



# monarch

Curriculum Catalog

Mathematics 600

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## Mathematics 600 Course Overview

Math 600 is a full-year elementary math course focusing on number skills and numerical literacy, with an introduction to the number skills needed for algebra. In it, students will gain solid experience with number theory and operations, including decimals and fractions. This course also integrates geometric concepts and skills throughout the units, as well as introducing students to statistical and probability concepts.

By the end of the course, students will be expected to do the following:

- Perform all four operations on whole numbers, decimals, and fractions.
- Factor numbers completely and find greatest common factors.
- Convert between fractions, decimals, and percentages.
- Represent numbers with exponents.
- Calculate perimeters and areas of regular plane shapes and measure angles.
- Plot ordered pairs on coordinate grids.
- Represent data on statistical charts, including picture, bar, line, and circle graphs.
- Calculate probabilities and make predictions.

Unit 1: Whole Numbers and Algebra	
Assignments	
1. Course Overview	14. Alternate Quiz 2:Form B: Operations and Number Patterns*
2. Rounding and Estimation	15. Variables
3. Whole Number Operations	16. Expressions
4. Real Number Properties	17. Variable Expressions
5. Quiz 1: Whole Numbers and Their Properties	18. Equations and Mental Math
6. Alternate Quiz 1:Form A: Whole Numbers and Their Properties*	19. Quiz 3: Algebra
7. Their Properties*	20. Alternate Quiz 3:Form A: Algebra*
8. Alternate Quiz 1:Form B: Whole Numbers and Their Properties*	21. Alternate Quiz 3:Form B: Algebra*
9. Their Properties*	22. Special Project*
10. Exponents	23. Review
11. Squares, Cubes, and Roots	24. Test
12. Order of Operations	25. Alternate Test: Form A*
13. Number Patterns	26. Alternate Test: Form B*
14. Quiz 2: Operations and Number Patterns	27. Glossary and Credits
15. Alternate Quiz 2:Form A: Operations and Number Patterns*	

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Unit 2: Data Analysis	
Assignments	
1. Collecting Data and the Mean	14. Bar Graphs
2. Median, Mode, and Range	15. Line Graphs
3. Describing Data	16. Venn Diagrams
4. Quiz 1: Collecting and Describing Data	17. Vertex-Edge Graphs
5. Alternate Quiz 1:Form A: Collecting and Describing	18. Quiz 3: Displaying and Interpreting Data
6. Data*	19. Alternate Quiz 3:Form A: Displaying and
7. Alternate Quiz 1:Form B: Collecting and Describing	20. Interpreting Data*
8. Data*	21. Alternate Quiz 3:Form B: Displaying and
9. Frequency Tables	22. Interpreting Data*
10. Histograms	23. Special Project*
11. Line Plots	24. Review
12. Stem-and-Leaf Plots	25. Test
13. Quiz 2: Organizing Data	26. Alternate Test: Form A*
14. Alternate Quiz 2:Form A: Organizing Data*	27. Alternate Test: Form B*
15. Alternate Quiz 2:Form B: Organizing Data*	27. Glossary and Credits

Unit 3: Decimals	
Assignments	
1. Decimals and Place Value	15. Length
2. Ordering and Comparing	16. Mass and Capacity
3. Rounding and Estimating	17. Multiplying and Dividing by Powers of Ten
4. Adding and Subtracting	18. Converting Metric Units
5. Quiz 1: Decimal Numbers	19. Quiz 3: The Metric System
6. Alternate Quiz 1:Form A: Decimal Numbers*	20. Alternate Quiz 3:Form A: The Metric System*
7. Alternate Quiz 1:Form B: Decimal Numbers*	21. Alternate Quiz 3:Form B: The Metric System*
8. Multiplying by Whole Numbers	22. Special Project*
9. Multiplying by Decimals	23. Review
10. Dividing by Whole Numbers	24. Test
11. Dividing by Decimals	25. Alternate Test: Form A*
12. Quiz 2: Multiplying and Dividing Decimal Numbers	26. Alternate Test: Form B*
13. Alternate Quiz 2:Form A: Multiplying and Dividing Decimal Numbers*	27. Glossary and Credits
14. Alternate Quiz 2:Form B: Multiplying and Dividing Decimals and Place Value	

