller unit into a larger unit or a larger unit into a smaller unit when given other equivalent measures represented in a table.
4(8)(C)	The student is expected to solve problems that deal with measurements of length, intervals of time, liquid volumes, mass, and money using addition, subtraction, multiplication, or division as appropriate.
4(9)(A)	The student is expected to represent data on a frequency table, dot plot, or stem-and-leaf plot marked with whole numbers and fractions.
4(9)(B)	The student is expected to solve one- and two-step problems using data in whole number, decimal, and fraction form in a frequency table, dot plot, or stem-and-leaf plot.

TEXAS RESPONSE TO CURRICULUM FOCAL POINTS FOR GRADE 4 MATHEMATICS REVISED 2013

Measuring angles

Students understand and apply the characteristics of angles and angle measure.

Related Grade 4 TEKS:

4(1)(A)-(G)	The student uses mathematical processes to acquire and demonstrate mathematical understanding.
4(6)(A)	The student is expected to identify points, lines, line segments, rays, angles, and perpendicular and parallel lines.
4(6)(C)	The student is expected to apply knowledge of right angles to identify acute, right, and obtuse triangles.
4(6)(D)	The student is expected to classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines or the presence or absence of angles of a specified size.
4(7)(A)	The student is expected to illustrate the measure of an angle as the part of a circle whose center is at the vertex of the angle that is "cut out" by the rays of the angle. Angle measures are limited to whole numbers.
4(7)(B)	The student is expected to illustrate degrees as the units used to measure an angle, where $\frac{1}{360}$ of any circle is one degree and an angle that "cuts" $\frac{n}{360}$ out of any circle whose center is at the angle's vertex has a measure of n degrees. Angle measures are limited to whole numbers.
4(7)(C)	The student is expected to determine the approximate measures of angles in degrees to the nearest whole number using a protractor.
4(7)(D)	The student is expected to draw an angle with a given measure.
4(7)(E)	The student is expected to determine the measure of an unknown angle formed by two non-overlapping adjacent angles given one or both angle measures.

TEXAS RESPONSE TO CURRICULUM FOCAL POINTS FOR GRADE 4 MATHEMATICS REVISED 2013

Understanding decimals and addition and subtraction of decimals

Students use understanding of base-10 place value and equivalent fractions to develop understanding of decimals as numbers and of procedures for adding and subtracting decimals.

Related Grade 4 TEKS:

4(1)(A)-(G)	The student uses mathematical processes to acquire and demonstrate mathematical understanding.
4(2)(A)	The student is expected to interpret the value of each place-value position as 10 times the position to the right and as one-tenth of the value of the place to its left.
4(2)(B)	The student is expected to represent the value of the digit in whole numbers through 1,000,000,000 and decimals to the hundredths using expanded notation and numerals.
4(2)(C)	The student is expected to compare and order whole numbers to 1,000,000,000 and represent comparisons using the symbols $>$, $<$, or $=$.
4(2)(D)	The student is expected to round whole numbers to a given place value through the hundred thousands place.
4(2)(E)	The student is expected to represent decimals, including tenths and hundredths, using concrete and visual models and money.
4(2)(F)	The student is expected to compare and order decimals using concrete and visual models to the hundredths.
4(2)(G)	The student is expected to relate decimals to fractions that name tenths and hundredths.
4(2)(H)	The student is expected to determine the corresponding decimal to the tenths or hundredths place of a specified point on a number line.
4(3)(G)	The student is expected to represent fractions and decimals to the tenths or hundredths as distances from zero on a number line.
4(4)(A)	The student is expected to add and subtract whole numbers and decimals to the hundredths place using the standard algorithm.
4(9)(A)	The student is expected to represent data on a frequency table, dot plot, or stem-and-leaf plot marked with whole numbers and fractions.
4(9)(B)	The student is expected to solve one- and two-step problems using data in whole number, decimal, and fraction form in a frequency table, dot plot, or stem-and-leaf plot.

TEXAS RESPONSE TO CURRICULUM FOCAL POINTS FOR GRADE 4 MATHEMATICS REVISED 2013

Building foundations for addition and subtraction of fractions

Students use their understanding of fractions as numbers along with their understanding of addition and subtraction to develop understanding of and procedures for adding and subtracting fractions with like denominators. Students use these understandings and procedures to solve problems.

Related Grade 4 TEKS:

4(1)(A)-(G)	The student uses mathematical processes to acquire and demonstrate mathematical understanding.
4(3)(A)	The student is expected to represent a fraction $\frac{a}{b}$ as a sum of fractions $\frac{1}{b}$, where a and b are whole numbers and $b > 0$, including when $a > b$.
4(3)(B)	The student is expected to decompose a fraction in more than one way into a sum of fractions with the same denominator using concrete and pictorial models and recording results with symbolic representations.
4(3)(C)	The student is expected to determine if two given fractions are equivalent using a variety of methods.
4(3)(D)	The student is expected to compare two fractions with different numerators and different denominators and represent the comparison using the symbols $>$, $=$, or $<$.
4(3)(E)	The student is expected to represent and solve addition and subtraction of fractions with equal denominators using objects and pictorial models that build to the number line and properties of operations.
4(3)(F)	The student is expected to evaluate the reasonableness of sums and differences of fractions using benchmark fractions 0, $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$, and 1, referring to the same whole.
4(3)(G)	The student is expected to represent fractions and decimals to the tenths or hundredths as distances from zero on a number line.
4(9)(A)	The student is expected to represent data on a frequency table, dot plot, or stem-and-leaf plot marked with whole numbers and fractions.
4(9)(B)	The student is expected to solve one- and two-step problems using data in whole number, decimal, and fraction form in a frequency table, dot plot, or stem-and-leaf plot.

