



Switched-On
SCHOOLHOUSE

Course Catalog

Mathematics 500

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COURSE OVERVIEW

Math 500 is a full-year elementary math course focusing on number skills, numerical literacy, and geometric concepts. In it, students will gain solid experience with number theory and operations, including whole numbers, decimals, and fractions. In addition, students will develop their understanding of measurement and two- and three- dimensional figures. This course also integrates mathematical practices throughout the units, as well as introducing students to algebraic, 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 and decimals (to hundredths).
- Perform addition and subtraction of fractions and mixed numbers with like and unlike denominators.
- Understand place value of decimal numbers (to thousandths).
- Evaluate expressions for given values and plot whole number ordered pairs on coordinate grids.
- Represent and interpret data on line plots, stem-and-leaf plots, line graphs, and bar graphs.
- Convert units of measurement within a given measurement system.
- Classify plane shapes and calculate their perimeter and area.

UNIT 1: PLACE VALUE, ADDITION, AND SUBTRACTION				
Assignment Titles				
MATHEMATICS 500	1.	Course Overview	15.	Adding and Subtracting Whole Numbers
	2.	Whole Number Place Value	16.	Adding Decimal Numbers
	3.	Comparing and Ordering Whole Numbers	17.	Subtracting Decimal Numbers
	4.	Decimal Number Place Value	18.	Project: Logical Reasoning
	5.	Comparing and Ordering Decimal Numbers	19.	Quiz 3: Addition and Subtraction
	6.	Quiz 1: Place Value	20.	Alternate Quiz 3:Form A: Addition and Subtraction*
	7.	Alternate Quiz 1:Form A: Place Value*	21.	Alternate Quiz 3:Form B: Addition and Subtraction*
	8.	Alternate Quiz 1:Form B: Place Value*	22.	Special Project*
	9.	Rounding Whole Numbers and Decimals	23.	Review
	10.	Estimating Sums and Differences	24.	Test
	11.	Add and Subtract Mentally	25.	Alternate Test: Form A*
	12.	Quiz 2: Rounding and Estimating	26.	Alternate Test: Form B*
	13.	Alternate Quiz 2:Form A: Rounding and Estimating*	27.	Glossary and Credits
	14.	Alternate Quiz 2:Form B: Rounding and Estimating*		

UNIT 2: MULTIPLYING WHOLE NUMBERS AND DECIMALS				
Assignment Titles				
MATHEMATICS 500	1.	Estimating Whole Number Products	14.	Estimating Decimal Products
	2.	Properties of Multiplication	15.	Multiplying Whole Numbers by Decimals
	3.	Multiplying Whole Numbers	16.	Multiplying Decimals by Decimals
	4.	Quiz 1: Multiplying Whole Numbers	17.	Solving Multiplication Problems
	5.	Alternate Quiz 1:Form A: Multiplying Whole Numbers*	18.	Quiz 3: Multiplying Decimal Number
	6.	Alternate Quiz 1:Form B: Multiplying Whole Numbers*	19.	Alternate Quiz 3:Form A: Multiplying Decimal Numbers*
	7.	Exponents	20.	Alternate Quiz 3:Form B: Multiplying Decimal Numbers*
	8.	Multiplying Whole Numbers by Powers of Ten	21.	Special Project*
	9.	Project: How Much is a Million	22.	Review
	10.	Multiplying Decimals by Powers of Ten	23.	Test
	11.	Quiz 2: Powers	24.	Alternate Test: Form A*
	12.	Alternate Quiz 2:Form A: Powers*	25.	Alternate Test: Form B*
	13.	Alternate Quiz 2:Form B: Powers*	26.	Glossary and Credits

UNIT 3: DIVIDING WHOLE NUMBERS AND DECIMALS

MATHEMATICS
500

Assignment Titles

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|---|---|
| 1. Understanding Division | 14. Alternate Quiz 2:Form B: Two-Digit Divisors |
| 2. Estimating Quotients | 15. Dividing by Powers of Ten |
| 3. Dividing Whole Numbers | 16. Dividing Decimals by Whole Numbers |
| 4. Remainders | 17. Dividing with Money |
| 5. Quiz 1: One-Digit Divisors | 18. Quiz 3: Decimal Division |
| 6. Alternate Quiz 1:Form A: One-Digit Divisors | 19. Alternate Quiz 3:Form A: Decimal Division |
| 7. Alternate Quiz 1:Form B: One-Digit Divisors | 20. Alternate Quiz 3:Form B: Decimal Division |
| 8. Dividing by Multiples of Ten | 21. Special Project |
| 9. Dividing Whole Numbers I | 22. Review |
| 10. Dividing Whole Numbers II | 23. Test |
| 11. Interpreting the Remainder | 24. Alternate Test: Form A |
| 12. Quiz 2: Two-Digit Divisors | 25. Alternate Test: Form B |
| 13. Alternate Quiz 2:Form A: Two-Digit Divisors | 26. Glossary and Credits |

