



**Secondary  
Mathematics**

EDITION 1

# **Grade 7**

## **Materials List**

## **Acknowledgment**

Thank you to all the Texas educators and stakeholders who supported the review process and provided feedback. These materials are the result of the work of numerous individuals, and we are deeply grateful for their contributions.

## **Notice**

These learning resources have been built for Texas students, aligned to the Texas Essential Knowledge and Skills, and are made available pursuant to Chapter 31, Subchapter B-1 of the Texas Education Code.

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# GRADE 7 MATERIALS

## Key

- Materials required to implement the lesson as written
- ▲ Optional materials, such as those associated with differentiation strategies

The Course Materials list provides an overall view of the materials required for each lesson in the course. Consult the specific Lesson Overview for additional details.

Algebra Tiles	Birdseed	Blank Paper	Blocks	Calculators	Coins	Colored Paper	Colored Pencils	Compasses	Containers	Cups	Food Coloring	Glue	Graph Paper	Highlighters	Index Cards	Lesson-Embedded Resources	Marbles	Metersticks	Number Cubes	Pan Balance	Paper Bags	Paper Clips	Patty Paper	Poster Paper		
<b>MODULE 1 Thinking Proportionally</b>																										
<b>TOPIC 1 Circles and Ratio</b>																										
Introduction Lesson																										
1 Exploring the Ratio of Circle Circumference to Diameter					●			●				▲			●											
2 Area of Circles					●										●											
3 Solving Area and Circumference Problems			▲			▲					▲												▲			
<b>TOPIC 2 Fractional Rates</b>																										
1 Unit Rate Representations									▲	▲																
2 Solving Problems with Ratios of Fractions																										
3 Solving Proportions Using Means and Extremes								▲						▲	▲											
<b>TOPIC 3 Proportionality</b>																										
1 Proportional Relationships											●			●												
2 Constant of Proportionality																								▲		
3 Identifying the Constant of Proportionality in Graphs																										
4 Constant of Proportionality in Multiple Representations												▲												▲		

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	Printed-Out Images	Problem-Solving Model Graphic Organizer	Protractors	Rulers	Scissors	Straightedges	String	Tape	Technology	Timer	Transparencies	Water	Web-Based Resources	Yardsticks
<b>MODULE 1 Thinking Proportionally</b>														
<b>TOPIC 1 Circles and Ratio</b>														
Introduction Lesson	●													
1 Exploring the Ratio of Circle Circumference to Diameter		●		●		●								
2 Area of Circles	●		●		●		▲							
3 Solving Area and Circumference Problems	▲	●												
<b>TOPIC 2 Fractional Rates</b>														
1 Unit Rate Representations	●									▲				
2 Solving Problems with Ratios of Fractions		●												
3 Solving Proportions Using Means and Extremes		●												
<b>TOPIC 3 Proportionality</b>														
1 Proportional Relationships	▲				●		●		▲					
2 Constant of Proportionality		●												
3 Identifying the Constant of Proportionality in Graphs														
4 Constant of Proportionality in Multiple Representations		●												

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<b>MODULE 2 Applying Proportionality</b>																								
<b>TOPIC 1 Proportional Relationships</b>																								
1 Introducing Proportions to Solve Percent Problems																								
2 Calculating Tips, Commission, and Simple Interest																								
3 Sales Tax, Income Tax, and Fees																								▲
4 Percent Increase and Percent Decrease																								
5 Scale and Scale Drawings																								▲
<b>TOPIC 2 Financial Literacy: Interest and Budgets</b>																								
1 Simple and Compound Interest							●																	
2 Net Worth Statements																								
3 Personal Budgets						●																		

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<b>MODULE 2 Applying Proportionality</b>													
<b>TOPIC 1 Proportional Relationships</b>													
1 Introducing Proportions to Solve Percent Problems	●												
2 Calculating Tips, Commission, and Simple Interest	●												
3 Sales Tax, Income Tax, and Fees									▲				
4 Percent Increase and Percent Decrease	●		●										
5 Scale and Scale Drawings				●						▲			
<b>TOPIC 2 Financial Literacy: Interest and Budgets</b>													
1 Simple and Compound Interest	●												
2 Net Worth Statements		●											
3 Personal Budgets		●								●			