TEXAS RESPONSE TO CURRICULUM FOCAL POINTS FOR GRADE 4 MATHEMATICS REVISED 2013

Connections:	
4(6)(A)	The student is expected to identify points, lines, line segments, rays, angles, and perpendicular and parallel lines.
4(6)(B)	The student is expected to identify and draw one or more lines of symmetry, if they exist, for a two-dimensional figure.
Financial Literacy:	
4(10)(A)	The student is expected to distinguish between fixed and variable expenses.
4(10)(B)	The student is expected to calculate profit in a given situation.
4(10)(C)	The student is expected to compare the advantages and disadvantages of various savings options.
4(10)(D)	The student is expected to describe how to allocate a weekly allowance among spending; saving, including for college; and sharing.
4(10)(E)	The student is expected to describe the basic purpose of financial institutions, including keeping money safe, borrowing money, and lending.

TEXAS RESPONSE TO CURRICULUM FOCAL POINTS FOR GRADE 5 MATHEMATICS REVISED 2013

Developing an understanding of and fluency with addition, subtraction, multiplication, and division of fractions and decimals
Students apply their understanding of fractions and fraction models to represent the addition and subtraction of fractions with unlike denominators as equivalent calculations of fractions with like denominators. Students make reasonable estimates of fraction and decimal sums and differences and add and subtract fractions and add, subtract, multiply, and divide decimals to solve problems. Students apply their understanding of multiplication and division to build understanding of multiplication and division of fractions.
5(1)(A)(B)(C)(D)(E)(F)(G); 5(3)(A)(B)(C)(D)(E)(F)(G)(H)(I)(J)(K)(L); 5(7)

Understanding and generating expressions and equations to solve problems
Students use or generate expressions and equations to solve problems involving the four operations.
5(1)(A)(B)(C)(D)(E)(F)(G); 5(4)(B)(C)(D)(E)(F)(G)(H); 5(7)

Representing and solving problems with perimeter, area, and volume
Students apply their understanding of measurement to select appropriate units for measuring perimeter, area, and volume in specific problem contexts. Students use a variety of representations to build connections between direct measurement of perimeter, area, and volume to the use of related formulas.
5(1)(A)(B)(C)(D)(E)(F)(G); 5(4)(G)(H); 5(6)(A)(B); 5(7)

Organizing, representing, and interpreting sets of data
Students use appropriate graphic displays (e.g., table, bar graph, coordinate plane) to describe data based on the attributes of a particular data set.
5(1)(A)(B)(C)(D)(E)(F)(G); 5(8)(A)(B)(C); 5(9)(A)(B)(C)

Grade Level Connections
5(2)(A)(B)(C); 5(4)(A); 5(5)

Financial Literacy
5(10)(A)(B)(C)(D)(E)(F)

Connections to Texas College and Career Readiness Standards - Math

I.	Numeric Reasoning
II.D.	Algebraic Reasoning—Representations
III.A.	Geometric Reasoning—Figures and Their Properties
III.C.	Geometric Reasoning—Connections
IV.C.	Measurement Involving Geometry and Algebra
VI.A.	Statistical Reasoning—Describe Data
VIII.	Problem Solving and Reasoning
IX.	Communication and Reasoning
X.	Connections

TEXAS RESPONSE TO CURRICULUM FOCAL POINTS FOR GRADE 5 MATHEMATICS REVISED 2013

Developing an understanding of and fluency with addition, subtraction, multiplication, and division of fractions and decimals
Students apply their understanding of fractions and fraction models to represent the addition and subtraction of fractions with unlike denominators as equivalent calculations with like denominators. Students make reasonable estimates of fraction and decimal sums and differences and add and subtract fractions and add, subtract, multiply, and divide decimals to solve problems. Students apply their understanding of multiplication and division to build understanding of multiplication and division of fractions.

Related Grade 5 TEKS:

5(1)(A)-(G)	The student uses mathematical processes to acquire and demonstrate mathematical understanding.
5(3)(A)	The student is expected to estimate to determine solutions to mathematical and real-world problems involving addition, subtraction, multiplication, or division.
5(3)(B)	The student is expected to multiply with fluency a three-digit number by a two-digit number using the standard algorithm.
5(3)(C)	The student is expected to solve with proficiency for quotients of up to a four-digit dividend by a two-digit divisor using strategies and the standard algorithm.
5(3)(D)	The student is expected to represent multiplication of decimals with products to the hundredths using objects and pictorial models, including area models.
5(3)(E)	The student is expected to solve for products of decimals to the hundredths, including situations involving money, using strategies based on place-value understandings, properties of operations, and the relationship to the multiplication of whole numbers.
5(3)(F)	The student is expected to represent quotients of decimals to the hundredths, up to four-digit dividends and two-digit whole number divisors, using objects and pictorial models, including area models.
5(3)(G)	The student is expected to solve for quotients of decimals to the hundredths, up to four-digit dividends and two-digit whole number divisors, using strategies and algorithms, including the standard algorithm.
5(3)(H)	The student is expected to represent and solve addition and subtraction of fractions with unequal denominators referring to the same whole using objects and pictorial models and properties of operations.
5(3)(I)	The student is expected to represent and solve multiplication of a whole number and a fraction that refers to the same whole using objects and pictorial models, including area models.
5(3)(J)	The student is expected to represent division of a unit fraction by a whole number and the division of a whole number by a unit fraction such as $\frac{1}{3} \div 7$ and $7 \div \frac{1}{3}$ using objects and pictorial models, including area models.
5(3)(K)	The student is expected to add and subtract positive rational numbers fluently.
5(3)(L)	The student is expected to divide whole numbers by unit fractions and unit fractions by whole numbers.
5(7)	The student is expected to solve problems by calculating conversions within a measurement system, customary or metric.

TEXAS RESPONSE TO CURRICULUM FOCAL POINTS FOR GRADE 5 MATHEMATICS REVISED 2013

Understanding and generating expressions and equations to solve problems
Students use or generate expressions and equations to solve problems involving the four operations.

