Standards: Idaho Math Content Standards pg. 94 -106

Math 7: Alignment Table

Semester	**A Unit 2**	**A Unit 3**	**A Unit 4**	**A Unit 5**	**A Unit 6**	**A Unit 7**	**A Unit 8**	**B Unit 1**	**B Unit 2**	**B Unit 3**	**B Unit 4**	**B Unit 5**	**B Unit 6**	**B Unit 7**	**B Unit 8**
7.RP.A.1						**x**									
7.RP.A.2						**a, b, c, d**	**c**								
7.RP.A.3						**x**	**x**	**x**							

7.NS.A.1.a	**a, b, c, d**	**d**													
7.NS.2	**a, b, c**	**c, d**						**x**							
7.NS.A.3	**x**	**x**													
7.EE.A.1			**x**					**x**							
7.EE.A.2			**x**												
7.EE.B.3			**x**	**x**				**x**							
7.EE.B.4				**a**	**b**			**x**							
7.G.A.1						**x**					**x**				
7.G.A.2										**x**					
7.G.A.3													**x**		
7.G.B.4												**a, b, c**			
7.G.B.5									**x**						
7.G.B.6										**x**	**x**		**x**		
7.SP.A.1														**x**	
7.SP.A.2														**x**	
7.SP.B.3														**x**	
7.SP.B.4														**x**	
7.SP.C.5															**x**
7.SP.C.6															**x**
7.SP.C.7															**a, b**
7.SP.C.8															**a, b, c**

Math 7A: Course Map
Unit 2: Integers and Rational Numbers

Idaho Standards	**Unit Objectives**
7.NS.A.1.a: Describe situations in which opposite quantities combine to make 0. 7.NS.A.1.b: Understand p + q as the number located a distance $\|q\|$ from p, in the positive or negative direction depending on whether q is positive or negative. Show that a number and its opposite are additive inverses because they have a sum of 0 (e.g., 12.5 + (−12.5) = 0). Interpret sums of rational numbers by describing real-world contexts. 7.NS.A.1.c: Understand subtraction of rational numbers as adding the additive inverse, p - q = p + (-q). Show that the distance between two rational numbers on the number line is the absolute value of their difference, and apply this principle in real-world contexts. 7.NS.A.1.d: Apply properties of operations as strategies to add and subtract rational numbers. 7.NS.A.2.a: Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as (-1/2)(-1) = 1/2 and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts. 7.NS.A.2.b: Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers, then -(p/q) = (-p)/q = p/(-q). Interpret quotients of rational numbers by describing real=world contexts. 7.NS.A.2.c: Apply properties of operations as strategies to multiply and divide rational numbers. 7.NS.A.3: Solve real-world and mathematical problems involving the four operations with integers and other rational numbers.	● describe real-world situations for integers. ● find the additive inverse of a number. ● define absolute value and solve problems with absolute value. ● add, subtract, multiply and divide integers with two or more numbers and in real-world application problems.
Lesson 1: Integers on the Number Line and Additive	

Inverse	
Lesson Objectives 1. describe real-world situations for integers. ○ correlation: 7.NS.A.1.a, 7.NS.A.1.b 2. define the additive inverse property. ○ correlation: 7.NS.A.1.a, 7.NS.A.1.b 3. find the additive inverse of a number. ○ correlation: 7.NS.A.1.a, 7.NS.A.1.b	Assessments ● Objective 1: U2:03: Integers on the Number Line and Additive Inverse Property ● Objective 2: U2:03: U2:03: Integers on the Number Line and Additive Inverse Property ● Objective 3: U2:03: U2:03: Integers on the Number Line and Additive Inverse Property
Lesson 2: Absolute Value	
Lesson Objectives 1. define absolute value. ○ correlation: 7.NS.A.1.b 2. use absolute value to simplify expressions. ○ correlation: 7.NS.A.1.b 3. describe real-world situations for absolute value. ○ correlation: 7.NS.A.1.b	Assessments ● Objective 1: U2:05: Absolute Value ● Objective 2: U2:05: Absolute Value ● Objective 3: U2:05: Absolute Value
Lesson 3: Adding Integers	
Lesson Objectives 1. add integers. ○ correlation: 7.NS.A.1.b, 7.NS.A.1.d 2. relate adding integers to real life. ○ correlation: 7.NS.A.3	Assessments ● Objective 1: U2:07: Adding Integers, U2:10: A Helping Hand with Integers ● Objective 2: U2:07: Adding Integers
Lesson 4: Subtracting Integers	
1. subtract integers. ○ correlation: 7.NS.A.1.c, 7.NS.A.1.d 2. relate subtracting integers to real life. ○ correlation: 77.NS.A.3	Assessments ● Objective 1: U2:09: Subtracting Integers, U2:10: A Helping Hand with Integers ● Objective 2: U2:09: Subtracting Integers
Lesson 5: Multiplying and Dividing Integers	
Lesson Objectives	Assessments