Unit 4: Fractions	
Assignments	
1. Divisibility and Prime Factorization	14. Changing Decimals to Fractions
2. Greatest Common Factor	15. Changing Fractions to Decimals
3. Fractions	16. Estimating with Fractions
4. Equivalent Fractions	17. Measures of Time
5. Quiz 1: Factors and Fractions	18. Quiz 3: Decimals and Fractions
6. Alternate Quiz 1:Form A: Factors and Fractions*	19. Alternate Quiz 3:Form A: Decimals and Fractions*
7. Alternate Quiz 1:Form B: Factors and Fractions*	20. Alternate Quiz 3:Form B: Decimals and Fractions*
8. Least Common Multiple	21. Special Project*
9. Comparing and Ordering Fractions	22. Review
10. Improper Fractions and Mixed Numbers	23. Test
11. Quiz 2: The LCM and Fractions	24. Alternate Test: Form A*
12. Alternate Quiz 2:Form A: The LCM and Fractions*	25. Alternate Test: Form B*
13. Alternate Quiz 2:Form B: The LCM and Fractions*	26. Glossary and Credits

Unit 5: Fraction Operations	
Assignments	
Mathematics 600	1. Fractions with Like Denominators
	2. Fractions with Unlike Denominators
	3. Mixed Numbers
	4. Renaming Mixed Numbers
	5. Quiz 1: Adding and Subtracting Fractions
	6. Alternate Quiz 1:Form A: Adding and Subtracting Fractions*
	7. Alternate Quiz 1:Form B: Adding and Subtracting Fractions*
	8. Multiplying Fractions
	9. Multiplying Mixed Numbers
	10. Dividing Fractions
	11. Dividing Mixed Numbers
	12. Quiz 2: Multiplying and Dividing Fractions
	13. Alternate Quiz 2:Form A: Multiplying and Dividing Fractions*
14. Alternate Quiz 2:Form B: Multiplying and Dividing Fractions*	
15. Length	
16. Weight	
17. Capacity	
18. Quiz 3: The Customary System	
19. Alternate Quiz 3:Form A: The Customary System*	
20. Alternate Quiz 3:Form B: The Customary System*	
21. Special Project*	
22. Review	
23. Test	
24. Alternate Test: Form A*	
25. Alternate Test: Form B*	
26. Glossary and Credits	

Unit 6: Ratio, Proportion, and Percent	
Assignments	
Mathematics 600	1. Ratios
	2. Geometry: Circumference
	3. Rates
	4. Quiz 1: Ratios
	5. Alternate Quiz 1:Form A: Ratios*
	6. Alternate Quiz 1:Form B: Ratios*
	7. Proportions
	8. Solving Proportions
	9. Scale Drawings
	10. Project: Make a Scale Drawing
	11. Quiz 2: Proportions
	12. Alternate Quiz 2:Form A: Proportions*
	13. Alternate Quiz 2:Form B: Proportions*
14. Converting Between Decimals and Percents	
15. Converting Between Fractions and Percents	
16. Data Analysis: Circle Graphs	
17. Percent of a Number	
18. Quiz 3: Percent	
19. Alternate Quiz 3:Form A: Percent*	
20. Alternate Quiz 3:Form B: Percent*	
21. Special Project*	
22. Review	
23. Test	
24. Alternate Test: Form A*	
25. Alternate Test: Form B*	
26. Glossary and Credits	