Related Grade 5 TEKS:

5(1)(A)-(G)	The student uses mathematical processes to acquire and demonstrate mathematical understanding.
5(4)(B)	The student is expected to represent and solve multi-step problems involving the four operations with whole numbers using equations with a letter standing for the unknown quantity.
5(4)(C)	The student is expected to generate a numerical pattern when given a rule in the form $y = ax$ or $y = x + a$ and graph.
5(4)(D)	The student is expected to recognize the difference between additive and multiplicative numerical patterns given in a table or graph.
5(4)(E)	The student is expected to describe the meaning of parentheses and brackets in a numeric expression.
5(4)(F)	The student is expected to simplify numerical expressions that do not involve exponents, including up to two levels of grouping.
5(4)(G)	The student is expected to use concrete objects and pictorial models to develop the formulas for the volume of a rectangular prism, including the special form for a cube ($V = l \times w \times h$, $V = s \times s \times s$, and $V = Bh$).
5(4)(H)	The student is expected to represent and solve problems related to perimeter and/or area and related to volume.
5(7)	The student is expected to solve problems by calculating conversions within a measurement system, customary or metric.

TEXAS RESPONSE TO CURRICULUM FOCAL POINTS FOR GRADE 5 MATHEMATICS REVISED 2013

Representing and solving problems with perimeter, area, and volume

Students apply their understanding of measurement to select appropriate units for measuring perimeter, area, and volume in specific problem contexts. Students use a variety of representations to build connections between direct measurement of perimeter, area, and volume to the use of related formulas.

Related Grade 5 TEKS:

5(1)(A)-(G)	The student uses mathematical processes to acquire and demonstrate mathematical understanding.
5(4)(G)	The student is expected to use concrete objects and pictorial models to develop the formulas for the volume of a rectangular prism, including the special form for a cube ($V = l \times w \times h$, $V = s \times s \times s$, and $V = Bh$).
5(4)(H)	The student is expected to represent and solve problems related to perimeter and/or area and related to volume.
5(6)(A)	The student is expected to recognize a cube with side length of one unit as a unit cube having one cubic unit of volume and the volume of a three-dimensional figure as the number of unit cubes (n cubic units) needed to fill it with no gaps or overlaps if possible.
5(6)(B)	The student is expected to determine the volume of a rectangular prism with whole number side lengths in problems related to the number of layers times the number of unit cubes in the area of the base.
5(7)	The student is expected to solve problems by calculating conversions within a measurement system, customary or metric.

TEXAS RESPONSE TO CURRICULUM FOCAL POINTS FOR GRADE 5 MATHEMATICS REVISED 2013

Organizing, representing, and interpreting sets of data
Students use appropriate graphic displays (e.g., table, bar graph, coordinate plane) to describe data based on the attributes of a particular data set.

Related Grade 5 TEKS:

5(1)(A)-(G)	The student uses mathematical processes to acquire and demonstrate mathematical understanding.
5(8)(A)	The student is expected to describe the key attributes of the coordinate plane, including perpendicular number lines (axes) where the intersection (origin) of the two lines coincides with zero on each number line and the given point (0, 0); the *x*-coordinate, the first number in an ordered pair, indicates movement parallel to the *x*-axis starting at the origin; and the *y*-coordinate, the second number, indicates movement parallel to the *y*-axis starting at the origin.
5(8)(B)	The student is expected to describe the process for graphing ordered pairs of numbers in the first quadrant of the coordinate plane.
5(8)(C)	The student is expected to graph in the first quadrant of the coordinate plane ordered pairs of numbers arising from mathematical and real-world problems, including those generated by number patterns or found in an input-output table.
5(9)(A)	The student is expected to represent categorical data with bar graphs or frequency tables and numerical data, including data sets of measurements in fractions or decimals, with dot plots or stem-and-leaf plots.
5(9)(B)	The student is expected to represent discrete paired data on a scatterplot.
5(9)(C)	The student is expected to solve one- and two-step problems using data from a frequency table, dot plot, bar graph, stem-and-leaf plot, or scatterplot.

TEXAS RESPONSE TO CURRICULUM FOCAL POINTS FOR GRADE 5 MATHEMATICS REVISED 2013

Connections:	
5(2)(A)	The student is expected to represent the value of the digit in decimals through the thousandths using expanded notation and numerals.
5(2)(B)	The student is expected to compare and order two decimals to thousandths and represent comparisons using the symbols >, <, or =.
5(2)(C)	The student is expected to round decimals to tenths or hundredths.
5(4)(A)	The student is expected to identify prime and composite numbers.
5(5)	The student is expected to classify two-dimensional figures in a hierarchy of sets and subsets using graphic organizers based on their attributes and properties.
Financial Literacy:	
5(10)(A)	The student is expected to define income tax, payroll tax, sales tax, and property tax.
5(10)(B)	The student is expected to explain the difference between gross income and net income.
5(10)(C)	The student is expected to identify the advantages and disadvantages of different methods of payment, including check, credit card, debit card, and electronic payments.
5(10)(D)	The student is expected to develop a system for keeping and using financial records.
5(10)(E)	The student is expected to describe actions that might be taken to balance a budget when expenses exceed income.
5(10)(F)	The student is expected to balance a simple budget.

TEXAS RESPONSE TO CURRICULUM FOCAL POINTS FOR GRADE 6 MATHEMATICS REVISED 2013

Using operations with integers and positive rational numbers to solve problems

Students extend understanding of and develop procedures for addition, subtraction, multiplication, and division of integers and positive rational numbers.

6(1)(A)(B)(C)(D)(E)(F)(G); 6(2)(B)(C)(D)(E); 6(3)(A)(B)(C)(D)(E)

Understanding and applying ratios and rates and using equivalent ratios to represent proportional relationships

Students use their knowledge of multiplication and division and fractions to develop understanding of and solve ratio and rate problems. Students extend their understanding of equivalent fractions to create equivalent ratios that describe situations that involve proportionality and use various representations (e.g., graphs, tables, equations) to solve problems involving proportional relationships.