1. multiply integers. ○ correlation: 7.NS.A.2.a, 7.NS.A.2.c 2. divide integers. ○ correlation: 7.NS.A.2.b, 7.NS.A.2.c 3. relate multiplying and dividing integers to real life. ○ correlation: 7.NS.A.3	● Objective 1: U2:12: Multiplying and Dividing Integers ● Objective 2: U2:12: Multiplying and Dividing Integers ● Objective 3: U2:12: Multiplying and Dividing Integers

Unit 3: Operations

Idaho Standards	**Unit Objectives**
7.NS.A.1.d: Apply properties of operations as strategies to add and subtract rational numbers. 7.NS.A.2: Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide integers and other rational numbers. 7.NS.A.2.c: Apply properties of operations as strategies to multiply and divide rational numbers. 7.NS.A.2.d: Convert a rational number to a decimal using long division; know that the decimal form of a rational number terminates or eventually repeats. 7.NS.A.3: Solve real-world and mathematical problems involving the four operations with integers and other rational numbers.	● use order of operations to solve problems with more than one operation. ● convert rational numbers to decimals and determine if the decimal terminates or repeats. ● solve problems using addition, subtraction, multiplication, and division of fractions.
Lesson 1: Order of Operations	
Lesson Objectives 1. review the concept of order of operations. ○ correlation: 7.NS.A.1.d, 7.NS.A.2.c 2. use the order of operations to solve expressions. ○ correlation: 7.NS.A.3	Assessments ● Objective 1: U3:03: Order of Operations; U3:11: Challenge your Peers! ● Objective 2: U3:03: Order of Operations; U3:11: Challenge your Peers!
Lesson 2: Converting Rational Numbers to Decimals	
Lesson Objectives 1. convert rational numbers to decimals. ○ correlation: 7.NS.A.2.d	Assessments ● Objective 1: U3:05: Converting Rational Numbers to Decimals

2. determine if the decimal terminates or repeats. ○ correlation: 7.NS.A.2.d	● Objective 2: U3:05: Converting Rational Numbers to Decimals
Lesson 3: Adding Fractions	
Lesson Objectives 1. add fractions and mixed numbers. ○ correlation: 7.NS.A.1.d 2. apply adding fractions to real world problems. ○ correlation: 7.NS.A.3	Assessments ● Objective 1: U3:07: Adding Fractions ● Objective 2: U3:07: Adding Fractions
Lesson 4: Subtracting Fractions	
Lesson Objectives 1. subtract fractions and mixed numbers. ○ correlation: 7.NS.A.1.d 2. apply subtracting fractions to real world problems. ○ correlation: 7.NS.A.3	Assessments ● Objective 1: U3:09: Subtracting Fractions ● Objective 2: U3:09: Subtracting Fractions
Lesson 5: Multiplying and Dividing Fractions and Mixed Numbers	
Lesson Objectives 1. multiply fractions and mixed numbers. ○ correlation: 7.NS.A.2, 7.NS.A.2.c, 7.NS.A.3 2. divide fractions and mixed numbers. ○ correlation: 7.NS.A.2, 7.NS.A.2.c, 7.NS.A.3 3. apply multiplying and dividing fractions to real world problems. ○ correlation: 7.NS.A.3	Assessments ● Objective 1: U3:12: Multiplying and Dividing Fractions and Mixed Numbers ● Objective 2: U3:12: Multiplying and Dividing Fractions and Mixed Numbers ● Objective 3: U3:12: Multiplying and Dividing Fractions and Mixed Numbers

Unit 4: Algebraic Expressions

Idaho Standards	**Unit Objectives**
7.EE.A.1: Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational	● define and evaluate algebraic expressions. ● simplify algebraic expressions using mathematical

coefficients. 7.EE.A.2: Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related. 7.EE.B.3: Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies.	properties and models. ● factor algebraic expressions. ● combine like terms to simplify algebraic expressions. ● identify equivalent algebraic expressions. ● write and solve real-life problems from algebraic expressions with positive and negative rational numbers.
Lesson 1: Evaluate Algebraic Expressions	
Lesson Objectives 1. define algebraic expressions. ○ correlation: 7.EE.A.1 2. evaluate algebraic expressions with given values (substitution). ○ correlation: 7.EE.A.1, 7.EE.B.3	Assessments ● Objective 1: U4:03: Evaluate Algebraic Expression ● Objective 2: U4:03: Evaluate Algebraic Expression
Lesson 2: Using Properties to Simplify Algebraic Expressions	
Lesson Objectives 1. simplify algebraic expressions using the commutative and associative properties. ○ correlation: 7.EE.A.1 2. model simplifying algebraic expressions using the distributive property with algebra tiles. ○ correlation: 7.EE.A.1 3. model simplifying algebraic expressions using the distributive property with area models. ○ correlation: 7.EE.A.1	Assessments ● Objective 1: U4:05: Using Properties to Simplify Algebraic Expressions ● Objective 2: U4:05: Using Properties to Simplify Algebraic Expressions ● Objective 3: U4:05: Using Properties to Simplify Algebraic Expressions
Lesson 3: Factoring Algebraic Expressions	

