Grade – Third

Standard: Number Operations and Concepts

Skill: Understand ways to represent numbers, relationships among numbers, and number systems

Context: Problem solving situations will include comparing and ordering whole numbers up to 9,999; and using place value to read and write whole numbers in words or standard form up to 9,999.

Instructional suggestions: (Created to be user-friendly, teachers should be able to read these ideas and put them into practice in their classroom.)

- Remind students in all standards, reading for "math" understanding is a part of what they are expected to do.
- Have students practice sequencing numbers from least to greatest and greatest to least.
- Use a number line to show students the order of whole numbers.
- Ensure knowledge of math vocabulary such as: digit, value, greatest, and least.

Grade – Third

Standard: Number Operations and Concepts

Skill: Develop the connection between conceptual understanding and computational proficiency

Context: Problem solving situations will include mathematical reasoning by computational fluency with explanation of the strategies used in problem solving, including addition or subtraction of whole numbers up to 20; and solving problems in the context of money using coins and bills to compare values and make combinations up to $5.00.

Instructional suggestions: (Created to be user-friendly, teachers should be able to read these ideas and put them into practice in their classroom.)

- Have students practice writing number sentences and/or story problems that represent a number. One way to do this is to make a poster that says "The answer is _____ (fill in a number)." Students will write number sentences and story problems on the bottom portion of the poster that when solved will have the given number.

- Have students practice solving story problems by:
  - selecting the pertinent information
  - ensuring that the question is answered

- Have students use hands-on activities to practice making change and making different money combinations for the same amount up to $5.00.

- Have students practice coin identification on paper (black/white and color) as well as with real or play money.

- Teach students number operation vocabulary (e.g. subtraction, difference, minus, etc.)

- Have a system in place for students to continuously improve their computational fluency.

- Practice purchasing items with different amounts of coins and bills to ensure they have enough money to purchase that item.
- Practice showing multiple coin and bill combinations for a set amount of money.

Grade – Third

Standard: Geometry

Skill: Analyze characteristics and properties of two- and three-dimensional geometric shapes

Context: Problem solving situations will include identifying and describing 2- dimensional objects (squares, rectangles, triangles, and circles).

Instructional suggestions: (Created to be user-friendly, teachers should be able to read these ideas and put them into practice in their classroom.)

- Have students sort and classify geometric shapes by attributes.
- Have students use a variety of manipulatives to manipulate, visualize, and create 2- and 3- dimensional geometric shapes.
- Use pattern blocks or geoboards to create new shapes (i.e. two triangles make a square). Have them identify shapes within a shape.
- Teach basic vocabulary such as: line, edge, angle, sides, corners, vertices, faces and base.

Grade – Third

Standard: Geometry

Skill: Apply transformations and use symmetry to analyze mathematical situations

Context: Problem solving situations will include demonstrating an understanding of relationships with lines by identifying lines of symmetry; and identifying and drawing congruent objects that are grade-level appropriate using spatial reasoning to justify congruence.

Instructional suggestions: (Created to be user-friendly, teachers should be able to read these ideas and put them into practice in their classroom.)

- Teach congruency using shapes that are turned different directions, but are still the same size and shape.
- Include opportunities to show multiple lines of symmetry within a shape.
- Cut out different shapes and allow the students to find congruent partners and then determine how many possible lines of symmetry there could be.
- Symmetry with a partner- place a string down the center of a shape and have one student place pattern blocks on one side. The second student copies the pattern blocks to complete the other side.
- Have students practice drawing lines of symmetry on various die cut letters and shapes. Create a T-chart, labeling one side "Symmetrical" and the other side "Not Symmetrical." Have groups determine if each shape has a line of symmetry and glue it on the chart. Next, have students draw all of the lines of symmetry for each shape.

- Have students use a Venn diagram to compare and contrast two different geometrical shapes. The shapes can both be 2-D, one 2-D and one 3-D, or both 3-D.

- Teach how to distinguish symmetrical shapes within a larger picture.