6(1)(A)(B)(C)(D)(E)(F)(G); 6(4)(A)(B)(C)(D)(E)(F)(G)(H); 6(5)(A)(B)(C)

Using expressions and equations to represent relationships in a variety of contexts

Students use expressions and equations to represent relationships in a variety of contexts. Students use mathematical symbols to represent linear relationships and formulas.

6(1)(A)(B)(C)(D)(E)(F)(G); 6(6)(A)(B)(C); 6(7)(A)(B)(C)(D); 6(8)(B)(C)(D); 6(9)(A)(B)(C); 6(10)(A)(B)

Understanding data representation

Students understand and use descriptions of center, spread and shape to summarize and compare data sets. Students organize and display data to pose and solve problems.

6(1)(A)(B)(C)(D)(E)(F)(G); 6(6)(A); 6(11); 6(12)(A)(B)(C)(D); 6(13)(A)(B)

Grade Level Connections

6(2)(A); 6(8)(A); 6(11)

Financial Literacy

6(14)(A)(B)(C)(D)(E)(F)(G)(H)

Connections to Texas College and Career Readiness Standards - Math

I.	Numeric Reasoning
II.	Algebraic Reasoning
III.C.	Geometric Reasoning—Connections
IV.	Measurement Reasoning
VII.	Statistical Reasoning
VIII.	Problem Solving and Reasoning
IX.	Communication and Reasoning
X.	Connections

TEXAS RESPONSE TO CURRICULUM FOCAL POINTS FOR GRADE 6 MATHEMATICS REVISED 2013

Using operations with integers and positive rational numbers to solve problems

Students extend understanding of and develop procedures for addition, subtraction, multiplication, and division of integers and positive rational numbers.

Related Grade 6 TEKS:

6(1)(A)-(G)	The student uses mathematical processes to acquire and demonstrate mathematical understanding.
6(2)(B)	The student is expected to identify a number, its opposite, and its absolute value.
6(2)(C)	The student is expected to locate, compare, and order integers and rational numbers using a number line.
6(2)(D)	The student is expected to order a set of rational numbers arising from mathematical and real-world contexts.
6(2)(E)	The student is expected to extend representations for division to include fraction notation such as $\frac{a}{b}$ represents the same number as $a \div b$ where $b \neq 0$.
6(3)(A)	The student is expected to recognize that dividing by a rational number and multiplying by its reciprocal result in equivalent values.
6(3)(B)	The student is expected to determine, with and without computation, whether a quantity is increased or decreased when multiplied by a fraction, including values greater than or less than one.
6(3)(C)	The student is expected to represent integer operations with concrete models and connect the actions with the models to standardized algorithms.
6(3)(D)	The student is expected to add, subtract, multiply, and divide integers fluently.
6(3)(E)	The student is expected to multiply and divide positive rational numbers fluently.

TEXAS RESPONSE TO CURRICULUM FOCAL POINTS FOR GRADE 6 MATHEMATICS REVISED 2013

Understanding and applying ratios and rates and using equivalent ratios to represent proportional relationships

Students use their knowledge of multiplication and division and fractions to develop understanding of and solve ratio and rate problems. Students extend their understanding of equivalent fractions to create equivalent ratios that describe situations that involve proportionality and use various representations (e.g., graphs, tables, equations) to solve problems involving proportional relationships.

Related Grade 6 TEKS:

6(1)(A)-(G)	The student uses mathematical processes to acquire and demonstrate mathematical understanding.
6(4)(A)	The student is expected to compare two rules verbally, numerically, graphically, and symbolically in the form of $y = ax$ or $y = x + a$ in order to differentiate between additive and multiplicative relationships.
6(4)(B)	The student is expected to apply qualitative and quantitative reasoning to solve prediction and comparison of real-world problems involving ratios and rates.
6(4)(C)	The student is expected to give examples of ratios as multiplicative comparisons of two quantities describing the same attribute.
6(4)(D)	The student is expected to give examples of rates as the comparison by division of two quantities having different attributes, including rates as quotients.
6(4)(E)	The student is expected to represent ratios and percents with concrete models, fractions, and decimals.
6(4)(F)	The student is expected to represent benchmark fractions and percents such as 1%, 10%, 25%, 33 $\frac{1}{3}$%, and multiples of these values using 10 by 10 grids, strip diagrams, number lines, and numbers.
6(4)(G)	The student is expected to generate equivalent forms of fractions, decimals, and percents using real-world problems, including problems that involve money.
6(4)(H)	The student is expected to convert units within a measurement system, including the use of proportions and unit rates.
6(5)(A)	The student is expected to represent mathematical and real-world problems involving ratios and rates using scale factors, tables, graphs, and proportions.
6(5)(B)	The student is expected to solve real-world problems to find the whole given a part and the percent, to find the part given the whole and the percent, and to find the percent given the part and the whole, including the use of concrete and pictorial models.
6(5)(C)	The student is expected to use equivalent fractions, decimals, and percents to show equal parts of the same whole.

TEXAS RESPONSE TO CURRICULUM FOCAL POINTS FOR GRADE 6 MATHEMATICS REVISED 2013

Using expressions and equations to represent relationships in a variety of contexts

Students use expressions and equations to represent relationships in a variety of contexts. Students use mathematical symbols to represent linear relationships and formulas.