Lesson Objectives 1. factor algebraic expressions with area models. ○ correlation: 7.EE.A.1 2. factor algebraic expressions to make equivalent expressions. ○ correlation: 7.EE.A.1	Assessments ● Objective 1: U4:07: Factoring Algebraic Expressions ● Objective 2: U4:07: Factoring Algebraic Expressions
Lesson 4: Combining Like Terms to Simplify Algebraic Expressions	
Lesson Objectives 1. combine like terms to simplify algebraic expressions with algebra tiles. ○ correlation: 7.EE.A.1 2. combine like terms with distributive property. ○ correlation: 7.EE.A.1 3. identify equivalent algebraic expressions. ○ correlation: 7.EE.A.1	Assessments ● Objective 1: U4:09: Combining Like Terms to Simplify Algebraic Expressions ● Objective 2: U4:09: Combining Like Terms to Simplify Algebraic Expressions ● Objective 3: U4:09: Combining Like Terms to Simplify Algebraic Expressions
Lesson 5: Write and Solve Word Problems from Algebraic Expressions	
Lesson Objectives 1. write an algebraic expression from a word problem and solve. ○ correlation: 7.EE.A.2 2. solve multi-step real-life and mathematical problems with positive and negative rational numbers. ○ correlation: 7.EE.B.3	Assessments ● Objective 1: U4:11: Write and Solve Word Problems from Algebraic Expressions, U4:12: Expression Project ● Objective 2: U4:11: Write and Solve Word Problems from Algebraic Expressions, U4:12: Expression Project

Unit 5: Equations

Idaho Standards	**Unit Objectives**
6.EE.B.5: Solve real-world and mathematical problems by writing and solving equations of the form x + p = q and px = q for cases in which p, q, and x are all non-negative rational numbers.	● solve one-step equations with addition, subtraction, multiplication, and division. ● solve equations with more than one operation.

7.EE.B.3: Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. 7.EE.B.4: Use variables to represent quantities in a real- world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities. 7.EE.B.4a: Solve word problems leading to equations of the form px + q = r and p(x + q) = r, where p, q, and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach.	● solve equations with more than two operations. ● identify real-world scenarios that require equations to solve. ● write and solve equations from a word problem. ● solve word problems with formulas.
Lesson 1: Solve One-step Equations	
Lesson Objectives 1. solve one-step equations with addition and subtraction. ○ correlation: 6.EE.B.5 2. solve one-step equations with multiplication and division. ○ correlation: 6.EE.B.5 3. identify real-world scenarios that require equations to solve. ○ correlation: 7.EE.B.4	Assessments ● Objective 1: U5:03: Solve One-step Equations ● Objective 2: U5:03: Solve One-step Equations ● Objective 3: U5:03: Solve One-step Equations
Lesson 2: Solve Two-step Equations	
Lesson Objectives 1. solve equations with more than one operation. ○ correlation: 7.EE.B.4 2. identify real-world scenarios that require equations to solve. ○ correlation: 7.EE.B.4a	Assessments ● Objective 1: U5:05: Solve Two-step Equations ● Objective 2: U5:05: Solve Two-step Equations
Lesson 3: Solve Multi-Step Equations	
Lesson Objectives	Assessments

1. solve equations with more than two operations. ○ correlation: 7.EE.B.3, 7.EE.B.4 2. identify real world scenarios where you would use multi-step equations. ○ correlation: 7.EE.B.4, 7.EE.B.4a	● Objective 1: U5:07: Solve Multi-Step Equations ● Objective 2: U5:07: Solve Multi-Step Equations
Lesson 4: Write and Solve Equations from Word Problems	
Lesson Objectives 1. write an equation from a word problem and solve. ○ correlation: 7.EE.B.4, 7.EE.B.4a	Assessments ● Objective 1: U5:09: Write and Solve Equations from Word Problems
Lesson 5: Write and Solve Equations from Word Problems with Formulas	
1. use a formula to solve for an unknown. ○ correlation: 7.EE.B.4, 7.EE.B.4a 2. use formulas in real-world scenarios. ○ correlation: 7.EE.B.4, 7.EE.B.4a	Assessments ● Objective 1: U5:12: Write and Solve Equations from Word Problems with Formulas ● Objective 2: U5:11: Word Problem Discussion; U5:12: Write and Solve Equations from Word Problems with Formulas

