Grade 4

Week 1: Operations and Algebraic Thinking (4 days)

Day 1:

Objective

Understand that a multiplicative comparison is a situation in which one quantity is multiplied by a specified number to get another quantity.

- ❖ Introductions
    - ➢ Meet and Greet
    - ➢ Who we are
    - ➢ What we do
    - ➢ Importance of program to scholars
    - ➢ Rules and Regulations
    - ➢ Ice Breaker
        - ▪ Chubby Bunny
        - ▪ The Counting Game
        - ▪ What's the Number?
- ❖ Pre Assessment Exam
- ❖ Lecture: Interpreting a multiplication equation
    - ➢ PowerPoint demonstrating the steps to setting up and solving multiplication problems.
    - ➢ Interpreting multiplication problems as a comparison

Day 2:

Objective

Multiply or divide to solve word problems involving multiplicative comparison.

- ❖ Lecture: Multiplicative comparisons vs additive comparisons
    - ➢ PowerPoint
        - ▪ Focus on comparing two quantities by showing that one quantity is a specified number of times larger or smaller than the other.
            - • How many times as much? How many times as many?
        - ▪ Additive comparisons focus on the difference between two quantities.
            - • How many more?
        - ▪ Solving word problems using division

Day 3:

Objective

Use all four operations to successfully solve multi-step word problems.

❖ Lecture: Utilize estimation strategies to assess reasonable answers
  ➢ PowerPoint Demonstrating the following:

  ▪ **Front-end estimation with adjusting** (Using the highest place value and estimating from the front end, making adjustments to the estimate by taking into account the remaining amounts)

  ▪ **Rounding and adjusting** (Students round to a lower multiple or higher multiple and then adjust their estimate depending on how much the rounding affected the original values.)

  ▪ **Using friendly or compatible numbers such as factors** (Students seek to fit numbers together; e.g., rounding to factors and grouping numbers together that have friendly sums like 100 or 1000.)

  ▪ **Using benchmark numbers that are easy to compute** (Students select close whole numbers for fractions or decimals to determine an estimate.)

Day 4:

Objective

Reviewing covered topics

❖ Lecture: Review
  ▪ Rounding
  ▪ Multi-step problems
  ▪ Solving word problems using the 4 operations

Week 2: Analyzing Patterns (4 days)

Day 1

Objective

Generate a number or shape pattern that follows a given rule.

❖ Lecture: Analyze and identify patterns
  ➢ PowerPoint on how to identify rules governing patterns

Day 2

Objective

Generate a numerical or shape pattern from a given rule.

- ❖ Lecture:
  - ➢ Watch interactive video introducing how to identify rules
    - • https://www.youtube.com/watch?v=l-6uEtTBH7g
    - • https://www.youtube.com/watch?v=-Di9X6TEblk

Day 3

Objective

Pattern Analysis Project

- ❖ Lecture: Develop a systematic pattern
  - ➢ Create a project design
    - ▪ 5x4
    - ▪ Rows must equal 10
    - ▪ Columns must add up to 15

Day 4

Objective

Review analysis of patterns

- ❖ Lecture: Project Presentations

Week 3: Base 10 Operations (4 days)

Day 1:

Objective

Identifying place values

- ❖ Lecture
  - ➢ PowerPoint
    - ▪ Demonstrating the importance of decimal points and place values
    - ▪ How to identify place values in numbers

Day 2:

Objective

Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form.

❖ Lecture
  ➢ Worksheets translating number values to words identifying specific place values
  ➢ PowerPoint on rounding to identified place values
    ▪ Rules of Rounding
    ▪ 5 and above vs below 5

Day 3:

Objective: Using the 4 operations to solve multi-digit problems

❖ Lecture
  ➢ PowerPoint outlying the steps to take to solve all 4 operations

Day 4:

Objective

Review topics covered during the week dealing with base ten operations.

❖ Lecture
  ➢ Review
    ▪ Place Value
    ▪ Using 4 Operations to Solve Multi-digit Problems
    ▪ Review Base 10 rules

Week 4: Fractions/Decimals (4 days)

Day 1:

Objective

Modeling fractions

❖ Lecture
  ➢ PowerPoint illustrating the uses of models to show fractions
    ▪ Illustrating the relationship between the numbers in fractions
    ▪ Identifying the difference between numerator and denominator

Day 2:

Objective

Compare fractions

- ❖ Lecture
  - ➢ PowerPoint aligning ways to determine the size of fractions
    - ▪ Student note-taking fill in sheets
    - ▪ Practice worksheet
      - • http://www.k5learning.com/worksheets/math/grade-4-adding-fractions-like-denominators-a.pdf
      - • http://www.k5learning.com/worksheets/math/grade-4-comparing-fractions-unlike-denominators-b.pdf

Day 3:

<u>Objective</u>

Converting fractions to decimals

- ❖ Lecture:
  - ➢ PowerPoint on converting
    - ▪ Fractions to Decimals
    - ▪ Decimals back Fractions
    - ▪ Using data from word problems to create fractions

Day 4:

<u>Objective</u>

Review Lessons Learned

- ❖ Lecture: Review
  - ▪ Review Rules of Fractions and Decimals
  - ▪ Review Patterns and Modeling Them
  - ▪ Practice Problems

Week 5: Unit Measurements (3 days)

Day 1

<u>Objective:</u>

Unit Size and Measurements

- ❖ Lecture:
  - ➢ Units and Conversions
    - ▪ King Henry Drank Ucky Dark Chocolate Milk
    - ▪ Relationship between gallons, cups, pounds, and mL

Day 2

<u>Objective</u>

Interpreting unit conversions

❖ Lecture:
- PowerPoint
- Understand that larger units can be subdivided into equivalent units (partition).

- Understand that the same unit can be repeated to determine the measure (iteration).
- Understand the relationship between the size of a unit and the number of units needed
- Incorporate non SI units

Day 3

<u>Objective</u>

Review Units

❖ Lecture: Non SI Units
➢ Converting from feet to miles
➢ Practice Worksheets

Week 6: Area and Angles (4 days)

Day 1

<u>Objective</u>

Finding Area

❖ Lecture: PowerPoint on ways to find area

Day 2

<u>Objective</u>

Distinguish between area and perimeter; Understanding formulas

❖ Lecture: PowerPoint identifying formulas
➢ Practice Worksheets
➢ Kahoots Learning Game

Day 3

<u>Objective</u>

Proficiently identify different type of angles and measurements

❖ Lecture: Identifying angles and their uses

Day 4

<u>Objective</u>

Review

❖ Lecture:
  ➢ Area & Angles

Week 7: Angles (4 days)

Day 1

<u>Objective</u>

Practice

❖ Lecture: Angle calculation practice
  ➢ Worksheet Practice

Day 2

<u>Objective</u>

Design pseudocode

❖ Lecture: Programming
  ➢ Program spheros to successfully maneuver designated area and perimeter

Day 3

<u>Objective</u>

Review camp curriculum.

❖ Lecture: Post Assessment Knowledge Test
  ➢ Test on all covered materials
  ➢ Math Olympics Scavenger Hunt

Day 4

<u>Objective</u>

Putting it all together

- ❖ Lecture:
  - ➢ Math Olympics Scavenger Hunt
  - ➢ Honors Ceremony

All curriculum content in this document was derived from the Georgia Department of Education Standards for 4th, 5th, and 6th grade.