Related Grade 6 TEKS:

6(1)(A)-(G)	The student uses mathematical processes to acquire and demonstrate mathematical understanding.
6(6)(A)	The student is expected to identify independent and dependent quantities from tables and graphs.
6(6)(B)	The student is expected to write an equation that represents the relationship between independent and dependent quantities from a table.
6(6)(C)	The student is expected to represent a given situation using verbal descriptions, tables, graphs, and equations in the form $y = kx$ or $y = x + b$.
6(7)(A)	The student is expected to generate equivalent numerical expressions using order of operations, including whole number exponents and prime factorization.
6(7)(B)	The student is expected to distinguish between expressions and equations verbally, numerically, and algebraically.
6(7)(C)	The student is expected to determine if two expressions are equivalent using concrete models, pictorial models, and algebraic representations.
6(7)(D)	The student is expected to generate equivalent expressions using the properties of operations: inverse, identity, commutative, associative, and distributive properties.
6(8)(B)	The student is expected to model area formulas for parallelograms, trapezoids, and triangles by decomposing and rearranging parts of these shapes.
6(8)(C)	The student is expected to write equations that represent problems related to the area of rectangles, parallelograms, trapezoids, and triangles and volume of right rectangular prisms where dimensions are positive rational numbers.
6(8)(D)	The student is expected to determine solutions for problems involving the area of rectangles, parallelograms, trapezoids, and triangles and volume of right rectangular prisms where dimensions are positive rational numbers.
6(9)(A)	The student is expected to write one-variable, one-step equations and inequalities to represent constraints or conditions within problems.
6(9)(B)	The student is expected to represent solutions for one-variable, one-step equations and inequalities on number lines.
6(9)(C)	The student is expected to write corresponding real-world problems given one-variable, one-step equations or inequalities.
6(10)(A)	The student is expected to model and solve one-variable, one-step equations and inequalities that represent problems, including geometric concepts.
6(10)(B)	The student is expected to determine if the given value(s) make(s) one-variable, one-step equations or inequalities true.

TEXAS RESPONSE TO CURRICULUM FOCAL POINTS FOR GRADE 6 MATHEMATICS REVISED 2013

Understanding data representation

Students understand and use descriptions of center, spread, and shape to summarize and compare data sets. Students organize and display data to pose and solve problems.

Related Grade 6 TEKS:

6(1)(A)-(G)	The student uses mathematical processes to acquire and demonstrate mathematical understanding.
6(6)(A)	The student is expected to identify independent and dependent quantities from tables and graphs.
6(11)	The student is expected to graph points in all four quadrants using ordered pairs of rational numbers.
6(12)(A)	The student is expected to represent numeric data graphically, including dot plots, stem-and-leaf plots, histograms, and box plots.
6(12)(B)	The student is expected to use the graphical representation of numeric data to describe the center, spread, and shape of the data distribution.
6(12)(C)	The student is expected to summarize numeric data with numerical summaries, including the mean and median (measures of center) and the range and interquartile range (IQR) (measures of spread), and use these summaries to describe the center, spread, and shape of the data distribution.
6(12)(D)	The student is expected to summarize categorical data with numerical and graphical summaries, including the mode, the percent of values in each category (relative frequency table), and the percent bar graph, and use these summaries to describe the data distribution.
6(13)(A)	The student is expected to interpret numeric data summarized in dot plots, stem-and-leaf plots, histograms, and box plots.
6(13)(B)	The student is expected to distinguish between situations that yield data with and without variability.

TEXAS RESPONSE TO CURRICULUM FOCAL POINTS FOR GRADE 6 MATHEMATICS REVISED 2013

Connections:	
6(2)(A)	The student is expected to classify whole numbers, integers, and rational numbers using a visual representation such as a Venn diagram to describe relationships between sets of numbers.
6(8)(A)	The student is expected to extend previous knowledge of triangles and their properties to include the sum of angles of a triangle, the relationship between the lengths of sides and measures of angles in a triangle, and determining when three lengths form a triangle.
6(11)	The student is expected to graph points in all four quadrants using ordered pairs of rational numbers.
Financial Literacy:	
6(14)(A)	The student is expected to compare the features and costs of a checking account and a debit card offered by different local financial institutions.
6(14)(B)	The student is expected to distinguish between debit cards and credit cards.
6(14)(C)	The student is expected to balance a check register that includes deposits, withdrawals, and transfers.
6(14)(D)	The student is expected to explain why it is important to establish a positive credit history.
6(14)(E)	The student is expected to describe the information in a credit report and how long it is retained.
6(14)(F)	The student is expected to describe the value of credit reports to borrowers and to lenders.
6(14)(G)	The student is expected to explain various methods to pay for college, including through savings, grants, scholarships, student loans, and work-study.
6(14)(H)	The student is expected to compare the annual salary of several occupations requiring various levels of post-secondary education or vocational training and calculate the effects of the different annual salaries on lifetime income.

TEXAS RESPONSE TO CURRICULUM FOCAL POINTS FOR GRADE 7 MATHEMATICS REVISED 2013

Developing fluency with rational numbers and operations to solve problems in a variety of contexts
Students understand how operations extend across different sets of numbers. Students develop fluency with addition, subtraction, multiplication, and division of rational numbers and use the operations to solve problems.
7(1)(A)(B)(C)(D)(E)(F)(G); 7(2); 7(3)(A)(B)

Representing and applying proportional relationships
Students use reasoning about ratios, rates, proportionality, and percent to solve problems.
7(1)(A)(B)(C)(D)(E)(F)(G); 7(4)(A)(B)(C)(D)(E); 7(5)(A)(B)(C); 7(6)(A)(B)(C)(D)(E)(F)(G)(H)(I)

Using expressions and equations to describe relationships in a variety of contexts, including geometric problems
Students select, justify, and use appropriate symbolic representations to solve problems in varied contexts, including use of geometric formulas for pyramids and circles.
7(1)(A)(B)(C)(D)(E)(F)(G); 7(7)(A); 7(8)(A)(B)(C); 7(9)(A)(B)(C)(D); 7(10)(A)(B)(C); 7(11)(A)(B)(C)

Comparing sets of data
Students use representations of center, spread, and shape to compare and form inferences about sets of data.
7(1)(A)(B)(C)(D)(E)(F)(G); 7(12)(A)(B)(C)

Financial Literacy
7(13)(A)(B)(C)(D)(E)(F)

Connections to Texas College and Career Readiness Standards - Math

I.	Numeric Reasoning
II.	Algebraic Reasoning
III.A.	Geometric Reasoning—Connections
IV.	Measurement Reasoning
V.	Probabilistic Reasoning
VI.	Statistical Reasoning
VIII.	Problem Solving and Reasoning
IX.	Communication and Reasoning
X.	Connections

TEXAS RESPONSE TO CURRICULUM FOCAL POINTS FOR GRADE 7 MATHEMATICS REVISED 2013

Developing fluency with rational numbers and operations to solve problems in a variety of contexts

Students understand how operations extend across different sets of numbers. Students develop fluency with addition, subtraction, multiplication, and division of rational numbers and use the operations to solve problems.

