

CSCISD Mathematics, Grade 7

**Unit 1: Rational Numbers (4.5 weeks)**

The primary focal areas in Grade 7 are number and operations; proportionality; expressions, equations, and relationships; and measurement and data.

| Unit 1 TEKS            |  |            |  |   |
|------------------------|--|------------|--|---|
| <b>Content TEKS</b>    | <b>Readiness</b>   | <b>7.3</b> | The student applies mathematical process standards to add, subtract, multiply, and divide while solving problems and justifying solutions. | (B) apply and extend previous understandings of operations to solve problems using addition, subtraction, multiplication, and division of rational numbers.   |
|                        | <b>Supporting</b>  | 7.2        | The student applies mathematical process standards to represent and use rational numbers in a variety of forms.                            | 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        | The student applies mathematical process standards to add, subtract, multiply, and divide while solving problems and justifying solutions. | (A) add, subtract, multiply, and divide rational numbers fluently;  |
| <b>Processing TEKS</b> | <b>75% of the STAAR will be at the expectation level set by this band of TEKS – Underlying Processes and Mathematical Tools. These TEKS will be coded in addition to the Content TEKS when applicable.</b> | 7.1        | The student uses mathematical processes to acquire and demonstrate mathematical understanding.   | (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 the 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;   |
|                        |  |            |  | (G) display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication   |

## CSCISD Mathematics, Grade 7

### **Unit 2: Ratios and Proportional Relationships (5 weeks)**

*The primary focal area in Grade 7 are number and operations; proportionality, expressions, equations, and relationships; and measurement and data.*

| Unit 2 TEKS   |                        |  |  |  |
|---|------------------------|--|--|--|
| <b>Content TEKS</b>   | <b>Readiness</b>       | 7.4  | The student applies mathematical process standards to represent and solve problems involving proportional relationships.               | (A) represent constant rates of change in mathematical and real-world problems given pictorial, tabular, verbal, numeric, graphical, and algebraic representations, including $d = rt$ ; |
|   |                        |  |  | (D) solve problems involving ratios, rates, and percents, including multi-step problems involving percent increase and percent decrease, and financial literacy problems;                |
|   |                        | 7.5  | The student applies mathematical process standards to use geometry to describe or solve problems involving proportional relationships. | (C) solve mathematical and real-world problems involving similar shape and scale drawings.   |
|   | <b>Supporting</b>      | 7.4  | The student applies mathematical process standards to represent and solve problems involving proportional relationships.               | (B) calculate unit rates from rates in mathematical and real-world problems;   |
|   |                        |  |  | (C) determine the constant of proportionality ( $k = y/x$ ) within mathematical and real-world problems;   |
|   |                        |  |  | (E) convert between measurement systems, including the use of proportions and the use of unit rates  |
|   |                        | 7.5  | The student applies mathematical process standards to use geometry to describe or solve problems involving proportional relationships. | (A) generalize the critical attributes of similarity, including ratios within and between similar shapes;  |
|   |                        |  |  | (B) describe $\pi$ as the ratio of the circumference of a circle to its diameter;  |
|   | 7.13                   | The student applies mathematical process standards to develop an economic way of thinking and problem solving useful in one's life as a knowledgeable consumer and investor.                               | (E) calculate and compare simple interest and compound interest earnings;  |  |
|   | <b>Processing TEKS</b> | <b>75% of the STAAR will be at the expectation level set by this band of TEKS – Underlying Processes and Mathematical Tools. These TEKS will be coded in addition to the Content TEKS when applicable.</b> | 7.1  | The student uses mathematical processes to acquire and demonstrate mathematical understanding.   |
| (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 the 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;   |                        |  |  |  |
| (G) display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication   |                        |  |  |  |

CSCISD Mathematics, Grade 7

**Unit 3: Probability (1.5 weeks)**

The primary focal area in Grade 7 are number and operations; proportionality, expressions, equations, and relationships; and measurement and data.

