



Independent School District of Boise City Curriculum Map

Math 8 Mathematics

Table of Contents

Scope and Sequence	1
Materials Needed for the Common Final (EOC)	2
Performance Objectives	3
Suggested Syllabus	
Semester 1	4
Semester 2	5
Common Final Similar Problem List (EOC).....	6

Scope and Sequence Summary

Math Vocabulary	<i>Ongoing</i>
Introduction to Algebra	September
The Decimal System	Sept-Oct
Positive & Negative Numbers	Oct-Nov
Statistics	Nov
Probability	Nov
Rational Numbers	Nov-Dec
Equations & Inequalities	Jan-Feb
Ratio, Proportion, & Percent	Feb-March
Geometry	March-April
Areas & Volumes	April
Square Roots & Right Triangles	April-May
The Coordinate Plane	May

<u>Test</u>	<u>Window</u>
Math 8 EOC	End of 1 st Semester
Idaho State Achievement Test	Late April - May
Math 8 EOC	End of 2 nd Semester

Scope and Sequence
Math 8
Mathematics, Structure and Method
Course 2
2010-2011

Semester 1, Chapters 1 – 4, 11-3, and 12 (no calculator)

Emphasize	Cover	Exclude (Optional)
1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 1-7, 1-8		
2-1, 2-2, 2-3, 2-4, 2-5, 2-6		
3-1, 3-2, 3-3, 3-4, 3-5, 3-6	Scientific Notation	3-7
4-1, 4-2, 4-3, 4-4, 4-5, 4-6, 4-7		
11-3		11-1, 11-2, 11-4, 11-5, 11-6, 11-7, 11-8, 11-9
12-1, 12-2, 12-3, 12-5, 12-6		12-4, 12-7, 12-8

Semester 2, Chapters 5 through 10 (yes calculator)

Emphasize	Cover	Exclude (Optional)
5-1, 5-2, 5-3, 5-4, 5-5, 5-6, 5-8, 5-9		5-7
6-1, 6-2, 6-3, 6-4, 6-5, 6-6, 6-7, 6-8	6-9	
7-1, 7-2, 7-4, 7-5, 7-6, 7-8		7-3, 7-7
8-1, 8-2, 8-3	8-5	8-4, 8-6
9-1, 9-2, 9-3, 9-5, 9-7		9-4, 9-6, 9-8, 9-9
10-1, 10-2, 10-4, 10-5		10-3, 10-6, 10-7, 10-8

Math 8

Materials Needed for Common Final (EOC)

1st Semester- none

2nd Semester – Calculator and Protractor

	Math 8 Performance Objectives 1st Semester Checklist <small>revised Summer of 2008</small>	Section in Text
	Evaluate an algebraic expression using substitution.	1-1, 1-3, 3-3, 3-4, 3-6, 4-1
	Use order of operations to simplify an expression.	1-2, 2-5
	Solve and graph inequalities.	1-4
	Use inverse operation to solve equations and inequalities.	1-5
	Translate expression for word phrases.	1-6
	Translate a verbal sentence into an equation or inequality.	1-7
	Use problem-solving strategies.	1-8
	Evaluate expressions with exponents.	2-1
	Evaluate powers that have zero exponents.	2-1
	Understand and organize decimals according to order.	2-2, 3-2
	Estimating by rounding to the designated place value.	2-3
	Use distributive property to simplify an expression.	2-4
	Define a variable, write an equation, and solve.	2-6
	Understand and organize integers according to order.	3-1
	Recognize the placement of real numbers on a number line.	3-1, 3-2
	Understand the relationships of greater than, less than, equal, and approximately equal, real numbers, absolute values, and exponents.	3-1, 3-2
	Accurately add, subtract, multiply, and divide integers.	3-3, 3-4, 3-5, 3-6
	Convert between standard form, scientific notation, and exponential form.	Ch 3 enrichment
	Recognize the placement of rational numbers on a number line.	4-1
	Find prime factorization of a number.	4-2
	Simplify a fraction.	4-2
	Find the least common multiple and greatest common factor for numbers and variables.	4-2, 4-3
	Add, subtract, multiply, and divide rational numbers (fractions).	4-4, 4-5, 4-6
	Identify the reciprocal of a number.	4-6
	Convert rational numbers into repeating and terminating decimals.	4-7
	Recognizing irrational numbers.	4-7
	Make a prediction based on simple probabilities.	11-3
	Demonstrate understanding of the prediction and counting of probable outcomes based on data.	11-3
	Conduct statistical experiments and interpret results using tables, charts, or graphs.	11-3
	Create a bar graph or a line graph to represent data.	12-1, 12-2
	Interpret data on bar graphs and lines graphs.	12-1, 12-2
	Find central tendencies (mean, median, mode, and range) of a set of integers.	12-3
	Use given data to create a stem-and-leaf plot.	12-5