Related Grade 7 TEKS:

7(1)(A)-(G)	The student uses mathematical processes to acquire and demonstrate mathematical understanding.
7(2)	The student is expected to extend previous knowledge of sets and subsets using a visual representation to describe relationships between sets of rational numbers.
7(3)(A)	The student is expected to add, subtract, multiply, and divide rational numbers fluently.
7(3)(B)	The student is expected to apply and extend previous understandings of operations to solve problems using addition, subtraction, multiplication, and division of rational numbers.

TEXAS RESPONSE TO CURRICULUM FOCAL POINTS FOR GRADE 7 MATHEMATICS REVISED 2013

Representing and applying proportional relationships

Students use reasoning about ratios, rates, proportionality, and percent to solve problems.

Related Grade 7 TEKS:

7(1)(A)-(G)	The student uses mathematical processes to acquire and demonstrate mathematical understanding.
7(4)(A)	The student is expected to represent constant rates of change in mathematical and real-world problems given pictorial, tabular, verbal, numeric, graphical, and algebraic representations, including $d = rt$.
7(4)(B)	The student is expected to calculate unit rates from rates in mathematical and real-world problems.
7(4)(C)	The student is expected to determine the constant of proportionality $(k = \frac{y}{x})$ within mathematical and real-world problems.
7(4)(D)	The student is expected to solve problems involving ratios, rates, and percents, including multi-step problems involving percent increase and percent decrease, and financial literacy problems.
7(4)(E)	The student is expected to convert between measurement systems, including the use of proportions and the use of unit rates.
7(5)(A)	The student is expected to generalize the critical attributes of similarity, including ratios within and between similar shapes.
7(5)(B)	The student is expected to describe π as the ratio of the circumference of a circle to its diameter.
7(5)(C)	The student is expected to solve mathematical and real-world problems involving similar shape and scale drawings.
7(6)(A)	The student is expected to represent sample spaces for simple and compound events using lists and tree diagrams.
7(6)(B)	The student is expected to select and use different simulations to represent simple and compound events with and without technology.
7(6)(C)	The student is expected to make predictions and determine solutions using experimental data for simple and compound events.
7(6)(D)	The student is expected to make predictions and determine solutions using theoretical probability for simple and compound events.
7(6)(E)	The student is expected to find the probabilities of a simple event and its complement and describe the relationship between the two.
7(6)(F)	The student is expected to use data from a random sample to make inferences about a population.
7(6)(G)	The student is expected to solve problems using data represented in bar graphs, dot plots, and circle graphs, including part-to-whole and part-to-part comparisons and equivalents.
7(6)(H)	The student is expected to solve problems using qualitative and quantitative predictions and comparisons from simple experiments.
7(6)(I)	The student is expected to determine experimental and theoretical probabilities related to simple and compound events using data and sample spaces.

TEXAS RESPONSE TO CURRICULUM FOCAL POINTS FOR GRADE 7 MATHEMATICS REVISED 2013

Using expressions and equations to describe relationships in a variety of contexts, including geometric problems

Students select, justify, and use appropriate symbolic representations to solve problems in varied contexts, including use of geometric formulas for pyramids and circles.

Related Grade 7 TEKS:

7(1)(A)-(G)	The student uses mathematical processes to acquire and demonstrate mathematical understanding.
7(7)(A)	The student is expected to represent linear relationships using verbal descriptions, tables, graphs, and equations that simplify to the form $y=mx+b$.
7(8)(A)	The student is expected to model the relationship between the volume of a rectangular prism and a rectangular pyramid having both congruent bases and heights and connect that relationship to the formulas.
7(8)(B)	The student is expected to explain verbally and symbolically the relationship between the volume of a triangular prism and a triangular pyramid having both congruent bases and heights and connect that relationship to the formulas.
7(8)(C)	The student is expected to use models to determine the approximate formulas for the circumference and area of a circle and connect the models to the actual formulas.
7(9)(A)	The student is expected to solve problems involving the volume of rectangular prisms, triangular prisms, rectangular pyramids, and triangular pyramids.
7(9)(B)	The student is expected to determine the circumference and area of circles.
7(9)(C)	The student is expected to determine the area of composite figures containing combinations of rectangles, squares, parallelograms, trapezoids, triangles, semicircles, and quarter circles.
7(9)(D)	The student is expected to solve problems involving the lateral and total surface area of a rectangular prism, rectangular pyramid, triangular prism, and triangular pyramid by determining the area of the shape's net.
7(10)(A)	The student is expected to write one-variable, two-step equations and inequalities to represent constraints or conditions within problems.
7(10)(B)	The student is expected to represent solutions for one-variable, two-step equations and inequalities on number lines.
7(10)(C)	The student is expected to write a corresponding real-world problem given a one-variable, two-step equation or inequality.
7(11)(A)	The student is expected to model and solve one-variable, two-step equations and inequalities.
7(11)(B)	The student is expected to determine if the given value(s) make(s) one-variable, two-step equations and inequalities true.
7(11)(C)	The student is expected to write and solve equations using geometry concepts, including the sum of the angles in a triangle, and angle relationships.

