

honors grade 6 math

Content, Standards, & Objectives

This document contains an ordered list of all of the topics from the scope and sequence of Thinkwell's Honors Grade 6 Math, along with the learning objectives covered in each topic and the corresponding standards.

Although Thinkwell's Honors Grade 6 Math was not designed as a common core curriculum, this document is provided for those customers whose state homeschool requirements include common core standard mapping information.

Example:

Topic's number and title → **2.2.4 Multiplication Equations**

Learning Objectives:

Topic's learning objectives →

- solving multiplication equations
- problem-solving application

Topic's related standard from the Grade 6 Common Core State Standards for Mathematics → **Standards:**
→ 6.EE: 6, 6.EE: 7

We suggest keeping this document handy. Please let us know if you have any questions about the content here. Email us at support@thinkwell.com.

1 Whole Numbers and Patterns

1.1 Whole Numbers and Exponents

1.1.1 Comparing and Ordering Whole Numbers

Learning Objectives:

- *using place value to compare whole numbers*
- *using a number line to order whole numbers*

Standards:

6.NS: 7, 6.NS: 7a

1.1.2 Estimating with Whole Numbers

Learning Objectives:

- *estimating a sum or difference by rounding*
- *estimating a product by rounding*
- *estimating a quotient using compatible numbers*

1.1.3 Exponents

Learning Objectives:

- *writing numbers in exponential form*
- *finding the value of numbers in exponential form*
- *problem-solving application*

Standards:

6.EE: 1

1.2 Using Whole Numbers

1.2.1 Order of Operations

Learning Objectives:

- *using the order of operations*
- *using the order of operations with exponents*
- *consumer application*

Standards:

6.EE: 1



1.2.2 Properties and Reasoning Methods

Learning Objectives:

- *using properties to add and multiply whole numbers*
- *using the distributive property to multiply*

1.2.3 Choose the Method of Computation

Learning Objectives:

- *computation application*

1.2.4 Patterns and Sequences

Learning Objectives:

- *extending arithmetic sequences*
- *completing other sequences*

2 Introduction to Algebra

2.1 Variables and Expressions

2.1.1 Variables and Expressions

Learning Objectives:

- *evaluating algebraic expressions*
- *evaluating expressions with two variables*

Standards:

6.EE: 2, 6.EE: 2c, 6.EE: 6

2.1.2 Translate Between Words and Math

Learning Objectives:

- *introduction to translating between words and math*
- *translating words into math*
- *translating math into words*

Standards:

6.EE: 2, 6.EE: 2a, 6.EE: 2b, 6.EE: 6

2.1.3 Translating Between Tables and Expressions

Learning Objectives:

- *writing an expression*
- *writing an expression for a sequence*
- *writing an expression for the area of a figure*

Standards:

6.EE: 2, 6.EE: 6

2.2 Introduction to Equations

2.2.1 Equations and Their Solutions

Learning Objectives:

- *determining solutions of equations*
- *measurement application*

Standards:

6.EE: 5, 6.EE: 6



2.2.2 Addition Equations

Learning Objectives:

- *introduction to solving equations*
- *problem-solving application*

Standards:

6.EE: 6, 6.EE: 7

2.2.3 Subtraction Equations

Learning Objectives:

- *solving subtraction equations by adding*

2.2.4 Multiplication Equations

Learning Objectives:

- *solving multiplication equations*
- *problem-solving application*

Standards:

6.EE: 6, 6.EE: 7

2.2.5 Division Equations

Learning Objectives:

- *solving division equations*
- *problem-solving application*

Standards:

6.EE: 6



3 Decimals

3.1 Introduction to Decimals

3.1.1 Representing, Comparing, and Ordering Decimals

Learning Objectives:

- *introduction to place value*
- *expressing decimals in standard form*
- *comparing and ordering decimals*

Standards:

6.NS: 7

3.1.2 Rounding and Estimating Decimals

Learning Objectives:

- *rounding monetary values*
- *rounding decimals*
- *rounding decimals to estimate sums*

3.1.3 Adding and Subtracting Decimals

Learning Objectives:

- *adding and subtracting decimals*

Standards:

6.NS: 3

3.2 Multiplying and Dividing Decimals

3.2.1 Multiplying Decimals

Learning Objectives:

- *multiplying a decimal by a whole number*
- *multiplying decimals*
- *problem-solving application*

Standards:

6.NS: 3, 6.EE: 2, 6.EE: 2c

3.2.2 Applying Exponents: Scientific Notation

Learning Objectives:

- *multiplying by powers of ten*
- *writing numbers in scientific notation*
- *writing numbers in standard form*
- *comparing numbers in scientific notation*