| Unit 3 TEKS     |   |     |  |   |
|-----------------|---|-----|--|---|
| Content TEKS    | Readiness   | 7.6 | The student applies mathematical process standards to use probability and statistics to describe or solve problems involving proportional relationships. | (H) solve problems using qualitative and quantitative predictions and comparisons from simple experiments;  |
|                 |   |     |  | (I) determine experimental and theoretical probabilities related to simple and compound events using data and sample spaces.  |
|                 | Supporting  | 7.6 | The student applies mathematical process standards to use probability and statistics to describe or solve problems involving proportional relationships. | (A) represent sample spaces for simple and compound events using lists and tree diagrams;   |
|                 |   |     |  | (B) select and use different simulations to represent simple and compound events with and without technology;   |
|                 |   |     |  | (C) make predictions and determine solutions using experimental data for simple and compound events;  |
|                 |   |     |  | (D) make predictions and determine solutions using theoretical probability for simple and compound events;  |
|                 |   |     | (E) find the probabilities of a simple event and its complement and describe the relationship between the two;   |   |
| Processing TEKS | 75% of the STAAR will be at the expectation level set by this band of TEKS – Underlying Processes and Mathematical Tools. These TEKS will be coded in addition to the Content TEKS when applicable. | 7.1 | The student uses mathematical processes to acquire and demonstrate mathematical understanding.   | (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 the 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;   |
|                 |   |     |  | (G) display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication   |

CSCISD Mathematics, Grade 7

**Unit 4: Multiple Representations of Linear Relationships (2.5 weeks)**

The primary focal area in Grade 7 are number and operations; proportionality, expressions, equations, and relationships; and measurement and data.

| Unit 4 TEKS            |   |      |  |   |
|------------------------|---|------|--|---|
| <b>Content TEKS</b>    | <b>Readiness</b>  | 7.5  | The student applies mathematical process standards to use geometry to describe or solve problems involving proportional relationships. | (C) solve mathematical and real-world problems involving similar shape and scale drawings.  |
|                        |   | 7.7  | The student applies mathematical process standards to represent linear relationships using multiple representations.                   | (A) The student is expected to represent linear relationships using verbal descriptions, tables, graphs, and equations that simplify to the form $y = mx + b$ .   |
|                        |   | 7.11 | The student applies mathematical process standards to solve one-variable equations and inequalities.                                   | (A) model and solve one-variable, two-step equations and inequalities;  |
|                        | <b>Supporting</b>   | 7.10 | The student applies mathematical process standards to use one-variable equations and inequalities to represent situations.             | (A) write one-variable, two-step equations and inequalities to represent constraints or conditions within problems;   |
|                        |   |      |  | (B) represent solutions for one-variable, two-step equations and inequalities on number lines;  |
|                        |   |      |  | (C) write a corresponding real-world problem given a one-variable, two-step equation or inequality.   |
|                        |   | 7.11 | The student applies mathematical process standards to solve one-variable equations and inequalities.                                   | (B) determine if the given value(s) make(s) one-variable, two-step equations and inequalities true;   |
| <b>Processing TEKS</b> | 75% of the STAAR will be at the expectation level set by this band of TEKS – Underlying Processes and Mathematical Tools. These TEKS will be coded in addition to the Content TEKS when applicable. | 7.1  | The student uses mathematical processes to acquire and demonstrate mathematical understanding.   | (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 the 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;   |
|                        |   |      |  | (G) display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication   |

CSCISD Mathematics, Grade 7

**Unit 5: Geometric Relationships (5 weeks)**

The primary focal area in Grade 7 are number and operations; proportionality, expressions, equations, and relationships; and measurement and data.

| Unit 5 TEKS  |   |  |   |   |
|--|---|--|---|---|
| <b>Content TEKS</b>  | <b>Readiness</b>  | 7.9  | The student applies mathematical process standards to solve geometric problems.   | (A) solve problems involving the volume of rectangular prisms, triangular prisms, rectangular pyramids, and triangular pyramids;  |
|  |   |  |   | (B) determine the circumference and area of circles;  |
|  |   |  |   | (C) determine the area of composite figures containing combinations of rectangles, squares, parallelograms, trapezoids, triangles, semicircles, and quarter circles;  |
|  | <b>Supporting</b>   | 7.8  | The student applies mathematical process standards to develop geometric relationships with volume.  | (A) 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;   |
|  |   |  |   | (B) 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;                                   |
| (C) 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  |   | The student applies mathematical process standards to solve geometric problems.  | (D) 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. |   |
| 7.11   | The student applies mathematical process standards to solve one-variable equations and inequalities.  | (C) write and solve equations using geometry concepts, including the sum of the angles in a triangle, and angle relationships. |   |   |
| <b>Processing TEKS</b>   | 75% of the STAAR will be at the expectation level set by this band of TEKS – Underlying Processes and Mathematical Tools. These TEKS will be coded in addition to the Content TEKS when applicable. | 7.1  | The student uses mathematical processes to acquire and demonstrate mathematical understanding.  | (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 the 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;   |
|  |   |  |   | (G) display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication   |