- Use real-world objects to isolate symmetrical patterns and congruence in designs and nature (every-day objects like wall paper borders, tile work, bead designs, jewelry, bulletin board trim, flowers, insects, architecture, human faces)

- Teach students to use graph paper to draw and complete shapes ensuring symmetry and or congruence in their drawings.

Grade – Third

Standard: Measurement

Skill: Understand measurable attributes of objects and the units, systems, and processes of measurement

Context: Problem solving situations will include the use of appropriate methods, tools, and units to solve problems involving estimation and measure of length or capacity using customary units (inches, feet, yards, cups, quarts, and gallons); and reading time using digital and analog clocks.

Instructional suggestions: (Created to be user-friendly, teachers should be able to read these ideas and put them into practice in their classroom.)

- Have students practice telling time to the minute.
- Have students write the time of day with a.m. or p.m. on assignments throughout the day.
- Use a number line with hours and minutes for students to calculate elapsed time.
- Have students determine which unit of measurement they would use in real world situations.
- Have students convert minutes to hours, feet to inches, etc.
- Provide opportunities for students to practice physical measurement (measure floor, desk, door, etc.).
- Have students figure out elapsed time using both analog and digital clocks.

Grade – Third

Standard: Measurement

Skill: Apply appropriate techniques, tools, and formulas to determine perimeter, area, or volume

Context: Problem solving situations will include calculation of perimeter of rectangles and squares using models.

Instructional suggestions: (Created to be user-friendly, teachers should be able to read these ideas and put them into practice in their classroom.)

- Have students figure out the perimeter of a square with the length of one side given, and the perimeter of a rectangle with two sides given.
- Have students use graph paper to create a house floor plan, listing the perimeter of each room.
- Provide students with hands-on activities to calculate perimeter of rectangles and squares using models.
- Use graph paper to create shapes with a specified perimeter.
- Practice using number sentences when finding perimeter in order to show or explain their work.

Grade – Third

Standard: Algebra

Skill: Understand patterns, relations, and functions

Context: Problem solving situations will include the use of sound reasoning to identify, describe, and extend patterns (up to 2 places) using manipulatives, numbers, or graphic representations and/or explain results.

Instructional suggestions: (Created to be user-friendly, teachers should be able to read these ideas and put them into practice in their classroom.)

- Use manipulatives to have students create patterns and then have them transfer the patterns into numbers, words, or symbols.
- Construct and identify extended patterns, growing patterns, skip patterns, and ABC patterns, picture patterns, and number patterns.
- Have students build and read charts horizontally as well as vertically.

Grade – Third

Standard: Data Analysis and Probability

Skill: Collect, organize, and display relevant data to answer questions, and use appropriate statistical methods to analyze the data

Context: Problem solving situations will include collecting, organizing, and comparing data using graphs and Venn diagrams.

Instructional suggestions: (Created to be user-friendly, teachers should be able to read these ideas and put them into practice in their classroom.)

- Use Senteos to show data collection and graphing (Senteo from Smartech with SmartBoard).
- Have students create and analyze a variety of charts/graphs (Venn diagrams, line points, bar graphs, tally charts). Make sure students read and interpret keys included with each chart or graph.

Grade – Third

Standard: Data Analysis and Probability

Skill: Develop and evaluate inferences and predictions that are based on data

Context: Problem solving situations will include simple probability and recording the results of experiments or simulations limited to 6 or fewer outcomes using the language: certain, likely, unlikely, and impossible.

Instructional suggestions: (Created to be user-friendly, teachers should be able to read these ideas and put them into practice in their classroom.)

- Provide students with spinners, coins, cards, dice, blocks, colored tiles, and marbles, etc. to provide opportunities to predict and then record the "certain, likely, unlikely, and impossible" outcomes.

- Teach key vocabulary such as: certain, likely, highly likely, not likely, impossible, least likely, most likely, likelihood, etc.).

- Possible Combinations- Provide student with two sets of items. Have the student determine all the possible combinations that can be made using strategies of organized lists or tree diagrams. For example:

  T-shirts – red, blue
  Pants – green, yellow, purple