Unit 7: Probability and Geometry	
Assignments	
Mathematics 600	1. Introduction to Probability
	2. Complementary Events
	3. Sample Space
	4. Project: Theoretical vs. Experimental Probability
	5. Quiz 1: Probability
	6. Alternate Quiz 1:Form A: Probability*
	7. Alternate Quiz 1:Form B: Probability*
	8. Introduction to Geometry
	9. Measuring and Classifying Angles
	10. Angle Relationships
	11. Quiz 2: Geometry: Angles
	12. Alternate Quiz 2:Form A: Geometry: Angles*
	13. Alternate Quiz 2:Form B: Geometry: Angles*
14. Triangles	
15. Quadrilaterals	
16. Polygons	
17. Congruent and Similar Figures	
18. Quiz 3: Geometry: Polygons	
19. Alternate Quiz 3:Form A: Geometry: Polygons*	
20. Alternate Quiz 3:Form B: Geometry: Polygons*	
21. Special Project*	
22. Review	
23. Test	
24. Alternate Test: Form A*	
25. Alternate Test: Form B*	
26. Glossary and Credits	

Unit 8: Geometry and Measurement		
Assignments		
Mathematics 600	1. Perimeter	13. Finding Missing Dimensions
	2. Area of Parallelograms	14. Project: Triangular Prisms
	3. Area of Triangles	15. Quiz 2: Solid Figures
	4. Area of Composite Figures	16. Alternate Quiz 2:Form A: Solid Figures*
	5. Area of Circles	17. Alternate Quiz 2:Form B: Solid Figures*
	6. Project: Estimating Area	18. Special Project*
	7. Quiz 1: Plane Figures	19. Review
	8. Alternate Quiz 1:Form A: Plane Figures*	20. Test
	9. Alternate Quiz 1:Form B: Plane Figures*	21. Alternate Test: Form A*
	10. Solid Figures	22. Alternate Test: Form B*
	11. Surface Area of Rectangular Prisms	23. Glossary and Credits
	12. Volume of Rectangular Prisms	

Unit 9: Integers and Transformations		
Assignments		
Mathematics 600	1. Integers	14. Alternate Quiz 2:Form B: Integer Operations*
	2. Comparing and Ordering Integers	15. Translations
	3. Absolute Value	16. Reflections and Rotations
	4. Coordinate Plane	17. Line Symmetry
	5. Quiz 1: Integers	18. Quiz 3: Transformations
	6. Alternate Quiz 1:Form A: Integers*	19. Alternate Quiz 3:Form A: Transformations*
	7. Alternate Quiz 1:Form B: Integers*	20. Alternate Quiz 3:Form B: Transformations*
	8. Addition	21. Special Project*
	9. Subtraction	22. Review
	10. Multiplication	23. Test
	11. Division	24. Alternate Test: Form A*
	12. Quiz 2: Integer Operations	25. Alternate Test: Form B*
	13. Alternate Quiz 2:Form A: Integer Operations*	26. Glossary and Credits

Unit 10: Equations and Functions		
Assignments		
Mathematics 600	1. Equations	14. Alternate Quiz 2:Form B: More Equations and Inequalities*
	2. Writing Equations	15. Functions
	3. Addition Equations	16. Function Rules
	4. Subtraction Equations	17. Graphing Functions
	5. Quiz 1: Equations	18. Quiz 3: Functions
	6. Alternate Quiz 1:Form A: Equations*	19. Alternate Quiz 3:Form A: Functions*
	7. Alternate Quiz 1:Form B: Equations*	20. Alternate Quiz 3:Form B: Functions*
	8. Multiplication Equations	21. Special Project*
	9. Division Equations	22. Review
	10. Inequalities	23. Test
	11. Graphing Inequalities	24. Alternate Test: Form A*
	12. Quiz 2: More Equations and Inequalities	25. Alternate Test: Form B*
	13. Alternate Quiz 2:Form A: More Equations and Inequalities*	26. Glossary and Credits

Math 600	<b>Unit 11: Course Review and Exam</b>	
	<b>Assignments</b>	
	1. Course Review 1	4. Alternate Exam: Form A*
	2. Course Review 2	5. Alternate Exam: Form B*
	3. Exam	

(\*) Indicates alternative assignment