

Second 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 TA
5. Comparing and ordering TA
6. Rounding TA

B. Number Theory

1. Even and odd numbers TA

C. Addition

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

D. Subtraction

1. Meaning of subtraction TA
2. Related to addition TA
3. Basic facts and fact strategies TA
4. Properties TA
5. Subtraction 2-digit numbers TA
6. Subtracting 3-digit numbers TA
7. Choosing a computational tool TA
8. Subtraction expression/ sentences/ equations TA
9. Estimation and mental math TA
10. 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. Problem solving	TA
F. Division	
1. Meaning of division	TA
2. Problem solving	TA
II. Fraction Concepts and Operations	
A. Concepts	
1. Part of a whole/part of a set	TA
2. Rounding and estimating	TA
3. Problem Solving	TA
III. Number Sense, Estimation, and Mental Math	
A. Number Sense	
1. Meaning of whole numbers	TA
2. Number patterns	TA
3. Number relationships	TA
4. Relative magnitude of numbers	TA
B. Estimation Strategies	
1. Rounding whole numbers and decimals	TA
2. Estimating quantities and measures	TA
C. Mental Math Strategies	
1. Basic fact strategies: add and subtract	
a. Count on/count back	TA
b. Use turnaround facts	TA
c. Add with doubles/doubles plus one	TA
d. Make ten	TA
e. Use doubles to subtract	TA
f. Think addition to subtract	TA
g. Use families of facts	TA
2. Basic fact strategies: multiply and divide	
a. Skip count	TA
b. Multiply in any order	TA

- 3. Mental computation strategies
 - a. Use properties and patterns TA

IV. 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
- 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. 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
 - 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. 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. 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. Multicultural connections	RA
D. Communication	
1. Reading for math/reading assist	TA
2. Write about it/journal	TA
3. Talk about it/share	TA
4. Working in groups	TA
V. 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. Circles and parts of circles	TA

7. Draw/construct/build	TA
8. Visual thinking	TA
B. Classification	
1. Congruent figures	TA
2. Transformations (slides, flips, turns)	TA
3. Polygons	TA
4. Triangles	TA
5. Quadrilaterals	TA
6. Polyhedrons/solid shapes	TA
C. Formulas	
1. Perimeter and circumference	TA
2. Area	TA
VI. Patterns, relationships, and algebraic thinking	
A. Patterns	
1. With objects/geometric figures	TA
2. With numbers	TA
3. Skip counting	TA
4. Used to make predictions	TA
5. Logical reasoning	TA
B. Relationships	
1. Function tables	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
VII. 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. Capacity, customary	TA

8. Capacity, choosing appropriate units	TA
9. Weight, customary	TA
10. Mass, metric	TA
11. Weight/mass, estimating	TA
12. Weight/mass, converting units	TA
13. Temperature	TA
B. Perimeter, area, volume	
1. Estimating	TA
2. Perimeter and circumference	TA
3. Area	TA
4. 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. Calendar	TA
D. Money	
1. Identify coins and bills	TA
2. Count and show amounts	TA
3. Making change	TA
4. Comparing	TA
5. Adding/subtracting	TA
VIII. 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. 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	

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| 1. Outcomes | TA |
| 2. Writing probabilities | TA |
| 3. Certain/possible/impossible events | TA |
| 4. Fair and unfair games | TA |

IX. Technology

A. Calculators

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| 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

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| 1. Geometry tool | TA |
| 2. Internet access | TA |