



Boise Independent School District Curriculum Map Sixth Grade Mathematics

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Scope and Sequence Summary

Reasoning & Problem Solving	<i>Ongoing</i>
Data Analysis	<i>Ongoing</i>
Measurement	<i>Ongoing</i>
Estimation	<i>Ongoing</i>
Math Facts (computation)	<i>Ongoing</i>
Write about Math	<i>Ongoing</i>
Patterns and Functions	<i>1 week</i>
Place Value, Variables, Whole Numbers, Number Theory	<i>6 weeks</i>
Measurement, Perimeter, Area, Graphing	<i>5 weeks</i>
Fractions and Decimals	<i>7 weeks</i>
Geometry	<i>6 weeks</i>
Percents, Ratio, Proportion and Probability	<i>4 weeks</i>
Integers	<i>2 weeks</i>
Coordinates	<i>1 week</i>

<u>Test</u>	<u>Window</u>
Accel. Math 7 Placement Test (former Survey Test)	week of March 7th
Math Spring Assessment (OPTIONAL)	March 14-25
<i>Spring - ISAT Test</i>	<i>mid-April mid-May</i>

Math Grade 6

Boise School District

Course Overview

ONGOING

- Mathematical reasoning and problem solving (emphasize real-world situations)
- Collect, organize, and display data (graphing – integrate with science and social studies whenever possible)
- Understand data analysis
- Measurement may integrate well with science
- Estimate and judge reasonableness of results
- Use algebraic symbolism as a tool to represent mathematical relationships
- Write about math at least once a week
- Mastery of addition (0-18), subtraction (0-18), multiplication (12x12), and division (12x12) facts by second quarter (100 facts in 3 minutes – aim for fewer minutes) 90% mastery
- Use calculators appropriately – Calculators are to be demonstrated as a possible tool in mathematics. They are NOT to be used in everyday math.
- Show ALL work when appropriate (It's not what you know, it's what you show you know)

First Semester

Chapter 13 (1 week)

Patterns, Functions and the Coordinate Plane

- Sequence and patterns
- Functions
- Graph functions

Chapters 1 – 3 (approx. 6 weeks)

Whole Numbers, Decimals and Algebra

- **STRESS – Math facts (addition, subtraction, multiplication, and division)**
- Place value
- **Addition, subtraction and multiplication of whole numbers**
- **Whole number division with one and two digit divisors**
- **Addition and subtraction of decimals**
- Powers of Ten - exponents
- Prime and Composite numbers
- Prime Factorization
- Factors

- Multiples
- Greatest Common Factor - GCF
- Least Common Multiple - LCM
- **Algebra – variables and expressions**
- Round and Estimate Numbers
- **Compare and order numbers**
- Order of operations
- Properties of addition and multiplication
- Roman numerals
- Enrichment – Base 2 and Base 5 (Stress different bases)
- **Problem solving strategies**
- **Use appropriate mathematical vocabulary (see attached list)**

Chapters 8 – 10 (approx. 5 weeks)

Measurement, Data and Graphing

- Nonstandard units of measure
- **Perimeter of rectangles and squares**
- **Area of rectangles and squares**
- U.S. Customary unit conversions using length, weight and capacity
- Metric unit conversions using length, mass, and capacity
- Survey and Sampling
- Bias
- **Measures of Central Tendency:**
 - **Mean**
 - **Median**
 - **Mode**
 - **Range**
- Exploring graphs
 - Stem and Leaf Plot
 - Box and Whisker Plot
 - Double Line
 - Histogram
- **Problem solving applications**
- **Use appropriate mathematical vocabulary (see attached list)**

****Chapter 6 begins Second Semester****

Chapter 4 – 7** (approx. 7 weeks)

Fractions and Decimals

- **Relate mixed numbers, fractions and decimals**
- **Compare and order mixed numbers, fractions and decimals**
- Relate decimals and percents
- **Equivalent fractions**
- **Simplifying fractions and mixed numbers**
- **Adding and subtracting fractions with like denominators**
- **Adding and subtracting fractions with unlike denominators with renaming**
- **Multiply fractions**

- **Multiply mixed numbers**
- **Dividing fractions**
- **Dividing mixed numbers**
- **Multiplication of decimals**
- **Multiplication and division of powers of ten**
- **Division of decimals using decimals divisors**
- **Estimating**
- Rounding
- Terminating and repeating decimals
- **Problem solving applications**
- **Use appropriate mathematical vocabulary (see attached list)**

Chapters 14 – 15 and 20 (approx. 6 weeks)