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<b>MODULE 3 Reasoning Algebraically</b>																								
<b>TOPIC 1 Operating with Rational Numbers</b>																								
1 Adding and Subtracting Rational Numbers																								
2 Quotients of Integers						▲						●			●									
3 Simplifying Expressions to Solve Problems																								
4 Using Number Properties to Interpret Expressions with Signed Numbers																								▲
5 Evaluating Algebraic Expressions															●									
6 Rewriting Expressions Using the Distributive Property																								
<b>TOPIC 2 Two-Step Equations and Inequalities</b>																								
1 Modeling Equations as Equal Expressions												▲				▲								
2 Solving Equations Using Algebra Tiles	●					▲														▲				
3 Solving Equations on a Double Number Line																								
4 Using Inverse Operations to Solve Equations																								
5 Solving Inequalities	●																							
<b>TOPIC 3 Multiple Representations of Equations</b>																								
1 Representing Equations with Tables and Graphs												▲												
2 Building Inequalities and Equations to Solve Problems												▲												
3 Using Multiple Representations to Solve Problems																								

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<b>TOPIC 1 Operating with Rational Numbers</b>														
1 Adding and Subtracting Rational Numbers	●													
2 Quotients of Integers					●			●						
3 Simplifying Expressions to Solve Problems	●													
4 Using Number Properties to Interpret Expressions with Signed Numbers														
5 Evaluating Algebraic Expressions								●						
6 Rewriting Expressions Using the Distributive Property														
<b>TOPIC 2 Two-Step Equations and Inequalities</b>														
1 Modeling Equations as Equal Expressions														
2 Solving Equations Using Algebra Tiles						●								
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4 Using Inverse Operations to Solve Equations	●													
5 Solving Inequalities	●				●									
<b>TOPIC 3 Multiple Representations of Equations</b>														
1 Representing Equations with Tables and Graphs						●		▲						
2 Building Inequalities and Equations to Solve Problems						●		▲						
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<b>MODULE 4 Analyzing Populations and Probabilities</b>																								
<b>TOPIC 1 Introduction to Probability</b>																								
1 Defining and Representing Probability																	●							
2 Probability Models															▲									▲
3 Determining Experimental Probability of Simple Events					●				●													●		
4 Simulating Simple Experiments					●									●			●		●			●		
<b>TOPIC 2 Compound Probability</b>																								
1 Using Arrays to Organize Outcomes						●											●							
2 Using Tree Diagrams						▲																		
3 Determining Compound Probability																								
4 Simulating Probability of Compound Events																	●							
<b>TOPIC 3 Drawing Inferences</b>																								
1 Collecting Random Samples					●										▲			●				●		
2 Using Random Samples to Draw Inferences																								
3 Bar Graphs																								
4 Comparing Two Populations								▲																
5 Using Random Samples from Two Populations to Draw Conclusions																								

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1 Defining and Representing Probability								▲					
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<b>MODULE 5 Constructing and Measuring</b>																								
<b>TOPIC 1 Angle Relationships</b>																								
1 Solving Equations Using the Triangle Sum Theorem																								
2 Relationships Between $90^\circ$ and $180^\circ$ Angles				▲																		●		
3 Special Angle Relationships																							●	
<b>TOPIC 2 Area, Surface Area, and Volume</b>																								
1 Composite Figures																								
2 Total Surface Area of Prisms and Pyramids							▲										●							
3 Volume of Prisms and Pyramids	●	●		●												●								
4 Volume and Surface Area Problems with Prisms and Pyramids				▲																				

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1 Solving Equations Using the Triangle Sum Theorem													
2 Relationships Between $90^\circ$ and $180^\circ$ Angles			●		●								
3 Special Angle Relationships			●		●								
<b>TOPIC 2 Area, Surface Area, and Volume</b>													
1 Composite Figures		●		●									
2 Total Surface Area of Prisms and Pyramids	●		●	●			●						
3 Volume of Prisms and Pyramids			●	●			●						
4 Volume and Surface Area Problems with Prisms and Pyramids	●		●										

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