Math, Grade 1(IMRA)

Subject: Mathematics
Grade: 01
Expectations: 50
Breakouts: 174

(a) Introduction.

1. The desire to achieve educational excellence is the driving force behind the Texas essential knowledge and skills for mathematics, guided by the college and career readiness standards. By embedding statistics, probability, and finance, while focusing on computational thinking, mathematical fluency, and solid understanding, Texas will lead the way in mathematics education and prepare all Texas students for the challenges they will face in the 21st century.

2. The process standards describe ways in which students are expected to engage in the content. The placement of the process standards at the beginning of the knowledge and skills listed for each gra660.5 (a)grrerdsr (e)3 (n ()3.7 (e)3 (n 6f(gr)8)3 ( )82 (
e process standards are integrated at every grade level and course.
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alyzing given information, formulating a plan or strategy, determining
roblem-solving process and the reasonableness of the solution.
cts, manipulatives, algorithms, paper and pencil, and technology and
sense, and generalization and abstraction to solve problems. Students
oning, and their implications using multiple representations such as
anguage. Students will use mathematical relationships to generate
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y, explain, or justify mathematical ideas and arguments using precise
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ocedural fluency, they must also realize that true problem solving

(b) Knowledge and Skills Statements

(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;

(i) apply mathematics to problems arising in everyday life

(ii) apply mathematics to problems arising in society

(iii) apply mathematics to problems arising in 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;

(i) 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

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

(i) select tools, including real objects as appropriate, to solve problems

(ii) select tools, including manipulatives as appropriate, to solve problems

(iii) select tools, including paper and pencil as appropriate, to solve problems

(iv) select tools, including technology as appropriate, to solve problems

(v) select techniques, including mental math as appropriate, to solve problems

(vi) select techniques, including estimation as appropriate, to solve problems

(vii) select techniques, including 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;

(i) communicate mathematical ideas using multiple representations, including symbols as appropriate

(ii) communicate mathematical ideas using multiple representations, including diagrams as appropriate

(iii) communicate mathematical ideas using multiple representations, including graphs as appropriate

(iv) communicate mathematical ideas using multiple representations, including language as appropriate

(v) communicate mathematical reasoning using multiple representations, including symbols as appropriate

(vi) communicate mathematical reasoning using multiple representations, including diagrams as appropriate

(vii) communicate mathematical reasoning using multiple representations, including graphs as appr

(x) communicate [mathematical ideas'] implications using multiple representations, including diagrams as appropriate

(xi) communicate [mathematical ideas'] implications using multiple representations, including graphs as appropriate

(xii) communicate [mathematical ideas'] implications using multiple representations, including language as appropriate

(xiii) communicate [mathematical reasoning's] implications using multiple representations, including symbols as appropriate

(xiv) communicate [mathematical reasoning's] implications using multiple representations, including diagrams as appropriate

(xv) communicate [mathematical reasoning's] implications using multiple representations, including graphs as appropriate

(xvi) communicate [mathematical reasoning's] implications using multiple representations, including language as appropriate

(E) create and use

(ii) use objects to solve word problems involving separating sets within 20 and unknowns as any one of the terms in the problem

(iii) use objects to solve word problems involving comparing sets within 20 and unknowns as any one of the terms in the problem

(iv) use pictorial models to solve word problems involving joining sets within 20 and unknowns as any one of the terms in the problem

(v)

(A) identify U.S. coins, including pennies, nickels, dimes, and quarters, by value and describe the relationships among them;

(i) identify U.S. coins, including pennies, by value

(ii) identify U.S. coins, including nickels, by value

(iii) identify U.S. coins, including dimes, by value

(iv) identify U.S. coins, including quarters, by value

(v) describe the relationships among [U.S. coins, including pennies, nickels, dimes, and quarters]

(B) write a number with the cent symbol to describe the value of a coin; and

(i) write a number with the cent symbol to describe the value of a coin

(C) use relationships to count by twos, fives, and tens to determine the value of a collection of pennies, nickels, and/or dimes.

(i) use relationships to count by twos to determine the value of a collection of pennies, nickels, and/or dimes

(ii) use relationships to count by fives to determine the value of a collection of pennies, nickels, and/or dimes

(iii) use relationships to count by tens to determine the value of a collection of pennies, nickels, and/or dimes

(5) Algebraic reasoning. The student applies mathematical process standards to identify and apply number patterns within properties of numbers and operations in order to describe relationships. The student is expected to:

(A) recite numbers forward and backward from any given number between 1 and 120;

(i) recite numbers forward from any given number between 1 and 120

(ii) recite numbers backward from any given number between 1 and 120

(B) skip count by twos, fives, and tens to determine the total number of objects up to 120 in a set;

(i) skip count by twos to determine the total number of objects up w

(E) understand that the equal sign represents a relationship where expressions on each side of the equal sign represent the same value(s);

(i) understand that the equal sign represents a relationship where expressions on each side of the equal sign represent the same value(s)

(F) 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; and

(i) 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

(G) apply properties of operations to add and subtract two or three numbers.

(i) apply properties of operations to add two or three numbers

(ii) apply properties of operations subtract two or three numbers

(6) Geometry and measurement. The student applies mathematical process standards to analyze attributes of two-dimensional shapes and three-dimensional solids to develop generalizations about their properties. The student is expected to:

(A) classify and sort regular and irregular two-dimensional shapes based on attributes using informal geometric language;

(i) classify regular two-dimensional shapes based on attributes using informal geometric language

(ii) classify irregular two-dimensional shapes based on attributes using informal geometric language

(iii) dimensional

(v) identify two-dimensional shapes, including rectangles

(vi) describe [rectangle'] attributes using formal geometric language

(vii) identify two-dimensional shapes, including squares, as special rectangles

(viii) describe [squares'] attributes using formal geometric language

(ix) identify two-dimensional shapes, including rhombuses

(x) describe [rhombuses'] attributes using formt003 Tw 1.7D 1l >>BDC. ( )0.58peng es nglric gl002 Tw -Tj/TT0 46 (a)-.as

(iv) identify non-examples of fourths

(iv) generate questions using information from bar-type graphs

(v) answer questions using information from picture graphs

(vi) answer questions using information from bar-type graphs

(9) Personal financial literacy. The student applies mathematical process standards to manage one's financial resources effectively for lifetime financial security. The student is expected to:

(A) define money earned as income;

(i) define money earned as income

(B) identify income as a means of obtaining goods and services, oftentimes making choices between wants and needs;

(i)

(i) A