

Grade Three
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Correlations with Oklahoma
Instructional Mathematical Goals and Objectives

The following concepts and skills are required by all students completing third grade. The **Major Concepts** should be taught in depth using a variety of methods and applications so that all students have accessibility to and an understanding of these concepts. **Maintenance Concepts** have been taught previously and are a necessary foundation for success in mathematics at this level.

MAJOR CONCEPTS

Patterns-Rules

Number Sense-

**Place Value-4 Digits,
Fractional Concepts**

Operations-

**Add, Subtract with Multidigits,
Multiplication Facts
2s, 3s, 4s, 5s, 10s**

Geometry-Area, Perimeter

Measurement-

Weight, Length, Estimation

Data Analysis-Pictographs

MAINTENANCE CONCEPTS

Patterns-With Symbols

Number Sense-

**Place Value to 100s,
Estimation**

Operations-

**Add, Subtract with 2 digits,
Facts to 18**

Geometry-Symmetry

Measurement-

Concept of Units, Estimation

Data Analysis-Symbolic Bar Graphs

THINK STAR 

Use the image of a star with **Content** at its center and **Problem Solving, Communications, Connections, Reasoning, and Representation** at its five points to design illuminating lessons (see page 77).

KEY TO SUCCESS!

When introducing new concepts **CONNECT** from Concrete -> Pictorial -> Abstract

I. Patterns

- A. Given pairs of numbers with a common relationship, determine the rule and generate additional pairs with the same relationship (e.g., 2&4, 9&11, 23&25, __ & __, use a **function machine** to input 2 and output 4, input 9 and output 11). **Appetizers 2 A and B; Main Dish Objective 2 (Mathematical Relations) lessons 1 and 2; Applications; Final Tests; Reasonableness Problems**

- B. Predict additional terms in a given pattern, describe how the pattern is created and extend the pattern (e.g., 20, 16, 12, 8, __, __). **Appetizers 2 C; Main Dish Objective 2 (Mathematical Relations) lesson 3; Applications; Final Tests; Reasonableness Problems; Doggie Bags**
- C. Use concrete and pictorial models to demonstrate patterns of whole numbers and fractions (e.g., demonstrate $5 + 3 = 3 + 5$ with objects, show that multiples of 5 end in a 0 or 5 on a hundreds chart, use fraction models to illustrate smaller pieces have larger denominators). **Appetizers 1 D; 2 A and B; Main Dish Objective 1 (Number Concepts) lesson 4; Objective 2 (Mathematical Relations) lessons 1 and 2; Applications; Final Tests; Reasonableness Problems**
- D. Describe and record patterns in multiplication. **Appetizers 1 C; 8 A; Main Dish Objective 1 (Number Concepts) lesson 3; Objective 8 (Multiplication) lesson 1; Applications; Final Tests; Reasonableness Problems; Doggie Bags**

II. Number Sense

- A. Develop and apply the concept of place value (e.g., base-10 blocks, bundles of 10s, place value mats to represent 4-digit numbers). **Appetizers 1 B; Main Dish Objective 1 (Number Concepts) lesson 2; Applications; Final Tests; Reasonableness Problems; Doggie Bags**
- B. Read, write, model, compare, and order whole numbers up to 4 digits (e.g., base-10 blocks). **Appetizers 1 A; Main Dish Objective 1 (Number Concepts) lesson 1; Applications; Final Tests; Reasonableness Problems; Doggie Bags**
- C. Write the expanded form of 2-, 3-, and 4-digit numerals (e.g., $7,503 = 7,000 + 500 + 0 + 3$). **Appetizers 1 B; Main Dish Objective 1 (Number Concepts) lesson 2; Applications; Final Tests; Reasonableness Problems**
- D. Compare and represent fractional parts (e.g., physical models, pictures, egg cartons, fraction strips). **Appetizers 1 D; Main Dish Objective 1 (Number Concepts) lesson 4; Applications; Final Tests; Reasonableness Problems; Doggie Bags**

III. Number Operations and Computations

- A. Connect physical materials with addition and subtraction **algorithms** and use the **algorithms** to add and subtract numbers of 4 digits or less (with and without regrouping). **Appetizers 6 A and C; Main Dish Objective 6 (Addition) lessons 1 and 3; Applications; Final Tests; Reasonableness Problems**
- *B. Demonstrate with physical models and have fluent recall for multiplication facts of the 2s, 3s, 4s, 5s, and 10s. **Appetizers 8 A; Main Dish Objective 8 (Multiplication) lesson 1; Applications; Final Tests; Reasonableness Problems; Doggie Bags**