Standards:

6.NS: 7, 6.EE: 1

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3.2.3 Dividing Decimals by Whole Numbers

Learning Objectives:

- *dividing decimals by whole numbers*
- *rounding a decimal quotient*
- *problem-solving application*

Standards:

6.NS: 2, 6.NS: 3

3.2.4 Dividing by Decimals

Learning Objectives:

- *dividing a whole number by a decimal*
- *dividing decimals by decimals*

Standards:

6.NS: 2, 6.NS: 3

3.2.5 Solving Decimal Equations

Learning Objectives:

- *solving equations with decimals*

Standards:

6.NS: 2, 6.NS: 3, 6.EE: 7

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4 Number Theory and Fractions

4.1 Number Theory

4.1.1 Divisibility

Learning Objectives:

- *checking divisibility*
- *identifying prime and composite numbers*

4.1.2 Factors and Prime Factorization

Learning Objectives:

- *finding factors*
- *writing prime factorizations*

4.1.3 Greatest Common Factor

Learning Objectives:

- *finding the *gcf**
- *problem-solving application*

Standards:

6.NS: 4

4.2 Representing Fractions

4.2.1 Decimals and Fractions

Learning Objectives:

- *writing decimals as fractions or mixed numbers*
- *writing fractions as decimals*
- *comparing and ordering fractions and decimals*

Standards:

6.NS: 2, 6.NS: 3, 6.NS: 7, 6.NS: 7a

4.2.2 Equivalent Fractions

Learning Objectives:

- *finding equivalent fractions*
- *multiplying and dividing to find equivalent fractions*
- *writing fractions in simplest form*

Standards:

6.NS: 4

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4.2.3 Mixed Numbers and Improper Fractions

Learning Objectives:

- *cooking application*
- *writing mixed numbers as improper fractions*

Standards:

6.NS: 2

4.3 Introduction to Operations with Fractions

4.3.1 Comparing and Ordering Fractions

Learning Objectives:

- *comparing like fractions*
- *cooking application*
- *ordering fractions*

Standards:

6.NS: 7, 6.NS: 7a, 6.NS: 7b

4.3.2 Adding and Subtracting with Like Denominators

Learning Objectives:

- *life science application*
- *subtracting like fractions and mixed numbers*
- *evaluating expressions with fractions*

Standards:

6.EE: 2, 6.EE: 2c

4.3.3 Estimating Fraction Sums and Differences

Learning Objectives:

- *estimating fractions*
- *sports application*

5 Operations with Fractions

5.1 Adding and Subtracting Fractions

5.1.1 Least Common Multiple

Learning Objectives:

- *consumer application*
- *using multiples to find the lcm*

Standards:

6.NS: 4

5.1.2 Adding and Subtracting with Unlike Denominators

Learning Objectives:

- *horticulture application*
- *adding and subtracting unlike fractions*

Standards:

6.NS: 4

5.1.3 Adding and Subtracting Mixed Numbers

Learning Objectives:

- *adding and subtracting mixed numbers*
- *measurement application*

Standards:

6.NS: 4

5.1.4 Regrouping to Subtract Mixed Numbers

Learning Objectives:

- *regrouping mixed numbers*
- *measurement application*

Standards:

6.NS: 4

5.1.5 Solving Fraction Equations: Addition and Subtraction

Learning Objectives:

- *solving equations by adding and subtracting*
- *consumer application*

Standards:

6.NS: 4, 6.EE: 6, 6.EE: 7

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5.2 Multiplying and Dividing Fractions

5.2.1 Multiplying Fractions by Whole Numbers

Learning Objectives:

- *multiplying fractions by whole numbers*
- *evaluating fraction expressions*
- *social studies application*

Standards:

6.EE: 2, 6.EE: 2c

5.2.2 Multiplying Fractions

Learning Objectives:

- *multiplying fractions*
- *evaluating fraction expressions*

Standards:

6.EE: 2, 6.EE: 2c

5.2.3 Multiplying Mixed Numbers

Learning Objectives:

- *multiplying fractions and mixed numbers*
- *multiplying mixed numbers*

5.2.4 Dividing Fractions and Mixed Numbers

Learning Objectives:

- *finding reciprocals*
- *using reciprocals to divide fractions and mixed numbers*

Standards:

6.NS: 1

5.2.5 Solving Fraction Equations: Multiplication and Division

Learning Objectives:

- *solving equations by multiplying and dividing*
- *problem-solving application*

Standards:

6.NS: 1, 6.EE: 6, 6.EE: 7

6 Data Displays

6.1 Organizing and Displaying Data

6.1.1 Measures of Central Tendency

Learning Objectives:

- *finding measures of central tendency and range*
- *choosing the best measure of central tendency*
- *manufacturing application*

Standards:

6.NS: 2, 6.SP: 2, 6.SP: 5, 6.SP: 5c, 6.SP: 5d

6.1.2 Frequency Tables, Stem-and-Leaf Plots, and Line Plots

Learning Objectives:

- *organizing and interpreting data in a frequency table*
- *organizing and interpreting data in a stem-and-leaf plot*
- *organizing and interpreting data in a line plot*

Standards:

6.SP: 2, 6.SP: 4, 6.SP: 5, 6.SP: 5a

6.1.3 Bar Graphs and Histograms

Learning Objectives:

- *interpreting a bar graph*
- *making a double-bar graph*
- *making a histogram*

Standards:

6.SP: 2, 6.SP: 4, 6.SP: 5

6.2 Line Graphs and Assessing Displays

6.2.1 Line Graphs

Learning Objectives:

- *making a line graph*
- *using a line graph to estimate data*
- *making a double-line graph*

Standards:

6.SP: 4, 6.SP: 5

6.2.2 Misleading Graphs

Learning Objectives:

- *social studies application*
- *analyzing misleading graphs*

Standards:

6.SP: 5

6.2.3 Choosing An Appropriate Display

Learning Objectives:

- *choosing an appropriate display*

Standards:

6.SP: 4, 6.SP: 5, 6.SP: 5b

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7 Proportional Relationships

7.1 Ratios and Proportions

7.1.1 Ratios and Rates

Learning Objectives:

- *writing ratios*
- *writing equivalent ratios*
- *consumer application*

Standards:

6.RP: 1, 6.RP: 2, 6.NS: 2

7.1.2 Applying Rates and Ratios

Learning Objectives:

- *finding equivalent ratios and rates*
- *comparing rates*
- *consumer application*

Standards:

6.RP: 1, 6.RP: 3, 6.RP: 3a

7.1.3 Proportions

Learning Objectives:

- *using equivalent ratios to solve proportions*
- *using cross products to complete proportions*
- *measurement application*

Standards:

6.RP: 1, 6.RP: 3, 6.RP: 3b, 6.EE: 6

7.2 Applications of Proportions

7.2.1 Similar Figures

Learning Objectives:

- *finding missing measures in similar figures*
- *problem-solving application*

Standards:

6.RP: 1, 6.RP: 3, 6.RP: 3b, 6.NS: 3, 6.EE: 6

7.2.2 Indirect Measurement

Learning Objectives:

- *using indirect measurement*
- *measurement application*

Standards:

6.RP: 1, 6.RP: 3, 6.EE: 6

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7.2.3 Scale Drawings and Maps

Learning Objectives:

- *finding actual distances*
- *distance application*

Standards:

6.RP: 1, 6.RP: 3, 6.EE: 6

7.3 Percent

7.3.1 Percents

Learning Objectives:

- *modeling percents*
- *writing percents as fractions*
- *life science application*
- *writing percents as decimals*
- *biology application*

Standards:

6.RP: 1, 6.NS: 2

7.3.2 Percents, Decimals, and Fractions

Learning Objectives:

- *writing decimals as percents*
- *writing fractions as percents*
- *drama application*

Standards:

6.NS: 2, 6.NS: 3, 6.EE: 6

7.3.3 Percent Problems

Learning Objectives:

- *consumer math application*
- *technology application*
- *multiplying to find a percent of a number*

Standards:

6.RP: 1, 6.RP: 3, 6.RP: 3c, 6.NS: 2, 6.EE: 6

7.3.4 Using Percents

Learning Objectives:

- *finding discounts*
- *finding tips*
- *finding sales tax*

Standards:

6.NS: 2

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8 Geometric Relationships

8.1 Lines and Angles

8.1.1 Points, Lines, and Planes

Learning Objectives:

- *identifying points, lines, and planes*
- *identifying line segments and rays*

8.1.2 Measuring and Classifying Angles

Learning Objectives:

- *measuring an angle with a protractor*
- *drawing an angle with a protractor*
- *classifying angles*
- *art application*

8.1.3 Angle Relationships

Learning Objectives:

- *identifying types of angle pairs*
- *identifying an unknown angle measure*

Standards:

6.EE: 6, 6.EE: 7

8.1.4 Classifying Lines

Learning Objectives:

- *classifying pairs of lines*
- *traffic application*

8.2 Polygons

8.2.1 Triangles

Learning Objectives:

- *triangle classifications by angles*
- *using properties of angles to label triangles*
- *classifying triangles by lengths of sides*