	Use stem-and-leaf plot to interpret data.	12-5
	Make and use box-and-whisker plots	12-6

Math 8 Performance Objectives 2nd Semester Checklist <small>revised Summer of 2008</small>		Section in Text
Solve one-step equations using inverse operations.		5-1
Use the properties of equality to form a true sentence.		5-1
Simplify numerical and variable expressions.		5-2, 5-3
Solve equations with addition and subtraction.		5-3
Solve equations with multiplication and division.		5-4
Solve one-step rational equations by multiplying by the reciprocal.		5-4
Solve an equation illustrating the use of combining like terms, then solving the two-step problem.		5-5
Solve an equation with variables on both sides.		5-5
Simplify numerical and variable inequalities.		5-6
Translate equations into problems		5-8
Translate problems into equations.		5-9
Identify and construct points, lines, and planes.		6-1
Identify parts of a circle.		6-2
Construct circles.		6-2
Apply formula for circumference of circles.		6-2
Construct angles.		6-3
Measure using protractors and rulers.		6-3
Classify angles.		6-3
Identify adjacent angles.		6-3
Solve an equation illustrating use of supplementary angles, complementary angles, and the sum of the angles of a triangle.		6-4, 6-5
Identify and construct perpendicular lines, complementary angles, and adjacent angles.		6-4
Given parallel lines intersected by a transversal, identify corresponding, vertical, and supplementary angles.		6-4, 6-5
Identify triangles by their sides and angles.		6-6
Classify quadrilaterals.		6-7
Understand the sum of the interior angles of a polygon.		6-7
Find the perimeter of simple geometric figures.		6-8
Apply formulas for perimeter of polygons.		6-8
Identify and model the effects of reflections, translations, and rotations.		6-9
Solve proportions.		7-1, 7-8
Use rates to solve problems.		7-2
Convert decimals, fractions, and percents interchangeably.		7-4
Solve percent equations.		7-5
Recognize and determine percent of change for a given situation.		7-6
Determine a percent from a ratio in a real-life situation.		7-8
Plot points on a coordinate plane.		8-1
Identify quadrants in a coordinate plane.		8-1
Functions		8-2
Graphing linear functions		8-3
Using the y-intercept		8-3

	Determine slope	8-5
	Apply formulas for perimeter, circumference, and area for polygons and circles.	9-1, 9-2, 9-3
	Find the area of simple geometric figures.	9-1, 9-2, 9-3
	Apply formulas for surface area and volume of rectangular solids.	9-5, 9-7
	Find square roots.	10-1
	Give integer estimates for an irrational number.	10-2
	Investigate right triangle geometry using the Pythagorean Theorem	10-4
	Given similar figures find the ratio of sides.	10-5

Math 8 Syllabus => Semester One

Date	Event/Sequence	Lecture/Discussion Topics	Suggestions
Aug-23			
Aug-24			
Aug-25		Class Administration	
Aug-26		Class Admin; Skills Review and Assessment	
Aug-27	<i>Chapter 1: Introduction</i>	1-1: Mathematical Expressions	
Aug-30	<i>to Algebra</i>	1-2: Order of Operations	
Aug-31		(2 days)	
Sep-1		1-3: Equations	
Sep-2		(2 days)	
Sep-3		1-4: Inequalities	
Sep-6	Labor Day	Labor Day - No School	
Sep-7		(2 days)	
Sep-8		1-5: Inverse Operations	Equations
Sep-9		(3 days)	
Sep-10		(3 days)	Inequalities
Sep-13		1-6: Writing Expressions for Word Phrases	
Sep-14		(2 days)	
Sep-15		1-7: Equations & Inequalities for Word Sentences	
Sep-16		1-8: Problem-Solving Strategies	
Sep-17		Chapter 1 Flex Day	
Sep-20		Chapter 1 Review	
Sep-21		Chapter 1 Test	
Sep-22	<i>Chapter 2: The Decimal</i>	2-1: Exponents	
Sep-23	<i>System</i>	(2 days)	
Sep-24		2-2: The Decimal System	
Sep-27		2-3: Rounding	
Sep-28		2-4: Basic Properties (2 days)	
Sep-29		(2 days)	
Sep-30		2-5: Simplifying Expressions	
Oct-1		(2 days)	
Oct-4		Review and Practice through 2-5	
Oct-5		2-6: Problem-Solving Model	
Oct-6		Chapter 2 Flex Day	
Oct-7	State Workshop	State Workshop - No School	
Oct-8	State Workshop	State Workshop - No School	
Oct-11		Chapter 2 Review	
Oct-12		Chapter 2 Test	
Oct-13	<i>Chapter 3: Positive and</i>	3-1: The Integers	
Oct-14	<i>Negative Numbers</i>	(2 days)	
Oct-15		3-2: Decimals on the Number Line	
Oct-18		3-3: Adding Positive and Negative Numbers	
Oct-19		(2 days)	
Oct-20		3-4: Subtracting Positive and Negative Numbers	
Oct-21		(2 days)	
Oct-22		Review and Practice 3-3 and 3-4	
Oct-25		Review and Practice 3-3 and 3-4	
Oct-26		3-5: Multiplying Positive and Negative Numbers	
Oct-27		(2 days)	
Oct-28		3-6: Dividing Positive and Negative Numbers	
Oct-29	End of Quarter 1	(2 days)	
Nov-1		Review and Practice 3-5 and 3-6	
Nov-2		Flex Day	
Nov-3		Chapter 3 Review	
Nov-4		Chapter 3 Test	
Nov-5	Prof. Development	Professional development - No School	