Unit 6: Inequalities

Idaho Standards	**Unit Objectives**
7.EE.B.4: Use variables to represent quantities in a real- world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities 7.EE.B.4b: Solve word problems leading to inequalities of the form $px + q > r$ or $px + q < r$, where p, q, and r are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of the problem.	● compare and contrast inequalities with equations. ● graph the solution of an inequality on a number line. ● solve addition/subtraction inequalities. ● solve multiplication/division inequalities. ● solve two-step and multi-step inequalities. ● apply inequalities to real-world scenarios.
Lesson 1: Introduction to Inequalities	
Lesson Objectives	Assessments

1. graph inequalities on a number line. ○ correlation: 7.EE.B.4b 2. write inequalities from words. ○ correlation: 7.EE.B.4 3. apply inequalities to real-world scenarios. ○ correlation: 7.EE.B.4	● Objective 1: U6:03: Introduction to Inequalities ● Objective 2: U6:03: Introduction to Inequalities ● Objective 3: U6:03: Introduction to Inequalities
Lesson 2: Solve Addition and Subtraction Inequalities	
Lesson Objectives 1. solve addition and subtraction inequalities for a variable. ○ correlation: 7.EE.B.4 2. write and solve inequalities that involve real-world examples. ○ correlation: 7.EE.B.4	Assessments ● Objective 1: U6:05: Solve Addition and Subtraction Inequalities ● Objective 2: U6:05: Solve Addition and Subtraction Inequalities
Lesson 3: Solve Multiplication and Division Inequalities	
Lesson Objectives 1. solve multiplication and division inequalities for a variable. ○ correlation: 7.EE.B.4 2. write and solve inequalities that involve real-world examples. ○ correlation: 7.EE.B.4	Assessments ● Objective 1: U6:07: Solve Multiplication and Division Inequalities ● Objective 2: U6:07: Solve Multiplication and Division Inequalities
Lesson 4: Solve Two-Step Inequalities	
Lesson Objectives 1. solve two-step inequalities. ○ correlation: 7.EE.B.4b 2. create algebraic inequalities from word problems. ○ correlation: 7.EE.B.4	Assessments ● Objective 1: U6:09: Solve Two-Step Inequalities ● Objective 2: U6:09: Solve Two-Step Inequalities
Lesson 5: Solve Multi-Step Inequalities	
Lesson Objectives 1. solve multi-step inequalities. ○ correlation: 7.EE.B.4b 2. create algebraic inequalities from word problems.	Assessments ● Objective 1: U6:11: Solve Multi-Step Inequalities; U6:12: Multi-Step Inequalities Project ● Objective 2: U6:11: Solve Multi-Step Inequalities; U6:12:

○ correlation: 7.EE.B.4	Multi-Step Inequalities Project

Unit 7: Ratios, Rates, and Proportions

Idaho Standards	**Unit Objectives**
6.RP.A.1: Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. 7.RP.A.1: Compute unit rates associated with ratios of fractions, including ratios of lengths, areas, and other quantities measured in like or different units. 7.RP.A.2: Recognize and represent proportional relations between quantities. 7.RP.A.2a: Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin. 7.RP.A.2b: Identify the constant of proportionality in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships. Recognize the constant of proportionality as both the unit rate and as the multiplicative comparison between two quantities. 7.RP.A.2c: Represent proportional relationships by equation.s 7.RP.A.2d: Explain what a point (x,y) on the graph of proportional relationship means in terms of the situation, with special attention to the points (0,0) and (1,r) where r is the unit rate. 7.RP.A.3: Use proportional relationships to solve multi-step ratio, rate, and percent problems. 7.G.A.1: Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale	● define a ratio, rate, unit rate, and proportion and their relationships. ● solve ratio problems with ratio tables. ● compute unit rates to solve real-world problems, like finding the better buy. ● determine if two quantities are in a proportional relationship using equivalent ratios, tables, and graphs. ● solve real-world proportion problems with equations. ● identify the constant of proportionality. ● identify the scale of a drawing and find the missing measurement. ● use the map scale to find distances.
Lesson 1: Ratios	