UNIT 4: ALGEBRA AND GRAPHING

MATHEMATICS
500

Assignment Titles

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|---|--|
| 1. Addition and Subtraction Expressions | 14. The Coordinate Plane |
| 2. Multiplication Expressions | 15. Graphing Functions |
| 3. The Order of Operations | 16. Interpreting Graphs |
| 4. Quiz 1: Expressions | 17. Integers |
| 5. Alternate Quiz 1:Form A: Expressions* | 18. Quiz 3: Graphing |
| 6. Alternate Quiz 1:Form B: Expressions* | 19. Alternate Quiz 3:Form A: Graphing* |
| 7. Addition and Subtraction Equations | 20. Alternate Quiz 3:Form B: Graphing* |
| 8. Multiplication Equations | 21. Special Project* |
| 9. Functions | 22. Review |
| 10. Project: Patterns | 23. Test |
| 11. Quiz 2: Functions and Equations | 24. Alternate Test: Form A* |
| 12. Alternate Quiz 2:Form A: Functions and Equations* | 25. Alternate Test: Form B* |
| 13. Alternate Quiz 2:Form B: Functions and Equations* | 26. Glossary and Credits |

UNIT 5: MEASUREMENT

MATHEMATICS
500

Assignment Titles

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|--|--|
| 1. The Metric System | 15. Time |
| 2. Length | 16. Elapsed Time |
| 3. Mass | 17. Temperature |
| 4. Capacity | 18. Quiz 3: Time and Temperature |
| 5. Quiz 1: The Metric System | 19. Alternate Quiz 3:Form A: Time and Temperature* |
| 6. Alternate Quiz 1:Form A: The Metric System* | 20. Alternate Quiz 3:Form B: Time and Temperature* |
| 7. Alternate Quiz 1:Form B: The Metric System* | 21. Special Project* |
| 8. Length | 22. Review |
| 9. Weight | 23. Test |
| 10. Capacity | 24. Alternate Test: Form A* |
| 11. Project: Density | 25. Alternate Test: Form B* |
| 12. Quiz 2: The Customary System | 26. Glossary and Credits |
| 13. Alternate Quiz 2:Form A: The Customary System* | |
| 14. Alternate Quiz 2:Form B: The Customary System* | |

UNIT 6: FACTORS AND FRACTIONS

MATHEMATICS
500

Assignment Titles	
1.	Factors
2.	Prime Factorization
3.	Greatest Common Factor
4.	Quiz 1: Factors
5.	Alternate Quiz 1:Form A: Factors*
6.	Alternate Quiz 1:Form B: Factors*
7.	Fractions
8.	Improper Fractions and Mixed Numbers
9.	Simplifying Fractions
10.	Equivalent Fractions
11.	Quiz 2: Equivalent Fractions
12.	Alternate Quiz 2:Form A: Equivalent Fractions*
13.	Alternate Quiz 2:Form B: Equivalent Fractions*
14.	Least Common Multiple
15.	Comparing Fractions
16.	Fractions and Decimals
17.	Rounding Fractions
18.	Quiz 3: Fractions
19.	Alternate Quiz 3:Form A: Fractions*
20.	Alternate Quiz 3:Form B: Fractions*
21.	Special Project*
22.	Review
23.	Test
24.	Alternate Test: Form A*
25.	Alternate Test: Form B*
26.	Glossary and Credits