Nov-8	Chapter 12: Statistics	12-1: Bar Graphs & 12-2: Line Graphs	
Nov-9		12-3: Statistical Measures	
Nov-10		(2 days)	
Nov-11		12-5: Stem-and-Leaf Plots	
Nov-12		(2 days)	
Nov-15		12-6: Box-and-Whisker Plots	
Nov-16	Chapter 11: Probability	11-3: The Probability of an Event	
Nov-17		(2 days)	
Nov-18		Chapter 12 and 11 Flex Day	
Nov-19		Chapter 12 and Lesson 11-3 Test	
Nov-22	Thanksgiving Holiday	Thanksgiving Holiday	
Nov-23	Thanksgiving Holiday	Thanksgiving Holiday	
Nov-24	Thanksgiving Holiday	Thanksgiving Holiday	
Nov-25	Thanksgiving Holiday	Thanksgiving Holiday	
Nov-26	Thanksgiving Holiday	Thanksgiving Holiday	
Nov-29		flex day	
Nov-30		flex day	
Dec-1	Chapter 4: Rational	4-1: Positive and Negative Fractions	
Dec-2	Numbers	(3 days)	
Dec-3		(3 days)	
Dec-6		4-2: Equivalent Fractions	
Dec-7		(2 days)	
Dec-8		4-3: Least Common Denominator	
Dec-9		(2 days)	
Dec-10		4-4: Adding and Subtracting Fractions	
Dec-13		(2 days)	
Dec-14		4-5: Multiplying Fractions	
Dec-15		(2 days)	
Dec-16		4-6: Dividing Fractions	
Dec-17	Early Release	(2 days)	Early Release
Dec-20	X-mas Holiday		
Dec-21	X-mas Holiday		
Dec-22	X-mas Holiday		
Dec-23	X-mas Holiday		
Dec-24	X-mas Holiday		
Dec-27	X-mas Holiday		
Dec-28	X-mas Holiday		
Dec-29	X-mas Holiday		
Dec-30	X-mas Holiday		
Dec-31	X-mas Holiday		
Jan-3		Chapter 4 Flex Day	Use for review or catch up
Jan-4		4-7: Fractions and Decimals	
Jan-5		(2 days)	
Jan-6		Chapter 4 Review	
Jan-7		Chapter 4 Test	
Jan-10		6-9: Congruent Polygons	These 3 lessons need to be covered due to
Jan-11		Scientific Notation (Enrichment at the end of Chapter 3)	State standards.
Jan-12		Metric and customary measurements	Supplementary materials
Jan-13		Review and practice/ EOC review	
Jan-14		Review and practice/ EOC review	
Jan-17	Martin Luther King Jr. Day	Martin Luther King Jr. Day - No School	
Jan-18		Review and practice/ EOC review	
Jan-19	Semester Tests		
Jan-20	Semester Tests		
Jan-21	Semester Tests		