CSCISD Mathematics, Grade 7

**Unit 6: Measurement and Data (4 weeks)**

The primary focal area in Grade 7 are number and operations; proportionality, expressions, equations, and relationships; and measurement and data.

| Unit 6 TEKS            |  |      |  |   |
|------------------------|--|------|--|---|
| <b>Content TEKS</b>    | <b>Readiness</b>   | 7.6  | The student applies mathematical process standards to use probability and statistics to describe or solve problems involving proportional relationships. | (G) solve problems using data represented in bar graphs, dot plots, and circle graphs, including part-to-whole and part-to-part comparisons and equivalents;  |
|                        |  | 7.12 | The student applies mathematical process standards to use statistical representations to analyze data.   | (A) compare two groups of numeric data using comparative dot plots or box plots by comparing their shapes, centers, and spreads;  |
|                        | <b>Supporting</b>  | 7.2  | The student applies mathematical process standards to represent and use rational numbers in a variety of forms.  | (A) The student is expected to extend previous knowledge of sets and subsets using a visual representation to describe relationships between sets of rational numbers.  |
|                        |  | 7.6  | The student applies mathematical process standards to use probability and statistics to describe or solve problems involving proportional relationships. | (C) make predictions and determine solutions using experimental data for simple and compound events;  |
|                        |  |      |  | (F) use data from a random sample to make inferences about a population;  |
|                        |  | 7.12 | The student applies mathematical process standards to use statistical representations to analyze data.   | (B) use data from a random sample to make inferences about a population;  |
|                        |  |      |  | (C) compare two populations based on data in random samples from these populations, including informal comparative inferences about differences between the two populations.  |
| <b>Processing TEKS</b> | <b>75% of the STAAR will be at the expectation level set by this band of TEKS – Underlying Processes and Mathematical Tools. These TEKS will be coded in addition to the Content TEKS when applicable.</b> | 7.1  | The student uses mathematical processes to acquire and demonstrate mathematical understanding.   | (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 the 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;   |
|                        |  |      |  | (G) display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication   |



CSCISD Mathematics, Grade 7

**Unit 7: Personal Financial Literacy (3 weeks)**

The primary focal area in Grade 7 are number and operations; proportionality, expressions, equations, and relationships; and measurement and data.

| Unit 7 TEKS            |   |      |  |   |
|------------------------|---|------|--|---|
|                        | <b>Supporting</b>   | 7.13 | The student applies mathematical process standards to develop an economic way of thinking and problem solving useful in one's life as a knowledgeable consumer and investor. | (A) calculate the sales tax for a given purchase and calculate income tax for earned wages;   |
|                        |   |      |  | (B) 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;  |
|                        |   |      |  | (C) create and organize a financial assets and liabilities record and construct a net worth statement;  |
|                        |   |      |  | (D) 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;   |
|                        |   |      |  | (E) calculate and compare simple interest and compound interest earnings;   |
|                        |   |      |  | (F) analyze and compare monetary incentives, including sales, rebates, and coupons.   |
| <b>Processing TEKS</b> | 75% of the STAAR will be at the expectation level set by this band of TEKS – Underlying Processes and Mathematical Tools. These TEKS will be coded in addition to the Content TEKS when applicable. | 7.1  | The student uses mathematical processes to acquire and demonstrate mathematical understanding.   | (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 the 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;   |
|                        |   |      |  | (G) display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication   |

54 STAAR Questions – 4 Griddable. 32-35 from Readiness Standards; 19-22 from Supporting Standards

**PASSING RATE = 44%**

**INDEX 4 RATE = 81%**