

E5 (Math for Grade 5)

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. Advance Place Value Concepts

- Place Value Patterns
- Place Value with Whole Numbers
- Patterns and Powers of 10
- Decimals to Thousandths
- Place Value with Decimals
- Compare & Round Decimals

2. Numerical Expressions

- Number Properties
- Order of Operations
- Write Numerical Expressions
- Evaluate Expressions with Grouping Symbols
- Problem Solving: PEMDAS rule

3. Add and Subtract Decimals

- Estimate Sums and Differences
- Use Models to Add or Subtract Decimals
- Add Decimals
- Subtract Decimals
- Add and Subtract Decimals
- Use Mental Math to Add or Subtract Decimals
- Problem Solving: Money

4. Multiply Whole Numbers

- Multiplication Patterns
- Estimate Products
- Multiply by One-Digit & Two-Digit Numbers
- Multiply by Multi-Digit Whole Numbers

5. Multiply Decimals

- Multiplication Patterns with Decimals
- Estimate Products of Decimals and Whole Numbers
- Use Models to Multiply Decimals and Whole Numbers
- Use Models & Partial Products to Multiply Decimals
- Use Strategies to Multiply Decimals
- Problem Solving: Multiply with Money

6. Divide Whole Numbers

- Relate Multiplication and Division
- Division Patterns & Estimate Quotients
- Use Partial Quotients to Divide by Two-Digit Numbers
- Use Partial Quotients with a Remainder
- Divide 3 & 4-Digit Numbers by Two-Digit Numbers
- Problem Solving: Division

7. Divide Decimals

- Division Patterns with Decimals
- Estimate Decimal Quotients
- Use Models to Divide Decimals by Whole Numbers
- Divide Decimals by 1 & 2-Digit Numbers
- Use Models to Divide Decimals
- Problem Solving: Decimal Operations

8. Add and Subtract Mixed Fractions

- Simplest Form
- Estimate Sums and Differences of Fractions
- Find Common Denominators
- Add & Subtract Fractions with Unlike Denominators
- Add & Subtract Mixed Numbers
- Problem Solving: Fractions

9. Multiply Mixed Fractions

- Use Models to Multiply Fractions by Whole Numbers
- Multiply Fractions and Whole Numbers
- Use Models to Multiply Fractions
- Find Areas of Rectangles
- Multiply Mixed Numbers
- Compare Factors and Products

10. Divide Fractions

- Interpret Fractions as Division
- Mixed Numbers as Quotients
- Divide Whole Numbers by Unit Fractions
- Divide Unit Fractions by Whole Numbers
- Problem Solving: Fraction Division

11. Convert and Display Units of Measure

- Length in Metric Units
- Mass and Capacity in Metric Units
- Length, Weight & Capacity in Customary Units
- Make and Interpret Line Plots
- Problem Solving: Measurement

12. Patterns in the Coordinate Plane

- Plot Points in a Coordinate Plane
- Relate Points in a Coordinate Plane
- Draw Polygons in a Coordinate Plane
- Graph Data
- Make and Interpret Line Graphs
- Numerical Patterns
- Graph and Analyze Relationships

13. Understand Volume

- Understand the Concept of Volume
- Find Volumes of Right Rectangular Prisms
- Apply the Volume Formula
- Find Unknown Dimensions
- Find Volumes of Composite Figures

14. Classify Two-Dimensional Shapes

- Classify Triangles
- Classify Quadrilaterals
- Relate Quadrilaterals

16. ADVANCE TOPICS

- **AVERAGE AND GRAPHS**
- **EXPANDED NOTATION**
- **ORDER OF OPERATIONS**
- **WORKING BACKWARDS**
- **RATES & RATIOS WORD PROBLEM**
- **WHOLE NUMBERS**
- **PERCENT AND CHANGE**
- **CLASSIFICATION OF ANGLES**

- **INTRO TO EXPONENTS**
- **PERCENT, GEOMETRY & PATCHWORK**
- **CIRCLES – CIRCUMFERENCE & AREA WORD PROBLEM**
- **GCF & LCM – WORD PROBLEMS**
- **POWER & EXPONENTS – WORD PROBLEM**
- **CRITICAL THINKING – WORD PROBLEM**

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.