- C. Explain and develop understanding of basic multiplication and division algorithms (e.g., show 3 groups with 4 blocks in each group to demonstrate 3×4 and $12/3$ or $12/4$). **Appetizers 8 B; Main Dish Objective 8 (Multiplication) lesson 2; Applications; Final Tests; Reasonableness Problems; Doggie Bags**
- D. Describe relationships between addition/multiplication and subtraction/division (e.g., multiplication as repeated addition, division as repeated subtraction). **Appetizers 2 A and B; Main Dish Objective 2 (Mathematical Relations) lessons 1 and 2; Applications; Final Tests; Reasonableness Problems; Doggie Bags**
- E. Solve problems involving money that require addition and subtraction. **Appetizers 6 B; 7 B; Main Dish Objective 6 (Addition) lesson 2; Objective 7 (Subtraction) lesson 2; Applications; Final Tests; Reasonableness Problems; Doggie Bags**

IV. Geometry and Spatial Sense

- A. Demonstrate relationships between length, perimeter and area (e.g., build a variety of shapes with the same number of 1-inch tiles). **Appetizers 4 B, E, and F; Main Dish Objective 4 (Measurement) lessons 2, 5, and 6; Applications; Final Tests; Reasonableness Problems; Doggie Bags**
- B. Describe, compare, and classify two- and three-dimensional figures (e.g., count the edges and faces of a block, combine or divide basic shapes to form new shapes). **Appetizers 3 A and B; Main Dish Objective 3 (Geometry) lessons 1 and 2; Applications; Final Tests; Reasonableness Problems; Doggie Bags**

V. Measurement

- A. Use physical models to **estimate** and measure the length and weight of an object and determine when an **estimate** is appropriate. **Appetizers 10 A; Main Dish Objective 10 (Estimation) lesson 1; Applications; Final Tests; Reasonableness Problems**
- B. Use an appropriate unit of measure to solve problems involving length and weight. **Appetizers 4 B and D; Main Dish Objective 4 (Measurement) lessons 2 and 4; Applications; Final Tests; Reasonableness Problems; Doggie Bags**
- *C. Develop and use strategies to **estimate** measurements (e.g., use parts of the body as benchmarks for measuring length). **Appetizers 4 B; Main Dish Objective 4 (Measurement) lesson 2; Applications; Final Tests; Reasonableness Problems**

- D. Identify and count money; connect coins and bills with place value. **Appetizers 6 B; 7 B; Main Dish Objective 6 (Addition) lesson 2; Objective 7 (Subtraction) lesson 2; Applications; Final Tests; Reasonableness Problems; Doggie Bags**
- E. Tell time on digital and analog clocks to the hour, half-hour, quarter-hour, and minutes. **Appetizers 4 A; Main Dish Objective 4 (Measurement) lesson 1; Application; Final Tests; Reasonableness Problems; Doggie Bags**

IV. Data Analysis

- A. Solve appropriate applications and non-routine problems by posing questions and collecting, recording, and interpreting data to help answer the questions (e.g., which was the most popular booth at our carnival). **Appetizers 5 A; 12 C; Main Dish Objective 5 (Probability/Statistics) lesson 1; Objective 12 (Mathematical Representation) lesson 3; Applications; Final Tests; Reasonableness Problems**
- B. Read graphs and charts; identify the main idea, draw conclusions, make predictions based on the data (e.g., collect and display lunch menu data, predict how many children will bring their lunch based on the menu, and how many bought it the last time that menu was served). **Appetizers 5 A; 12 C; Main Dish Objective 5 (Probability/Statistics) lesson 1; Objective 12 (Mathematical Representation) lesson 3; Applications; Final Tests; Reasonableness Problems**
- C. Construct a variety of graphs with labels and a title (e.g., bar, pictograph). **Appetizers 5 A; 12 C; Main Dish Objective 5 (Probability/Statistics) lesson 1; Objective 12 (Mathematical Representation) lesson 3; Applications; Final Tests; Reasonableness Problems**
- D. Describe the probability (more, less, or equally likely) or chance events. **Appetizers 5 B; Main Dish Objective 5 (Probability/Statistics) lesson 2; Applications; Final Tests; Reasonableness Problems; Doggie Bags**
- E. List arrangements (**permutations**) and **combinations** of up to three items (e.g., possible ways to arrange scoops of chocolate, strawberry and vanilla ice cream on a cone).