Math 8 Syllabus => Semester Two

Date	Event Sequence	Lecture/Discussion Topics	Suggestions
Jan-24	District In-Service Day	District In-Service Day - No School	
Jan-25	<i>Chapter 5: Equations &</i>	5-1: Properties of Equality	
Jan-26	<i>Inequalities</i>	5-2: Equivalent Equations	
Jan-27		(2 days)	
Jan-28		5-3: Solving Equations with Addition and Subtraction	
Jan-31		(2 days)	
Feb-1		5-4: Solving Equations with Multiplication and Division	
Feb-2		(2 days)	
Feb-3		5-5: Using Several Transformations	
Feb-4		(2 days)	
Feb-7		5-6: Equivalent Inequalities	
Feb-8		(2 days)	
Feb-9		5-8: Translating Equations into Problems	Book problems are
Feb-10		Great problems in Dale Publications,	higher level.
Feb-11		"Developing Skills in Algebra One." Pages 89-94	
Feb-14		5-9: Translating Problems into Equations	
Feb-15		(2 days)	
Feb-16		Chapter 5 Flex day	Use for review or catch up
Feb-17		Chapter 5 Review	
Feb-18		Chapter 5 Test	
Feb-21	President's Holiday	President's Holiday-No School	
Feb-22	<i>Chapter 7: Ratio, Proportion,</i>	7-1: Ratio and Proportion	
Feb-23	<i>and Percent</i>	(2 days)	
Feb-24		7-2: Problem-solving: Using Rates	
Feb-25		(2 days)	
Feb-28		7-4: Percents, Fractions, and Decimals	
Mar-1		(2 days)	
Mar-2		7-5: Working with Percents	
Mar-3		(3 days)	
Mar-4		(3 days)	
Mar-7		Review 7-1 through 7-5	
Mar-8		7-6: Percent of Increase and Decrease	
Mar-9		(2 days)	
Mar-10		7-8: Percents and Proportions	
Mar-11		(2 days)	
Mar-14		Chapter 7 Flex day	Use for review or catch up
Mar-15		Chapter 7 Review	
Mar-16		Chapter 7 Test	
Mar-17	<i>Chapter 6: Geometry</i>	6-1: Points, Lines, and Planes	
Mar-18		6-2: Circles	
Mar-21		6-3: Angles	
Mar-22		6-4: Special Angles	
Mar-23		6-5: Parallel Lines	
Mar-24		(2 days)	
Mar-25	End of Quarter 3	6-6: Triangles	
Mar-28	Spring Break	Spring Break-No School	
Mar-29	Spring Break	Spring Break-No School	
Mar-30	Spring Break	Spring Break-No School	
Mar-31	Spring Break	Spring Break-No School	
Apr-1	Spring Break	Spring Break-No School	
Apr-4		(2 days)	
Apr-5		6-7: Special Quadrilaterals	
Apr-6		6-8: Polygons and Their Perimeters	
Apr-7		Chapter 6 Flex day	Use for review or catch up
Apr-8		Chapter 6 Review	

Apr-11		Chapter 6 Test	
Apr-12	<i>Chapter 9: Areas and</i>	9-1: Areas of Rectangles and Triangles	
Apr-13	<i>Volumes</i>	9-2: Areas of Quadrilaterals	
Apr-14		(2 days)	
Apr-15		9-3: Areas of Circles	
Apr-18		(2 days)	
Apr-19		9-5: Volumes of Prisms and Cylinders	
Apr-20		(2 days)	
Apr-21		9-7: Surface Areas of Prisms and Cylinders	
Apr-22		(2 days)	
Apr-25	ISAT's	ISAT's	Approximate time frame. Please adjust your schedule accordingly.
Apr-26	ISAT's	ISAT's	
Apr-27		Chapter 9 Review	
Apr-28		Chapter 9 Test	
Apr-29	<i>Chapter 10: Square Roots</i>	10-1: Square Roots	
May-2	<i>and Right Triangles</i>	(2 days)	
May-3		10-2: Approximating Square Roots	
May-4		(2 days)	
May-5		10-4: The Pythagorean Theorem	
May-6		(2 days)	
May-9		10-5: Similar Triangles	
May-10		(2 days)	
May-11		Chapter 10 Review	
May-12		Chapter 10 Test	
May-13	<i>Chapter 8: The Coordinate</i>	8-1: The Coordinate Plane	
May-16	<i>Plane</i>	8-2: Equations	
May-17		(2 days)	
May-18		8-3: Graphing Equations in the Coordinate Plane	
May-19		(2 days)	
May-20		8-5: Problem-Solving: Using Graphs	Find slope
May-23		(2 days)	
May-24		Chapter 8 Review	
May-25		Chapter 8 Test	
May-26		Review and practice/ EOC review	
May-27		Review and practice/ EOC review	
May-30	Memorial Day	Memorial Day - No School	
May-31		Review and practice/ EOC review	
Jun-1	Semester Test		
Jun-2	Semester Test		
Jun-3	Semester Test		

Math 8 Semester 1 Similar Problem List (revised 2/20/08)