UNIT 7: FRACTION OPERATIONS

MATHEMATICS
500

Assignment Titles	
1.	Adding and Subtracting Fractions
2.	Adding and Subtracting Mixed Numbers
3.	Estimating Sums and Differences
4.	Quiz 1: Like Denominators
5.	Alternate Quiz 1:Form A: Like Denominators*
6.	Alternate Quiz 1:Form B: Like Denominators*
7.	Adding Fractions
8.	Subtracting Fractions
9.	Adding Mixed Numbers
10.	Subtracting Mixed Numbers
11.	Quiz 2: Unlike Denominators
12.	Alternate Quiz 2:Form A: Unlike Denominators*
13.	Alternate Quiz 2:Form B: Unlike Denominators*
14.	Multiplying Whole Numbers and Fractions
15.	Multiplying Fractions
16.	Multiplying Mixed Numbers
17.	Dividing Fractions
18.	Quiz 3: Multiplying and Dividing Fractions
19.	Alternate Quiz 3:Form A: Multiplying and Dividing Fractions*
20.	Alternate Quiz 3:Form B: Multiplying and Dividing Fractions*
21.	Special Project*
22.	Review
23.	Test
24.	Alternate Test: Form A*
25.	Alternate Test: Form B*
26.	Glossary and Credits

UNIT 8: DATA ANALYSIS AND PROBABILITY

MATHEMATICS
500

Assignment Titles	
1.	Collecting Data and Frequency Tables
2.	Measures of Central Tendency
3.	Line Plots
4.	Stem-and-Leaf Plots
5.	Quiz 1: Collecting and Analyzing Data
6.	Alternate Quiz 1:Form A: Collecting and Analyzing Data*
7.	Alternate Quiz 1:Form B: Collecting and Analyzing Data*
8.	Bar Graphs
9.	Line Graphs
10.	Choosing the Right Graph
11.	Quiz 2: Displaying Data
12.	Alternate Quiz 2:Form A: Displaying Data*
13.	Alternate Quiz 2:Form B: Displaying Data*
14.	Probability
15.	Probability as a Fraction
16.	Listing Outcomes
17.	Making Predictions
18.	Quiz 3: Probability
19.	Alternate Quiz 3:Form A: Probability*
20.	Alternate Quiz 3:Form B: Probability*
21.	Special Project*
22.	Review
23.	Test
24.	Alternate Test: Form A*
25.	Alternate Test: Form B*
26.	Glossary and Credits

UNIT 9: GEOMETRY		
Assignment Titles		
MATHEMATICS 500	1. Geometry Terms	14. Similar and Congruent Figures
	2. Angles	15. Transformations
	3. Circles	16. Symmetry
	4. Quiz 1: Geometry	17. Project: Constructions
	5. Alternate Quiz 1:Form A: Geometry*	18. Quiz 3: Transformations and Symmetry
	6. Alternate Quiz 1:Form B: Geometry*	19. Alternate Quiz 3:Form A: Transformations and Symmetry*
	7. Polygons	20. Alternate Quiz 3:Form B: Transformations and Symmetry*
	8. Triangles	21. Special Project*
	9. Quadrilaterals	22. Review
	10. Solid Figures	23. Test
	11. Quiz 2: Classifying Plane and Solid Figures	24. Alternate Test: Form A*
	12. Alternate Quiz 2:Form A: Classifying Plane and Solid Figures*	25. Alternate Test: Form B*
	13. Alternate Quiz 2:Form B: Classifying Plane and Solid Figures*	26. Glossary and Credits

UNIT 10: PERIMETER, AREA, AND VOLUME		
Assignment Titles		
MATHEMATICS 500	1. Polygons	14. Surface Area
	2. Regular Polygons	15. Volume
	3. Circumference	16. Solving Volume Problems
	4. Quiz 1: Perimeter	17. Project: Solid Figures
	5. Alternate Quiz 1:Form A: Perimeter*	18. Quiz 3: Solid Figures
	6. Alternate Quiz 1:Form B: Perimeter*	19. Alternate Quiz 3:Form A: Solid Figures*
	7. Area	20. Alternate Quiz 3:Form B: Solid Figures*
	8. Squares and Rectangles	21. Special Project*
	9. Parallelograms	22. Review
	10. Triangles	23. Test
	11. Quiz 2: Area	24. Alternate Test: Form A*
	12. Alternate Quiz 2:Form A: Area*	25. Alternate Test: Form B*
	13. Alternate Quiz 2:Form B: Area*	26. Glossary and Credits

UNIT 11: COURSE REVIEW AND EXAM		
Assignment Titles		
MATHEMATICS 500	1. Course Review 1	4. Alternate Exam: Form A*
	2. Course Review 2	5. Alternate Exam: Form B*
	3. Exam	

(*) Indicates alternate assignment