

Third Grade Math Curriculum

I. Whole Number Concepts and Operations

A. Numeration

1. Meaning of numbers RA
2. Reading and writing numbers TA
3. Place value TA
4. Ordinal numbers RA
5. Comparing and ordering TA
6. Rounding TA
7. Square numbers and square roots TA

B. Number Theory

1. Even and odd numbers TA
2. Multiples and least common multiples TA

C. Addition

1. Meaning of addition RA
2. Related to subtraction RA
3. Basic facts and fact strategies RA
4. Properties TA
5. Three or more addends TA
6. Adding 2-digit numbers TA
7. Adding 3-digit numbers TA
8. Adding with 4 or more digits TA
9. Choosing a computation tool TA
10. Addition expressions/ sentences/ equations TA
11. Estimation and mental math TA
12. Problem solving TA

D. Subtraction

1. Meaning of subtraction RA
2. Related to addition RA
3. Basic facts and fact strategies RA
4. Properties TA
5. Subtraction 2-digit numbers TA
6. Subtracting 3-digit numbers TA
7. Subtracting with 4 or more digits TA
8. Choosing a computational tool TA
9. Subtraction expression/ sentences/ equations TA
10. Estimation and mental math TA

11. Problem solving	TA
E. Multiplication	
1. Meaning of multiplication	TA
2. Related to addition, division	TA
3. Basic fact and fact strategies	TA
4. Properties	TA
5. By 1-digit number	TA
6. By multiples of 10 and 100	TA
7. By a multi-digit number	TA
8. Choosing a computation tool	TA
9. Multiplication expressions/ sentences/ equations	TA
10. Estimation and mental math	TA
11. Problem solving	TA
F. Division	
1. Meaning of division	TA
2. Related to multiplication, subtraction	TA
3. Basic facts and fact strategies	TA
4. Properties	TA
5. By a 1-digit divisor	TA
6. By multiples of 10 and 100	TA
7. Division expressions/ sentences/ equations	TA
8. Estimation and mental math	TA
9. Problem solving	TA
II. Fraction Concepts and Operations	
A. Concepts	
1. Part of a whole/part of a set	TA
2. Mixed numbers, fractions greater than 1	TA
3. Equivalent fractions	TA
4. Comparing and ordering	TA
5. Rounding and estimating	TA
B. Operations	
1. Addition and subtraction with like denominators	TA
2. Multiplication and division by a whole number	TA
3. Estimation and mental math	TA
4. Problem solving	TA
III. Decimal Concepts and Operations	

A. Concepts	
1. Meaning of decimals	TA
2. Related to fractions	TA
3. Related to money and measurement	TA
B. Operations	
1. Addition	TA
2. Subtraction	TA
3. Problem Solving	TA
IV. Number Sense, Estimation, and Mental Math	
A. Number Sense	
1. Meaning of whole numbers	TA
2. Fractions	TA
3. Decimals	TA
4. Number patterns	TA
5. Number relationships	TA
6. Relative magnitude of numbers	TA
B. Estimation Strategies	
1. Deciding when to estimate	TA
2. Using front-end digits	TA
3. Rounding whole numbers and decimals	TA
4. Rounding fractions and mixed numbers	TA
5. Estimating quantities and measures	TA
C. Mental Math Strategies	
1. Basic fact strategies: add and subtract	
a. Think addition to subtract	RA
b. Use families of facts	RA
2. Basic fact strategies: multiply and divide	
a. Skip count	RA
b. Multiply in any order	TA
c. Use doubling	TA
d. Use known facts	TA
e. Use patterns	TA
f. Think multiplication to divide	TA
3. Mental computation strategies	
a. Multiply/divide by 10, 100, 1,000	TA
b. Use properties and patterns	TA

- c. Compatible numbers TA
- d. With fractions TA

V. Mathematical Processes

A. Problem solving

1. Analyze word problems
 - a. Choose an operation TA
 - b. Too much or too little information TA
 - c. Multiple-step operation TA
 - d. Choose an exact or estimated answer TA
 - e. Interpreting remainders TA
2. Analyze strategies
 - a. Use objects/act it out TA
 - b. Draw or use a picture TA
 - c. Guess and check TA
 - d. Look for a pattern TA
 - e. Make an organized list TA
 - f. Make a table TA
 - g. Use logical reasoning TA
 - h. Solve a simpler problem TA
 - i. Work backward TA
 - j. Choose/compare strategies TA
3. Decision making: plan an event, make a choice, etc TA
4. Problem-solving guide/checklist
 - a. Understand
 - i. Determine what you know TA
 - ii. Use data from pictures, graphs, ... TA
 - b. Plan
 - i. Choose an operation/strategy TA
 - ii. Choose a computation method TA
 - iii. Estimate the answer TA
 - c. Solve
 - i. Carry out the plan TA
 - ii. Try another strategy if needed TA
 - iii. Give the answer TA
 - d. Look back
 - i. check your answer TA
 - ii. Check reasonableness of answer TA

iii. Be sure the question is answered TA

B. Reasoning

1. Critical Thinking, logical reasoning
 - a. Classifying/sorting TA
 - b. Comparing/contrasting RA
 - c. Finding/extending/using patterns TA
 - d. Making generalizations TA
 - e. Drawing conclusions TA
 - f. Making/testing conjectures TA
2. Visual and creative thinking
 - a. Visual patterns TA
 - b. Spatial reasoning TA
 - c. Solve nonroutine problems TA
 - d. Generate problems TA