TEXAS RESPONSE TO CURRICULUM FOCAL POINTS FOR GRADE 7 MATHEMATICS REVISED 2013

Comparing sets of data

Students use representations of center, spread, and shape to compare and form inferences about sets of data.

Related Grade 7 TEKS:

7(1)(A)-(G)	The student uses mathematical processes to acquire and demonstrate mathematical understanding.
7(12)(A)	The student is expected to compare two groups of numeric data using comparative dot plots or box plots by comparing their shapes, centers, and spreads.
7(12)(B)	The student is expected to use data from a random sample to make inferences about a population.
7(12)(C)	The student is expected to compare two populations based on data in random samples from these populations, including informal comparative inferences about differences between the two populations.

TEXAS RESPONSE TO CURRICULUM FOCAL POINTS FOR GRADE 7 MATHEMATICS REVISED 2013

Financial Literacy:

7(13)(A)	The student is expected to calculate the sales tax for a given purchase and calculate income tax for earned wages.
7(13)(B)	The student is expected to identify the components of a personal budget, including income; planned savings for college, retirement, and emergencies; taxes; and fixed and variable expenses, and calculate what percentage each category comprises of the total budget.
7(13)(C)	The student is expected to create and organize a financial assets and liabilities record and construct a net worth statement.
7(13)(D)	The student is expected to use a family budget estimator to determine the minimum household budget and average hourly wage needed for a family to meet its basic needs in the student's city or another large city nearby.
7(13)(E)	The student is expected to calculate and compare simple interest and compound interest earnings.
7(13)(F)	The student is expected to analyze and compare monetary incentives, including sales, rebates, and coupons.

TEXAS RESPONSE TO CURRICULUM FOCAL POINTS FOR GRADE 8 MATHEMATICS REVISED 2013

Representing, applying, and analyzing proportional relationships
Students extend their understanding of proportionality to include representations on a coordinate plane and applications, including slopes of lines. They contrast proportional relationships with relationships that are not proportional.
8(1)(A)(B)(C)(D)(E)(F)(G); 8(3)(A)(B)(C); 8(4)(A)(B)(C); 8(5)(A)(B)(C)(D)(E)(F)(G)(H)(I); 8(10)(D)

Using expressions and equations to describe relationships, including the Pythagorean Theorem
Students select and use expressions and equations to represent and solve problems involving rational numbers. Students use geometric properties, including the Pythagorean Theorem, to solve problems.
8(1)(A)(B)(C)(D)(E)(F)(G); 8(6)(A)(B)(C); 8(7)(A)(B)(C)(D); 8(8)(A)(B)(C)(D); 8(9)

Making inferences from data
Students use representations of association, center, and variation to make inferences from data.
8(1)(A)(B)(C)(D)(E)(F)(G); 8(11)(A)(B)(C)

Grade Level Connections
8(2)(A)(B)(C)(D); 8(10)(A)(B)(C)

Financial Literacy
8(12)(A)(C)(D)(E)(F)(G)

Connections to Texas College and Career Readiness Standards - Math

I.	Numeric Reasoning
II.	Algebraic Reasoning
III.A.	Geometric Reasoning—Connections
IV.	Measurement Reasoning
V.	Probabilistic Reasoning
VI.	Statistical Reasoning
VII.	Functions
VIII.	Problem Solving and Reasoning
IX.	Communication and Reasoning
X.	Connections

TEXAS RESPONSE TO CURRICULUM FOCAL POINTS FOR GRADE 8 MATHEMATICS REVISED 2013

Representing, applying, and analyzing proportional relationships

Students extend their understanding of proportionality to include representations on a coordinate plane and applications, including slopes of lines. They contrast proportional relationships with relationships that are not proportional.

Related Grade 8 TEKS:

8(1)(A)-(G)	The student uses mathematical processes to acquire and demonstrate mathematical understanding.
8(3)(A)	The student is expected to generalize that the ratio of corresponding sides of similar shapes are proportional, including a shape and its dilation.
8(3)(B)	The student is expected to compare and contrast the attributes of a shape and its dilation(s) on a coordinate plane.
8(3)(C)	The student is expected to use an algebraic representation to explain the effect of a given positive rational scale factor applied to two-dimensional figures on a coordinate plane with the origin as the center of dilation.
8(4)(A)	The student is expected to use similar right triangles to develop an understanding that slope, m, given as the rate comparing the change in y-values to the change in x-values, $\frac{(y2 - y1)}{(x2 - x1)}$, is the same for any two points $(x1, y1)$ *and* $(x2, y2)$ on the same line.
8(4)(B)	The student is expected to graph proportional relationships, interpreting the unit rate as the slope of the line that models the relationship.
8(4)(C)	The student is expected to use data from a table or graph to determine the rate of change or slope and y-intercept in mathematical and real-world problems.
8(5)(A)	The student is expected to represent linear proportional situations with tables, graphs, and equations in the form of $y = kx$.
8(5)(B)	The student is expected to represent linear non-proportional situations with tables, graphs, and equations in the form of $y = mx + b$, where $b \neq 0$.
8(5)(C)	The student is expected to contrast bivariate sets of data that suggest a linear relationship with bivariate sets of data that do not suggest a linear relationship from a graphical representation.
8(5)(D)	The student is expected to use a trend line that approximates the linear relationship between bivariate sets of data to make predictions.
8(5)(E)	The student is expected to solve problems involving direct variation.
8(5)(F)	The student is expected to distinguish between proportional and non-proportional situations using tables, graphs, and equations in the form $y = kx$ or $y = mx + b$, where $b \neq 0$.
8(5)(G)	The student is expected to identify functions using sets of ordered pairs, tables, mappings, and graphs.
8(5)(H)	The student is expected to identify examples of proportional and non-proportional functions that arise from mathematical and real-world problems.
8(5)(I)	The student is expected to write an equation in the form $y = mx + b$ to model a linear relationship between two quantities using verbal, numerical, tabular, and graphical representations.
8(10)(D)	The student is expected to model the effect on linear and area measurements of dilated two-dimensional shapes.