Lesson Objectives 1. define a ratio and three ways to write a ratio. ○ correlation: 6.RP.A.1 2. evaluate equivalent ratios. ○ correlation: 7.RP.A.2a 3. solve ratio problems with ratio tables. ○ correlation: 7.RP.A.2a	Assessments ● Objective 1: U7:03: Ratios ● Objective 2: U7:03: Ratios ● Objective 3: U7:03: Ratios
Lesson 2: Rates	
Lesson Objectives 1. define rate and unit rate. ○ correlation: 7.RP.A.1 2. compute unit rates in real-world problems. ○ correlation: 7.RP.A.1 3. solve for unit price and evaluate the better buy. ○ correlation: 7.RP.A.1	Assessments ● Objective 1: U7:05: Rates ● Objective 2: U7:05: Rates ● Objective 3: U7:05: Rates
Lesson 3: Proportions	
Lesson Objectives 1. determine if two quantities are in proportional relationship. ○ correlation: 7.RP.A.2, 7.RP.A.2a 2. solve proportion problems with equations. ○ 7.RP.A.2c	Assessments ● Objective 1: U7:07: Proportions ● Objective 2: U7:07: Proportions
Lesson 4: Proportional Relationships with Graphs and Tables	
Lesson Objectives 1. determine if two quantities are in a proportional relationship by testing for equivalent ratios in a table. ○ correlation: 7.RP.A.2a, 7.RP.A.2b, 7.RP.A.2c, 7.RP.A.2d 2. determine if two quantities are in a proportional relationship by graphing on a coordinate plane and observing if the graph is a straight line through the origin.	Assessments ● Objective 1: U7:09: Proportional Relationships with Graphs and Tables ● Objective 2: U7:09: Proportional Relationships with Graphs and Tables ● Objective 3: U7:09: Proportional Relationships with Graphs and Tables

○ correlation: 7.RP.A.2a, 7.RP.A.2b, 7.RP.A.2c, 7.RP.A.2d 3. identify the constant of proportionality in word problems, tables, and graphs. ○ correlation: 7.RP.A.2b	
Lesson 5: Scale Drawings and Map Scale	
Lesson Objectives 1. identify the scale used on scale drawings. ○ correlation: 7.G.A.1 2. use the scale on a drawing to find a missing measurement. ○ correlation: 7.G.A.1 3. use a map scale to find distances. ○ correlation: 7.G.A.1	Assessments ● Objective 1: U7:11: Scale Drawings and Map Scale ● Objective 2: U7:11: Scale Drawings and Map Scale ● Objective 3: U7:11: Scale Drawings and Map Scale

Unit 8: Percents

Idaho Standards	**Unit Objectives**
6.NS.C.6: Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative number coordinates. 7.RP.A.2: Recognize and represent proportional relations between quantities 7.RP.A.2c: Represent proportional relationships by equations 7.RP.A.3: Use proportional relationships to solve multi-step ratio, rate, and percent problems.	● review equivalent fractions, decimals, and percents. ● find the percent of a whole or a part. ● solve percent problems using proportions and equations. ● find sales tax, tip, and commission. ● find percent of change, markup and discount.
Lesson 1: Equivalent Fractions, Decimals, and Percents and Percent of a Number	
Lesson Objectives 1. define percent.	Assessments ● Objective 1: U8:03: Equivalent Fractions, Decimals, and

○ correlation: 6.NS.C.6 2. find equivalent fractions, decimals, and percents. ○ correlation: 6.NS.C.6 3. find the percent of a number. ○ correlation: 7.RP.A.2	Percents and Percent of a Number ● Objective 2: U8:03: Equivalent Fractions, Decimals, and Percents and Percent of a Number ● Objective 3: U8:03: Equivalent Fractions, Decimals, and Percents and Percent of a Number
Lesson 2: Solve Percent Problems with Proportions	
Lesson Objectives 1. find the part, percent, or whole using proportions. ○ correlation: 7.RP.A.2 2. solve real-world problems using proportions. ○ correlation: 7.RP.A.2	Assessments ● Objective 1: U8:05: Solve Percent Problems with Proportions ● Objective 2: U8:05: Solve Percent Problems with Proportions
Lesson 3: Solve Percent Problems with Equations	
Lesson Objectives 1. find the part, percent, or whole using equations. ○ correlation: 7.RP.A.2c 2. solve real-world problems using percents. ○ correlation: 7.RP.A.2c	Assessments ● Objective 1: U8:07: Solve Percent Problems with Equations ● Objective 2: U8:07: Solve Percent Problems with Equations
Lesson 4: Find Tax, Tip, and Commission	
Lesson Objectives 1. use rates, proportions, and equations to understand real-world percent problems with tax, tip, and commission. ○ correlation: 7.RP.A.2, 7.RP.A.2c, 7.RP.A.3	Assessments ● Objective 1: U8:09: Find Tax, Tip, and Commission
Lesson 5: Find Percent of Change, Markup, and Discount	
Lesson Objectives 1. use rates, proportions, and equations to understand real-world percent problems with percent of increase/decrease, markup, and discounts. ○ correlation: 7.RP.A.2, 7.RP.A.2c, 7.RP.A.3	Assessments ● Objective 1: U8:11: Find Percent of Change, Markup, and Discount