Standards:

6.EE: 6



8.2.2 Quadrilaterals

Learning Objectives:

- *naming quadrilaterals*
- *classifying quadrilaterals*

8.2.3 Polygons

Learning Objectives:

- *identifying polygons*

Standards:

6.EE: 6, 6.EE: 7, 6G: 1

8.3 Polygon Relationships

8.3.1 Geometric Patterns

Learning Objectives:

- *extending geometric patterns*
- *completing geometric patterns*
- *art application*

8.3.2 Congruent Polygons

Learning Objectives:

- *identifying congruent figures*
- *consumer application*

8.3.3 Transformations

Learning Objectives:

- *identifying transformations*
- *drawing transformations*

8.3.4 Line Symmetry

Learning Objectives:

- *identifying lines of symmetry*
- *finding multiple lines of symmetry*
- *social studies application*



9 Measurement

9.1 Customary and Metric Measurement

9.1.1 Understanding Customary Units of Measure

Learning Objectives:

- *choosing appropriate units of length*
- *choosing appropriate units of weight*
- *choosing appropriate units of capacity*
- *estimating measurements*

9.1.2 Understanding Metric Units of Measure

Learning Objectives:

- *choosing appropriate units of length*
- *choosing appropriate units of mass*
- *choosing appropriate units of capacity*
- *estimating measurements*

9.1.3 Converting Customary Units

Learning Objectives:

- *using a conversion factor*
- *converting units of measure by using proportions*
- *problem-solving application*

Standards:

6.RP: 3, 6.RP: 3a, 6.RP: 3d, 6.EE: 6, 6.EE: 7

9.1.4 Converting Metric Units

Learning Objectives:

- *converting metric units*
- *using powers of ten to convert metric units of measure*
- *converting metric units of measure*

Standards:

6.RP: 3d, 6.EE: 6

9.1.5 Time and Temperature

Learning Objectives:

- *converting time*
- *finding elapsed time*
- *estimating temperature*

Standards:

6.RP: 3d

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9.2 Measuring Geometric Figures

9.2.1 Finding Angle Measures in Polygons

Learning Objectives:

- *subtracting to find angle measures*
- *estimating angle measures*
- *recreation application*

9.2.2 Perimeter

Learning Objectives:

- *finding the perimeter of a polygon*
- *using a formula to find perimeter*
- *finding unknown side lengths and the perimeter of a polygon*

Standards:

6.NS: 3, 6.EE: 6

9.2.3 Circles and Circumference

Learning Objectives:

- *naming parts of a circle*
- *architecture application*
- *using the formula for the circumference of a circle*

Standards:

6.NS: 3, 6.EE: 6, 6.EE: 7

10 Area and Volume

10.1 Area

10.1.1 Area of Rectangles and Parallelograms

Learning Objectives:

- *estimating the area of an irregular figure*
- *finding the area of a rectangle*
- *finding the area of a parallelogram*
- *art application*

Standards:

6.NS: 3, 6G: 1

10.1.2 Area of Triangles and Trapezoids

Learning Objectives:

- *finding the area of a triangle*
- *architecture application*
- *finding the area of a trapezoid*

Standards:

6.NS: 3, 6G: 1

10.1.3 Area of Composite Figures

Learning Objectives:

- *finding areas of composite figures*
- *art application*

Standards:

6.NS: 3, 6G: 1

10.1.4 Changing Dimensions

Learning Objectives:

- *changing dimensions*
- *measurement application*

10.1.5 Area of Circles

Learning Objectives:

- *estimating the area of a circle*
- *using the formula for the area of a circle*
- *history application*

Standards:

6.NS: 3

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10.2 Volume and Surface Area

10.2.1 Three-Dimensional Figures

Learning Objectives:

- *identifying faces, edges, and vertices*
- *naming three-dimensional figures*

10.2.2 Volume of Prisms

Learning Objectives:

- *finding the volume of a rectangular prism*
- *finding the volume of a triangular prism*
- *problem-solving application*

Standards:

6G: 2

10.2.3 Volume of Cylinders

Learning Objectives:

- *finding the volume of a cylinder*
- *nutrition application*
- *comparing volumes of cylinders*

Standards:

6.NS: 3, 6.NS: 7b

10.2.4 Surface Area

Learning Objectives:

- *finding the surface area of a prism*
- *finding the surface area of a pyramid*
- *finding the surface area of a cylinder*

Standards:

6.NS: 3, 6G: 4



11 Integers and the Coordinate Plane

11.1 Introduction to Integers

11.1.1 Integers in Real-World Situations

Learning Objectives:

- *identifying positive and negative numbers in the real world*
- *graphing integers*
- *writing integer expressions to represent situations*

Standards:

6.NS: 5, 6.NS: 6, 6.NS: 6a, 6.NS: 6c

11.1.2 Comparing and Ordering Integers

Learning Objectives:

- *comparing integers*
- *ordering integers*
- *problem-solving application*

Standards:

6.NS: 5, 6.NS: 6, 6.NS: 6c, 6.NS: 7, 6.NS: 7a, 6.NS: 7b

11.1.3 The Coordinate Plane

Learning Objectives:

- *identifying quadrants*
- *locating points on a coordinate plane*
- *graphing points on a coordinate plane*

Standards:

6.NS: 6, 6.NS: 6b, 6.NS: 6c

11.1.4 Transformations in the Coordinate Plane

Learning Objectives:

- *translating figures in the coordinate plane*
- *reflecting figures in the coordinate plane*
- *rotating figures in the coordinate plane*

Standards:

6.NS: 6, 6.NS: 6b, 6.NS: 6c, 6.NS: 8

11.2 Operations with Integers

11.2.1 Adding Integers

Learning Objectives:

- *writing integer addition*
- *adding integers*
- *evaluating integer expressions*
- *earth science application*

Standards:

6.NS: 5, 6.NS: 6, 6.NS: 6a, 6.NS: 6c

11.2.2 Subtracting Integers

Learning Objectives:

- *writing integer subtraction*
- *subtracting integers*
- *evaluating integer expressions*

Standards:

6.NS: 5, 6.NS: 6, 6.NS: 6a, 6.NS: 6c

11.2.3 Multiplying Integers

Learning Objectives:

- *multiplying integers*
- *evaluating integer expressions*

Standards:

6.NS: 5

11.2.4 Dividing Integers

Learning Objectives:

- *dividing integers*
- *evaluating integer expressions*

Standards:

6.NS: 5

11.2.5 Solving Integer Equations

Learning Objectives:

- *adding and subtracting to solve equations*
- *multiplying and dividing to solve equations*

Standards:

6.NS: 5, 6.NS: 6a, 6.EE: 6



12 Functions, Equations, and Inequalities

12.1 Functions

12.1.1 Tables and Functions

Learning Objectives:

- *writing equations from function tables*
- *translating words into math*
- *problem-solving application*

Standards:

6.RP: 3b, 6.EE: 9

12.1.2 Graphing Functions

Learning Objectives:

- *finding solutions of equations with two variables*
- *checking solutions of equations with two variables*
- *reading solutions on graphs*
- *graphing linear functions*

Standards:

6.NS: 6, 6.NS: 6b, 6.NS: 6c

12.1.3 Slope and Rate of Change

Learning Objectives:

- *using a table to identify rates of change*
- *science application*

Standards:

6.RP: 3, 6.RP: 3a, 6.NS: 6c

12.2 Solving Equations and Inequalities

12.2.1 Solving Two-Step Equations

Learning Objectives:

- *solving two-step equations*
- *consumer application*
- *working backward with function rules*

Standards:

6.EE: 6

12.2.2 Solving Inequalities

Learning Objectives:

- *graphing simple inequalities*
- *solving inequalities with addition or subtraction*
- *solving inequalities with multiplication or division*
- *weather application*

Standards:

6.NS: 6, 6.NS: 6c, 6.EE: 6, 6.EE: 8

12.2.3 Solving Two-Step Inequalities

Learning Objectives:

- *solving two-step inequalities*
- *problem-solving application*

Standards:

6.NS: 6, 6.NS: 6c, 6.EE: 6

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13 Probability

13.1 Understanding Probability

13.1.1 Introduction to Probability

Learning Objectives:

- *estimating the likelihood of an event*
- *writing probabilities*
- *comparing probabilities*

13.1.2 Experimental Probability

Learning Objectives:

- *identifying outcomes*
- *finding experimental probability*
- *comparing experimental probabilities*

Standards:

6.RP: 1

13.1.3 Counting Methods and Sample Spaces

Learning Objectives:

- *problem-solving application*
- *making an organized list*
- *using the fundamental counting principle*

13.2 Finding Probabilities

13.2.1 Theoretical Probability

Learning Objectives:

- *finding theoretical probability*
- *finding the complement of an event*

Standards:

6.RP: 1

13.2.2 Compound Events

Learning Objectives:

- *finding probabilities of compound events*

13.2.3 Making Predictions

Learning Objectives:

- *using sample surveys to make predictions*
- *using theoretical probability to make predictions*
- *problem-solving application*

Standards:

6.RP: 1, 6.RP: 3, 6.RP: 3c, 6.EE: 6