TEXAS RESPONSE TO CURRICULUM FOCAL POINTS FOR GRADE 8 MATHEMATICS REVISED 2013

Using expressions and equations to describe relationships, including the Pythagorean Theorem

Students select and use expressions and equations to represent and solve problems involving rational numbers. Students use geometric properties, including the Pythagorean Theorem, to solve problems.

Related Grade 8 TEKS:

8(1)(A)-(G)	The student uses mathematical processes to acquire and demonstrate mathematical understanding.
8(6)(A)	The student is expected to describe the volume formula $V = Bh$ of a cylinder in terms of its base area and its height.
8(6)(B)	The student is expected to model the relationship between the volume of a cylinder and a cone having both congruent bases and heights and connect that relationship to the formulas.
8(6)(C)	The student is expected to use models and diagrams to explain the Pythagorean theorem.
8(7)(A)	The student is expected to solve problems involving the volume of cylinders, cones, and spheres.

TEXAS RESPONSE TO CURRICULUM FOCAL POINTS FOR GRADE 8 MATHEMATICS REVISED 2013

Using expressions and equations to describe relationships, including the Pythagorean Theorem (continued)
Students select and use expressions and equations to represent and solve problems involving rational numbers. Students use geometric properties, including the Pythagorean Theorem, to solve problems.

Related Grade 8 TEKS:

8(7)(B)	The student is expected to use previous knowledge of surface area to make connections to the formulas for lateral and total surface area and determine solutions for problems involving rectangular prisms, triangular prisms, and cylinders.
8(7)(C)	The student is expected to use the Pythagorean Theorem and its converse to solve problems.
8(7)(D)	The student is expected to determine the distance between two points on a coordinate plane using the Pythagorean Theorem.
8(8)(A)	The student is expected to write one-variable equations or inequalities with variables on both sides that represent problems using rational number coefficients and constants.
8(8)(B)	The student is expected to write a corresponding real-world problem when given a one-variable equation or inequality with variables on both sides of the equal sign using rational number coefficients and constants.
8(8)(C)	The student is expected to model and solve one-variable equations with variables on both sides of the equal sign that represent mathematical and real-world problems using rational number coefficients and constants.
8(8)(D)	The student is expected to use informal arguments to establish facts about the angle sum and exterior angle of triangles, the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles.
8(9)	The student is expected to identify and verify the values of x and y that simultaneously satisfy two linear equations in the form $y = mx + b$ from the intersections of the graphed equations.

TEXAS RESPONSE TO CURRICULUM FOCAL POINTS FOR GRADE 8 MATHEMATICS REVISED 2013

Making inferences from data

Students use representations of association, center, and variation to make inferences from data.

Related Grade 8 TEKS:

8(1)(A)-(G)	The student uses mathematical processes to acquire and demonstrate mathematical understanding.
8(11)(A)	The student is expected to construct a scatterplot and describe the observed data to address questions of association such as linear, non-linear, and no association between bivariate data.
8(11)(B)	The student is expected to determine the mean absolute deviation and use this quantity as a measure of the average distance data are from the mean using a data set of no more than 10 data points.
8(11)(C)	The student is expected to simulate generating random samples of the same size from a population with known characteristics to develop the notion of a random sample being representative of the population from which it was selected.

TEXAS RESPONSE TO CURRICULUM FOCAL POINTS FOR GRADE 8 MATHEMATICS REVISED 2013

Connections:	
8(2)(A)	The student is expected to extend previous knowledge of sets and subsets using a visual representation to describe relationships between sets of real numbers.
8(2)(B)	The student is expected to approximate the value of an irrational number, including π and square roots of numbers less than 225, and locate that rational number approximation on a number line.
8(2)(C)	The student is expected to convert between standard decimal notation and scientific notation.
8(2)(D)	The student is expected to order a set of real numbers arising from mathematical and real-world contexts.
8(10)(A)	The student is expected to generalize the properties of orientation and congruence of rotations, reflections, translations, and dilations of two-dimensional shapes on a coordinate plane.
8(10)(B)	The student is expected to differentiate between transformations that preserve congruence and those that do not.
8(10)(C)	The student is expected to explain the effect of translations, reflections over the *x*- or *y*-axis, and rotations limited to 90°, 180°, 270°, and 360° as applied to two-dimensional shapes on a coordinate plane using an algebraic representation.
Financial Literacy:	
8(12)(A)	The student is expected to solve real-world problems comparing how interest rate and loan length affect the cost of credit.
8(12)(B)	The student is expected to calculate the total cost of repaying a loan, including credit cards and easy access loans, under various rates of interest and over different periods using an online calculator.
8(12)(C)	The student is expected to explain how small amounts of money invested regularly, including money saved for college and retirement, grow over time.
8(12)(D)	The student is expected to calculate and compare simple interest and compound interest earnings.
8(12)(E)	The student is expected to identify and explain the advantages and disadvantages of different payment methods.
8(12)(F)	The student is expected to analyze situations to determine if they represent financially responsible decisions and identify the benefits of financial responsibility and the costs of financial irresponsibility.
8(12)(G)	The student is expected to estimate the cost of a two-year and four-year college education, including family contribution, and devise a periodic savings plan for accumulating the money needed to contribute to the total cost of attendance for at least the first year of college.

REFERENCES

academic success

1. National Council of Teachers of Mathematics (NCTM). (2006). *Curriculum Focal Points for Prekindergarten through Grade 8 Mathematics*. Reston, VA: NCTM.

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3. National Mathematics Advisory Panel. (2008). *Foundations for Success: The Final Report of the National Mathematics Advisory Panel.* Washington, DC: U.S. Department of Education.