Math 7B: Course Map
Unit 1: 7A Review

Idaho Standards	**Unit Objectives**
7.NS.A.1c Understand subtraction of rational numbers as adding the additive inverse, p - q = p + (-q). Show that the distance between two rational numbers on the number line is the absolute value of their difference, and apply this principle in real-world contexts. 7.NS.A.2 Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide integers and other rational numbers. 7.EE.A.1 Apply properties of operations to add, subtract, factor, and expand linear expressions with rational coefficients. 7.EE.B.3 Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (integers, fractions, and decimals). Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. 7.EE.B.4 Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities. 7.RP.A.3 Use proportional relationships to solve multi-step ratio, rate, and percent problems.	● define and apply the additive inverse property. ● add, subtract, multiply and divide integers with two or more numbers and in real-world application problems. ● simplify algebraic expressions using mathematical properties and models. ● write and solve real-life problems from algebraic expressions with positive and negative rational numbers. ● identify real-world scenarios that require equations to solve. ● write and solve equations from a word problem. ● write and graph inequalities. ● find interest and percent of error.
Lesson 1: Rational Numbers and Operations	
Lesson Objectives 1. define and apply the additive inverse property. ○ correlation: 7.NS.A.1c 2. add, subtract, multiply and divide integers with two or more numbers and in real-world application problems. ○ correlation: 7.NS.A.2	Assessments ● Objective 1: U1:03: Rational Numbers and Operations ● Objective 2: U1:03: Rational Numbers and Operations

Lesson 2: Expressions and Equations	
Lesson Objectives 1. simplify algebraic expressions using mathematical properties and models. ○ correlation: 7.EE.B.4 2. write and solve real-life problems from algebraic. expressions with positive and negative rational numbers. ○ correlation: 7.EE.B.4 3. identify real-world scenarios that require equations to solve. ○ correlation: 7.EE.B.4 4. write and solve equations from a word problem. ○ correlation: 7.EE.B.4	Assessments ● Objective 1: U1:05: Expressions and Equations ● Objective 2: U1:05: Expressions and Equations ● Objective 3: U1:05: Expressions and Equations ● Objective 4: U1:05: Expressions and Equations
Lesson 3: Inequalities	
Lesson Objectives 1. solve word problems leading to inequalities and graph the solutions. ○ correlation: 7.EE.B.4	Assessments ● Objective 1: U1:07: Inequalities
Lesson 4: Percents	
Lesson Objectives 1. find interest and percent of error. ○ correlation: 7.RP.A.3	Assessments ● Objective 1: U1:09: Percents

Unit 2: 2-D Geometry - Angles

Idaho Standards	**Unit Objectives**
7.G.B.5: Use facts about supplementary, complementary, vertical, and adjacent angles to write equations and use them to solve for an unknown angle in a figure.	● define and identify acute, right, obtuse, and straight angles. ● define and identify supplementary and complementary

	angles. ● define and identify vertical and adjacent angles. ● write equations to solve for an unknown angle in a figure.
Lesson 1: Angles	
Lesson Objectives 1. define and identify acute, right, obtuse, and straight angles. ○ correlation: 7.G.B.5	Assessments ● Objective 1: U2:03: Angles
Lesson 2: Pairs of angles	
Lesson Objectives 1. define and identify supplementary, complementary, vertical and adjacent angles. ○ correlation: 7.G.B.5 2. write equations to solve for an unknown angle in a figure. ○ correlation: 7.G.B.5	Assessments ● Objective 1: U2:05: Pairs of Angles ● Objective 2: U2:05: Pairs of Angles

Unit 3: 2-D Geometry - Polygons

Idaho Standards	**Unit Objectives**
7.G.A.2 Draw (freehand, with ruler and protractor, and with technology) two-dimensional geometric shapes with given conditions. Focus on constructing triangles from three measures of angles or sides, noticing when the conditions determine unique triangles, more than one triangle, or no triangle.	● define, identify, and draw quadrilaterals. ● find the area of quadrilaterals. ● define and identify triangles. ● find the area of triangles. ● graph quadrilaterals and triangles in the coordinate plane with given vertices.
Lesson 1: Quadrilaterals	
Lesson Objectives 1. define and identify quadrilaterals (parallelogram, square,	Assessments ● Objective 1: U3:03: Quadrilaterals

rhombus, rectangle, trapezoid). ○ correlation: 7.G.A.2 2. find the area of quadrilaterals. ○ 7.G.B.6	● Objective 2: U3:03: Quadrilaterals
Lesson 2: Triangles	
Lesson Objectives 1. define and identify triangles (acute, obtuse, right, equilateral, isosceles, and scalene). ○ correlation: 7.G.A.2 2. construct triangles from three measures of angles or sides. ○ correlation: 7.G.A.2 3. find the area of triangles. ○ 7.G.B.6	Assessments ● Objective 1: U3:05: Triangles ● Objective 2: U3:05: Triangles ● Objective 3: U3:05: Triangles
Lesson 3: Draw Two-dimensional Shapes	
Lesson Objectives 1. draw two-dimensional geometric shapes with given conditions. ○ correlation: 7.G.A.2	Assessments ● Objective 1: U3:07: Draw Two-dimensional Shapes
Lesson 4: Graph Two-dimensional Shapes	
1. graph quadrilaterals and triangles in the coordinate plane with given vertices. a. correlation: 7.G.A.2	Assessments ● Objective 1: U3:09: Graph Two-dimensional Shapes