Section	Page	Problems	Comments/Objectives	
Chapter 1	4	19-21	Evaluate expressions	
	7	1-3	Simplify using order of operation	
	7	13-18	Substitute & simplify using order of operation	
	11	37-40	Use inverse operations to solve	
	7	15-16	Substitute & solve	
	25	1-6	Find variable expression for word sentence	
	21	1-10	Find variable expression for word sentence	
	22	9-11	Write a variable expression	
	31	16	Word problem	
	Chapter 2	43	32-33	Evaluate using substitution
42		17-19	Evaluate each power	
43		17-20	Multiplication with exponents	
43		23	Evaluate using substitution	
43		31	Evaluate using substitution	
42		20	Zero Exponent Rule	
46		27-28	Compare decimals	
49		9-16 Written Exercises	Rounding/place value	
53		1-6 Class Exercises	Identify property	
54		4	Distributive Property	
57		4-6 Class Exercises	Order of Operations	
57		15	Simplify expressions	
57		18	Simplify expressions	
62		4, 7	Story Problem involving two-step equation	
Chapter 3		74	25-30	Order integers
	73	11-12 Class Exercises	Order absolute value	
	76	1-6	Decimals and their opposites	
	82	10-12	Adding decimals	
	82	29-31	Adding integers	
	91	17-21	Multiplying integers	
	85	13-16	Subtracting integers	
	90	5-8 Written Exercises	Multiplying integers	
	93	40-42	Evaluate using substitution	
	93	1-6	Dividing integers	
	93	9-13	Dividing integers	
	Chapter 4	108	3	Locate real numbers on a number line
108		4-6	Locate real numbers on a number line	
109		23-27	Evaluate using substitution	
112		6-10 Class Exercises	GCF	
113		11-12, 16	Simplify fractions	
111		Ex. 2	Prime factorization	
116		1-5 Class Exercises	LCM	
119		3, 5, 8 Written Exercises	Subtracting fractions	
119		9-11 Written Exercises	Adding fractions	
124		9-10 Written Exercises	Multiplying fractions	
128		11-12 Written Exercises	Dividing fractions	
134		1-5	Fraction to decimal	
Chapter 11		407	1-6	Probability
		408	37	Probability
Chapter 12	451	1-2 Written Exercises	Central tendency	
	451	3-4 Written Exercises	Central tendency	
	458	1-4 Class Exercises	Stem-and-Leaf Plots	

Math 8 Semester 2 Similar Problem List (revised 2/20/08)

Section	Page	Problems	Comments/Objectives
Chapter 5	151	1-3	Solve
	151	4-6	Solve
	154	9-10	Solve
	154	2-4	Solve
	154	1, 3 Class Exercises	Solve
	157	6	Solve multi-step equations
	157	7-9	Two-step equations
	161	7-9	Solve inequalities
	161	13-15	Solve inequalities
Chapter 6	189	7-10	Circumference
	198	21-22	Supplementary angles
	198	1-6	Supplementary angles
	198	7-8	Vertical angles
	201	2	Corresponding angles
	201	6-8	Vertical angles
	201	3-5	Angles
	206	1-8 Class Exercises	Classify triangles
	206	3-6	Find missing angle
	215	7-10	Perimeter
	193	1-3 Class Exercises	Name angles
	193	8-9	Measure using a protractor
Chapter 7	232	13-16	Proportions
	236	5-10	Using rates
	236	1-4	Unit price
	243	25-34	Percent to decimal
	243	1-7	Find percent
	243	25-34	Percent to fraction
	250	3-4	Percent of increase or decrease
	247	1	Find percent
	258	9-10	Percent to degree
	246	4, 8	Evaluate
	246	3, 6, 9	Evaluate
	246	2, 7, 11	Evaluate
	247	Problem 8	Purchase price
Chapter 8	273	13-17 Class Exercises	Quadrants
	274	9-18	Coordinates
	282	10-12	Complete table
	282	10-12	Graph
	278	1-8 Class Exercises	Ordered pair solutions
	274	19-22	Coordinates
Chapter 9	314	3-4 Written Exercises	Area of parallelogram
	319	5-6	Area of a circle
	308	4 Class Exercises	Area of triangle
	308	3 Class Exercises	Area of triangle
	328	4-6 Class Exercises	Volume of a cylinder
	328	1-2 Class Exercises	Volume of a prism
	337	7-8	Surface area of a cylinder
	337	4 Class Exercises	Surface area of prisms
Chapter 10	360	1-5 Written Exercises	Round to tenths
	360	25-28	Solve
	366	15, 18	Pythagorean theorem
	367	2	Pythagorean theorem
	371	11	Similar triangles
	371	11	Similar triangles