

# **E4 (Math for Grade 4)**

## **Course Curriculum (MPSL Academy)**

**Each Session: 1 hour 15 minutes**

(First 10 min review of last week topics/HW, 50 min new topics, 15 min critical thinking Qs)

### **1. Place Value Concepts**

- Understand Place Value
- Read and Write Multi-Digit Numbers
- Compare Multi-Digit Numbers
- Round Multi-Digit Numbers

### **2. Add and Subtract Multi-Digit Numbers**

- Estimate Sums and Differences
- Add & Subtract Multi-Digit Numbers
- Use Strategies to Add and Subtract
- Problem Solving: Addition and Subtraction

### **3. Multiply by One-Digit Numbers**

- Understand Multiplicative Comparisons
- Multiply Tens, Hundreds, and Thousands
- Estimate Products by Rounding
- Use the Distributive Property to Multiply
- Use Expanded Form to Multiply
- Use Partial Products to Multiply
- Multiply Two-Digit Numbers by One-Digit Numbers
- Multiply Three- and Four-Digit Numbers by One-Digit Numbers
- Use Properties to Multiply
- Problem Solving: Multiplication

#### **4. Multiply by Two-Digit Numbers**

- Multiply by Tens
- Estimate Products
- Use Area Models to Multiply Two-Digit Numbers
- Use the Distributive Property to Multiply Two-Digit Numbers
- Use Partial Products to Multiply Two-Digit Numbers
- Multiply Two-Digit Numbers
- Practice Multiplication Strategies
- Problem Solving: Multiplication with Two-Digit Numbers

#### **5. Divide Multi-Digit Numbers by One-Digit Numbers**

- Divide Tens, Hundreds, and Thousands
- Estimate Quotients
- Understand Division and Remainders
- Use Partial Quotients with a Remainder
- Divide Two & Multi-Digit Numbers by One-Digit Numbers
- Problem Solving: Division

#### **6. Factors, Multiples, and Patterns**

- Understand Factors and Divisibility
- Relate Factors and Multiples
- Identify Prime and Composite Numbers
- Number & Shape Patterns

#### **7. Understand Fraction Equivalence and Comparison**

- Model Equivalent Fractions
- Generate Equivalent Fractions by Multiplying
- Generate Equivalent Fractions by Dividing
- Compare Fractions Using Benchmarks

## **8. Add and Subtract Fractions**

- Use Models to Add & Subtract Fractions
- Decompose Fractions
- Add & Subtract Fractions with Like Denominators
- Model Fractions and Mixed Numbers
- Add & Subtract Mixed Numbers
- Problem Solving: Fractions

## **9. Multiply Whole Numbers and Fractions**

- Understand Multiples of Fractions
- Multiply Whole Numbers and Mixed Fractions
- Problem Solving: Fraction Operations

## **10. Relate Fractions and Decimals**

- Understand Tenths & Hundredths
- Fractions and Decimals
- Compare Decimals
- Add Decimal Fractions and Decimals
- Fractions, Decimals, and Money
- Operations with Money

## **11. Understand Measurement Equivalence**

- Length in Metric & Customary Units
- Mass and Capacity in Metric Units
- Weight in Customary Units
- Capacity in Customary Units
- Make and Interpret Line Plots
- Units of Time
- Problem Solving: Elapsed Time
- Mixed Measures

## **12. Use Perimeter and Area Formulas**

- Perimeter Formula for a Rectangle
- Area Formula for a Rectangle
- Find Unknown Measures
- Problem Solving: Perimeter and Area

## **13. Identify and Draw Lines and Angles**

- Points, Lines and Rays
- Identify and Draw Angles
- Identify Parallel and Perpendicular Lines
- Understand Degrees
- Find & Add Angle Measures
- Measure and Draw Angles
- Find Unknown Angle Measures

## **14. Identify Symmetry and Two-Dimensional Shapes**

- Line Symmetry
- Draw Symmetric Shapes
- Classify Triangles by Sides & Angles
- Classify Quadrilaterals

## **16. ADVANCE TOPICS**

- **ADD, SUBTRACT POSITIVE & NEGATIVE INTEGERS**
- **RATIOS AND UNIT RATES**
- **LENGTH, MASS AND VOLUME**
- **SCIENTIFIC NOTATION**
- **POINTS, LINES, RAYS AND ANGLES**
- **CIRCLES & TRIANGLES**
- **ROUNDING NUMBERS**

- **PRIME FACTORIZATION**
- **NUMBER PATTERN AND PATTERN RULES**
- **RATIOS & PROPERTIES OF NUMBERS**
- **PERCENT, DECIMALS & FRACTIONS**
- **INTRO TO PERCENT AND RATES**
- **INTRO TO AREA & VOLUME OF TRIANGLES**
- **INTRO TO GCF & LCM**

**NOTE: STUDENTS WILL PARTICIPATE IN VARIOUS STATE & NATIONAL LEVEL MATH COMPETITIONS LIKE MATHCOUNTS, MATH OLYMPIAD, MATH KANGAROO, CONTINENTAL MATH LEAGUE AND SO ON. OUR GOAL IS TO BUILD CONFIDENCE IN MATH IN AN EFFICIENT WAY RESULTING IN IMPROVING SCORES IN SCHOOL EXAM & SUCCEED IN NATIONAL MATH COMPETITIONS.**