Unit 4: Compound Shapes and Scale Drawings

Idaho Standards	**Unit Objectives**
7.G.A.1 Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different	● find the area of composite figures with polygons. ● solve problems involving scale drawings of geometric figures.

scale. 7.G.B.6 Generalize strategies for finding area, volume, and surface areas of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms. Solve real-world and mathematical problems in each of these areas.	
Lesson 1: Area of Compound Figures	
Lesson Objectives 1. find the area of figures composed of polygons. ○ correlation: 7.G.B.6	Assessments ● Objective 1: U4:03: Area of Compound Figures, U6:08: Day 5: Geometric Shapes
Lesson 2: Scale Drawings	
Lesson Objectives 1. find the missing length on a scale drawing of polygons. ○ correlation: 7.G.A.1 2. solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale. ○ correlation: 7.G.A.1	Assessments ● Objective 1: U4:05: Scale Drawings ● Objective 2: U4:05: Scale Drawings, U4:06: Scale Drawings Project
Lesson 3: Effect of Changes in Scale on Perimeter and Area	
Lesson Objectives 1. solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale. ○ correlation: 7.G.A.1	Assessments ● Objective 1: U4:08: Effect of Changes in Scale on Perimeter and Area, U4:09: Dream House Discusstion

Unit 5: 2-D Geometry - Circles

Idaho Standards	**Unit Objectives**

7.G.B.4a Know that a circle is a two-dimensional shape created by connecting all of the points equidistant from a fixed point called the center of the circle. 7.G.B.4b Develop an understanding of circle attributes including radius, diameter, circumference, and area and investigate the relationships between each. 7.G.B.4c Informally derive and know the formulas for the area and circumference of a circle and use them to solve problems.	● define the properties of circles. ● find the circumference and area of circles.
Lesson 1: Properties of Circles	
Lesson Objectives 1. define the properties of parts of a circle (radius, diameter, chord, and circumference). ○ correlation: 7.G.B.4a, 7.G.B.4b	Assessments ● Objective 1: U5:03: Properties of Circles
Lesson 2: Circumference of Circles	
Lesson Objectives 1. find the circumference of a circle. ○ correlation: 7.G.B.4b, 7.G.B.4c	Assessments ● Objective 1: U5:05: Circumference of Circles
Lesson 3: Area of Circles	
Lesson Objectives 1. find the area of a circle. ○ correlation: 7.G.B.4b, 7.G.B.4c	Assessments ● Objective 1: U5:07: Area of Circles

Unit 6: 3-D Geometry

Idaho Standards	**Unit Objectives**
● 7.G.A.3 Describe the shape of the two-dimensional face of the figure that results from slicing three-dimensional figures, as in plane sections of right rectangular prisms and right rectangular pyramids.	● define and identify three-dimensional figures. ● identify cross-sections of three-dimensional figures. ● find the surface area of cubes and prisms. ● find the volume of cubes and prisms.

● 7.G.B.6 Generalize strategies for finding area, volume, and surface areas of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms. Solve real-world and mathematical problems in each of these areas.	
Lesson 1: Three-dimensional figures	
Lesson Objectives 1. define and identify 3-dimensional figures. ○ correlation: 7.G.A.3	Assessments ● Objective 1: U6:03: Three-dimensional figures
Lesson 2: Cross-Sections of Three-dimensional Figures	
Lesson Objectives 1. describe the shape of the two-dimensional face of the figure that results from slicing three-dimensional figures. ○ correlation: 7.G.A.3	Assessments ● Objective 1: U6:05: Cross-Sections of Three-dimensional Figures, U6:06: 3D Cross Sections Project
Lesson 3: Surface Area	
Lesson Objectives 1. find the surface area of cubes. ○ correlation: 7.G.B.6 2. find the surface area of prisms. ○ correlation: 7.G.B.6	Assessments ● Objective 1: U6:09: Surface Area ● Objective 2: U6:08: Geometric Shapes, U6:09: Surface Area
Lesson 4: Volume	
Lesson Objectives 1. find the volume of cubes. ○ correlation: 7.G.B.6 2. find the volume of prisms. ○ correlation: 7.G.B.6	Assessments ● Objective 1: U6:11: Volume ● Objective 2: U6:11: Volume

