Correlation of Exploring Math With MicroWorlds EX and the Texas Essential Knowledge and Skills

Elementary – Math

Grade 1

1.4   **Patterns, relationships, and algebraic thinking. The student uses patterns to make predictions**, specifically
   A. identify, describe, and extend concrete and pictorial patterns in order to make predictions and solve problems; and

1.6   **Geometry and spatial reasoning. The student uses attributes to identify, compare, and contrast shapes and solids.**
   The student is expected to:
   A. describe and identify objects in order to sort them according to a given attribute using informal language;
   B. identify circles, triangles, and rectangles, including squares; and
   C. combine geometric shapes to make new geometric shapes using concrete models.

1.7   **Measurement. The student uses nonstandard units to describe length, weight, and capacity.**
   The student is expected to:
   A.   estimate and measure length, capacity, and weight of objects using nonstandard units;

1.11   **Underlying processes and mathematical tools. The student applies Grade 1 mathematics to solve problems connected to everyday experiences and activities in and outside of school.**
   The student is expected to:
   B. use a problem-solving model, with guidance as needed, that incorporates understanding the problem, making a plan, carrying out the plan, and evaluating the solution for reasonableness;
   C. select or develop an appropriate problem-solving strategy including drawing a picture, looking for pattern, systematic guessing and checking, or acting it out in order to solve a problem;
   D. use tools such as real objects, manipulatives, and technology to solve problems.

1.12   **Underlying processes and mathematical tools. The student communicates about Grade 1 mathematics using informal language.**
   The student is expected to:
   A. explain and record observations using objects, words, pictures, numbers, and technology; and
   B. relate informal language to mathematical language and symbols.

1.13   **Underlying processes and mathematical tools.** The student uses logical reasoning to make sense of his or her world. The student is expected to reason and support his or her thinking using objects, words, pictures, numbers, and technology.

Grade 2

2.6 **Patterns, relationships, and algebraic thinking. The student uses patterns to describe relationships and make predictions.**
The student is expected to:
A. identify, describe, and extend patterns to make predictions and solve problems.

2.7 **Geometry and spatial reasoning. The student uses attributes to identify, compare, and contrast shapes and solids.**
The student is expected to:
A. identify attributes of any shape;
B. use attributes to describe how two shapes or two solids are alike or different;
C. cut geometric shapes apart and identify the new shapes made.

2.8 **Geometry and spatial reasoning.** The student recognizes that numbers can be represented by points on a line. The student is expected to use whole numbers to locate and name points on a line.

2.11 **Probability and statistics. The student organizes data to make it useful for interpreting information.**
The student is expected to:
A. construct picture graphs and bar-type graphs;
B. draw conclusions and answer questions based on picture graphs and bar-type graphs;

2.12 **Underlying processes and mathematical tools. The student applies Grade 2 mathematics to solve problems connected to everyday experiences and activities in and outside of school.**
The student is expected to:
A   .identify the mathematics in everyday situations;
use a problem-solving model that incorporates understanding the problem, making a plan, carrying out the plan, and evaluating the solution for reasonableness;
B. select or develop an appropriate problem-solving strategy including drawing a picture, looking for a pattern, systematic guessing and checking, or acting it out in order to solve a problem; and
C. use tools such as real objects, manipulatives, and technology to solve problems.

2.13 **Underlying processes and mathematical tools. The student communicates about Grade 2 mathematics using informal language.**
The student is expected to:
A. explain and record observations using objects, words, pictures, numbers, and technology; and
B. relate informal language to mathematical language and symbols.

2.14 **Underlying processes and mathematical tools.** The student uses logical reasoning to make sense of his or her world. The student is expected to reason and support his or her thinking using objects, words, pictures, numbers, and technology.

Grade 3

3.2 **Number, operation, and quantitative reasoning. The student uses fraction names and symbols to describe fractional parts of whole objects or sets of objects.**
The student is expected to:
 B. compare fractional parts of whole objects or sets of objects in a problem situation using concrete models;

3.3 **Number, operation, and quantitative reasoning. The student adds and subtracts to solve meaningful problems involving whole numbers**.
The student is expected to:
A. model addition and subtraction using pictures, words, and numbers; and

3.6 **Patterns, relationships, and algebraic thinking. The student uses patterns to solve problems.**
The student is expected to:
A. identify and extend whole-number and geometric patterns to make predictions and solve problems;

3.8 **Geometry and spatial reasoning.** The student uses formal geometric vocabulary.
The student is expected to name, describe, and compare shapes using formal geometric vocabulary.

3.9 **Geometry and spatial reasoning.** The student recognizes congruence and symmetry.
The student is expected to:
A. identify congruent shapes;
B. create shapes with lines of symmetry using concrete models and technology.

3.11 **Measurement. The student selects and uses appropriate units and procedures to measure length and area.**
The student is expected to:
B. use linear measure to find the perimeter of a shape.

3.13 **Measurement.** The student applies measurement concepts. The student is expected to measure to solve problems involving length, area, temperature, and time.

3.14 **Probability and statistics. The student solves problems by collecting, organizing, displaying, and interpreting sets of data**.
The student is expected to:
A. collect, organize, record, and display data in pictographs and bar graphs where each picture or cell might represent more than one piece of data;
B. interpret information from pictographs and bar graphs; and
C. use data to describe events as more likely, less likely, or equally likely.

3.15   **Underlying processes and mathematical tools. The student applies Grade 3 mathematics to solve problems connected to everyday experiences and activities in and outside of school.**
The student is expected to:
A. identify the mathematics in everyday situations;
B. use a problem-solving model that incorporates understanding the problem, making a plan, carrying out the plan, and evaluating the solution for reasonableness;
C. select or develop an appropriate problem-solving strategy, including drawing a picture, looking for a pattern, systematic guessing and checking, acting it out, making a table, working a simpler problem, or working backwards to solve a problem; and
D. use tools such as real objects, manipulatives, and technology to solve problems.

3.16   **Underlying processes and mathematical tools. The student communicates about Grade 3 mathematics using informal language.**
The student is expected to:
A. explain and record observations using objects, words, pictures, numbers, and technology; and
B. relate informal language to mathematical language and symbols.

3.17   **Underlying processes and mathematical tools.** The student uses logical reasoning to make sense of his or her world.
The student is expected to:
A. make generalizations from patterns or sets of examples and non examples; and
B. justify why an answer is reasonable and explain the solution process.