C. Connections

1. Curriculum connections
 - a. Social studies/history/geography RA
 - b. Health/physical education RA
 - c. Science RA
 - d. Music RA
 - e. Reading/language/literature RA
 - f. Art RA
2. Math strand connections
 - a. Patterns TA
 - b. Estimation and mental math TA
 - c. Algebra readiness TA
 - d. Geometry TA
 - e. Using/collecting data TA
3. Real world connections
 - a. Student's daily life RA
 - b. Consumer RA
 - c. Career TA
 - d. Multicultural connections RA

D. Communication

1. Reading for math/reading assist RA
2. Write about it/journal RA
3. Talk about it/share RA
4. Working in groups RA

VI. Geometry

A. Plane and solid shapes

1. Identify plane figures TA
2. Identify solid figures TA
3. Relate plane figures to solid figures TA
4. Sides and corners/vertices TA
5. Symmetry TA
6. Lines, line segments, rays, planes, angles TA
7. Circles and parts of circles TA
8. Draw/construct/build TA
9. Visual thinking TA

B. Classification

1. Congruent figures TA
2. Transformations (slides, flips, turns) TA
3. Pairs of lines/line segments TA
4. Angles TA
5. Polygons TA
6. Triangles TA
7. Quadrilaterals TA
8. Polyhedrons/solid shapes TA

C. Formulas

1. Perimeter and circumference TA
2. Area TA
3. Volume TA

VII. Patterns, relationships, and algebraic thinking

A. Patterns

1. With objects/geometric figures TA
2. With numbers TA
3. Skip counting TA
4. In tables, charts, and graphs TA
5. Used to make predictions TA
6. Logical reasoning TA

B. Relationships

1. Function tables TA
2. Ordered pairs TA
3. Cumulative and associative properties TA

4. Zero and identity properties	TA
C. Algebraic thinking	
1. Expressions, equations, inequalities	
a. Missing numbers and number sentences	TA
VIII. Measurement, time, and money	
A. Measurement	
1. Comparing lengths and sizes	TA
2. Nonstandard units	TA
3. Length, customary	TA
4. Length, metric	TA
5. Length, estimating	TA
6. Length, choosing appropriate units	TA
7. Length, converting units	TA
8. Capacity, customary	TA
9. Capacity, choosing appropriate units	TA
10. Capacity, converting units	TA
11. Weight, customary	TA
12. Mass, metric	TA
13. Weight/mass, estimating	TA
14. Weight/mass, choosing appropriate units	TA
15. Weight/mass, converting units	TA
16. Temperature	TA
B. Perimeter, area, volume	
1. Estimating	TA
2. Perimeter and circumference	TA
3. Area	TA
4. Volume	TA
5. Perimeter/area/volume relationships	TA
C. Time	
1. Nearest hour/half-hour	TA
2. Minutes before/after the hour	TA
3. Estimating time	TA
4. Elapsed time	TA
5. A.M. and P.M.	TA

6. Calendar	TA
D. Money	
1. Identify coins and bills	RA
2. Count and show amounts	TA
3. Making change	TA
4. Comparing	RA
5. Adding/subtracting	TA
6. Multiplying/dividing	TA
IX. Data, statistics, and probability	
A. Graphing	
1. Reading pictographs	TA
2. Making pictographs	TA
3. Reading bar graphs	TA
4. Making bar graphs	TA
5. Reading line graphs	TA
6. Graphing ordered pairs	TA
7. Making predictions	TA
B. Data and statistics	
1. Collecting and organizing data	TA
2. Reading/making charts and tables	TA
3. Tally charts	TA
4. Using data in problem solving	TA
5. Making predictions	TA
C. Probability	
1. Outcomes	TA
2. Writing probabilities	TA
3. Certain/possible/impossible events	TA
4. Fair and unfair games	TA
5. Making predictions	TA
X. Technology	
A. Calculators	
1. In problem solving	TA
2. As a tool for computing	TA
3. Counting and skip counting	TA
4. Reading a display	TA
5. Number/operation keys	TA

B. Computers

1. Graphing tool
2. Geometry tool
3. Internet access

TA

TA

TA