Unit 7: Analyzing Data

Idaho Standards	**Unit Objectives**
7.SP.A.1 Understand that statistics can be used to gain information about a population by examining a sample of the population; generalizations about a population from a sample are valid only if the sample is representative of that population. Understand that random sampling tends to produce representative samples and support valid inferences. 7.SP.A.2 Use data from a random sample about an unknown characteristic of a population. Generate multiple samples (or simulated samples) of the same size to gauge the variation in estimates or predictions, i.e., generate a sampling distribution. 7.SP.B.3 Informally assess the degree of visual overlap of two numerical data distributions with similar variabilities, measuring the difference between the centers by expressing it as a multiple of a measure of variability. 7.SP.B.4 Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations.	● identify representative, random, and biased samples. ● estimate population size using proportions. ● find measures of center of data. ● use measures of center and measures of variability to draw informal inferences about two populations.
Lesson 1: Population Samples	
Lesson Objectives 1. identify representative, random, and biased samples. ○ correlation: 7.SP.A.1	Assessments ● Objective 1: U7:03: Population Samples
Lesson 2: Drawing Inferences about a Population	
Lesson Objectives 1. estimate population size using proportions. ○ correlation: 7.SP.A.2	Assessments ● Objective 1: U7:05: Drawing Inferences about a Population

Lesson 3: Measures of Center	
Lesson Objectives 1. find mean, median, mode, and range with data and graphs. ○ correlation: 7.SP.B.3, 7.SP.B.4 2. find the missing data point. ○ correlation: 7.SP.B.3, 7.SP.B.4	Assessments ● Objective 1: U7:07: Measures of Center ● Objective 2: U7:07: Measures of Center
Lesson 4: Measures of Variability	
Lesson Objectives 1. use measures of center and measures of variability to draw informal comparative inferences about two populations. ○ correlation: 7.SP.B.4	Assessments ● Objective 1: U7:09: Measures of Variability

Unit 8: Probability

Idaho Standards	**Unit Objectives**
7.SP.C.5 Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. A probability near 0 indicates an unlikely event, a probability around 1 2 indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event. 7.SP.C.6 Approximate the (theoretical) probability of a chance event by collecting data and observing its long-run relative frequency (experimental probability). Predict the approximate relative frequency given the (theoretical) probability. 7.SP.C.7a Develop a uniform probability model by assigning equal probability to all outcomes, and use the model to determine probabilities of events	● determine the likelihood of events. ● make predictions using experimental and theoretical probability. ● develop a uniform probability model. ● represent sample spaces for compound events using organized lists, tables, and tree diagrams. ● determine the probability of independent and dependent events. ● design and use a simulation to generate frequencies for compound events.

7.SP.C.7b Develop a probability model (which may not be uniform) by observing frequencies in data generated from a chance process. 7.SP.C.8a Understand that, just as with simple events, the probability of a compound event is the fraction of outcomes in the sample space for which the compound event occurs. 7.SP.C.8b Represent sample spaces for compound events using methods such as organized lists, tables, and tree diagrams. For an event described in everyday language (e.g., "rolling double sixes"), identify the outcomes in the sample space which compose the event. 7.SP.C.8c Design and use a simulation to generate frequencies for compound events.	
Lesson 1: Probability of Simple Events	
Lesson Objectives 1. evaluate the likelihood of events. ○ correlation: 7.SP.C.5	Assessments ● Objective 1: U8:03: Probability
Lesson 2: Experimental and Theoretical Probability	
Lesson Objectives 1. make predictions using experimental probability. ○ correlation: 7.SP.C.6 2. make predictions using theoretical probability. ○ correlation: 7.SP.C.6	Assessments ● Objective 1: U8:05: Experimental and Theoretical Probability ● Objective 2: U8:05: Experimental and Theoretical Probability
Lesson 3: Probability models	
Lesson Objectives 1. explore different probability models for a visual representation of the probability of events. ○ correlation: 7.SP.C.7a 2. use the theoretical probability to make predictions with given data.	Assessments ● Objective 1: U8:07: Probability Models ● Objective 2: U8:07: Probability Models

○ correlation: 7.SP.C.7b	
Lesson 4: Probability of Compound Events	
Lesson Objectives 1. represent sample spaces for compound events using organized lists, tables, and tree diagrams. For an event described in everyday language (e.g., “rolling double sixes”), identify the outcomes in the sample space which compose the event. ○ correlation: 7.SP.C.8a, 7.SP.C.8b 2. predict the probability of independent and dependent events. ○ correlation: 7.SP.C.8b 3. design and use a simulation to generate frequencies for compound events. ○ correlation: 7.SP.C.8c	Assessments ● Objective 1: U8:09: Probability, U8:10: Probability of Compound Events ● Objective 2: U8:09: Probability, U8:10: Probability of Compound Events ● Objective 3: U8:09: Probability, U8:10: Probability of Compound Events