Geometry

- Basic concepts
- Measure, draw, and classify angles
- Classifying lines
- Triangles and angle sums
- Quadrilaterals and angle sums
- Investigating polygons
- Construction of basic geometric figures
- Congruent and similar figures
- Symmetry
- Transformations
- Perimeter of polygons
- Circumference of a circle
- Area of parallelograms, triangles, and circles
- Problem solving applications
- **Use appropriate mathematical vocabulary (see attached list)**

Chapters 16 – 19 (approx. 5 weeks)

Ratio, Proportion, Percent, and Probability

- Rates
- Ratios and equivalent ratios
- Proportions
- Scale drawings
- Percent
- Relate fractions, decimals, percents
- Compare and order fractions, decimals, percents
- Rate of time
- Estimation
- Probability
- Possible Outcomes
- Theoretical Outcomes
- Experimental Outcomes

- Problem solving applications (real world)
 - Sales Tax
 - Discount
 - Simple Interest
- **Use appropriate mathematical vocabulary (see attached list)**

Chapter 11(2 weeks)

Integers

(Works well with Science and Social Studies)

- Explore integers
- **Compare and order Integers**
- Problem solving applications
- **Use appropriate mathematical vocabulary (see attached list)**

Chapter 21 (1 week)

Volume and Surface Area

- Solid figures
- Volume of solids
- **Use appropriate mathematical vocabulary (see attached list)**

SIXTH GRADE

SEMESTER BREAKDOWN

Boise School District

ONGOING

- *Reasoning and Problem Solving*
- *Data Analysis*
- *Measurement*
- *Estimation*
- *Math Facts (computation)*
- *Write about Math*

FIRST SEMESTER

- *Patterns and Functions*
- *Place Value, Variables, Whole Numbers and Number Theory*
- *Measurement, Perimeter, Area and Graphing*
- *Area, Perimeter, & Volume*
- *Fractions and Decimals*

SECOND SEMESTER

- *Fractions and Decimals (cont.)*
- *Geometry*
- *Percent, Ratio, Proportion, Probability*
- *Integers*

Sixth Grade Vocabulary

Chapter 1

Place Value/Addition and Subtraction

algebraic expression

base of a power

binary system

deficient

divisor

evaluate

exponent

factor

hundred thousandth

millionth

number line

power of ten

ten thousandth

terms of an expression

thousandths

Chapter 2

Multiply and Divide Whole Numbers

compatible numbers

equation

inverse operations

overestimate

quotient

solution

underestimate

Chapter 3

Number Theory

perfect number

abundant number

composite number
greatest common divisor (GCD)
greatest common factor (GCF)
least common multiple (LCM)
prime factorization
prime number

Chapter 4
Fraction and Decimal Concepts

common denominator
equivalent fractions
least common denominator (LCD)
Percent
simplest form

Chapter 5
Add and Subtract Fractions

least common multiple (LCM)
property

Chapter 6
Multiply and Divide Fractions

evaluate
expression
Factor
Invert
multiplicative inverse
reciprocal
simplest form

Chapter 7
Multiply and Divide Decimals

power of ten
repeating decimal
terminating decimal

continued fractions
Decimal
denominator
numerator

Chapter 8

Customary and Metric Units of Measure

accuracy of a measurement
Area
metric system
perimeter
precision of a measurement

Chapter 9

Collect and Analyze Data

Bias
Cluster
convenience sample
Gap
line plot
Mean
measures of central tendency
Median
Mode
Outlier
population
Random sample
Range
representative sample
Sample
statistics

Chapter 10

Graph Data

box-and-whisker plot
double bar graph
double line graph
frequency table
Histogram
interval
lower extreme
lower quartile
median
scale
stem-and-leaf plot
upper extreme
upper quartile
correlation
leaf
line of best fit
pictograph
scatter plot
stem

Chapter 11 Integers

absolute value
additive inverse
divisor
integers
negative integers
opposite integers
positive integers

Chapter 13 Algebra: Patterns, Functions, and the Coordinate Plane

coordinate plane

function
input
linear functions
nonlinear functions
ordered pair
origin
output
sequence
Term
x-coordinate
y-coordinate

Chapter14 Plane Figures

acute angle
acute triangle
adjacent angles
angle pairs
center
central angle
chord
complementary angles
diagonal
diameter
exterior angle
interior angle
interior of an angle
isosceles triangle
obtuse angle
obtuse triangle
radius
Right angle
scalene triangle
straight angle

supplementary angles
transversal
vertical angles
alternate exterior angles
alternate interior angles
parallel
perpendicular
point
space
vertex

Chapter 15 Congruence and Construction

Bisect
congruent
corresponding parts
Diagonal
line of symmetry
line segment
Midpoint
Polygon
reflection
regular polygon
Rotation
rotational symmetry
Similar
symmetry
tessellation
transformation
translation

Chapter 16 Ratio and Proportion

equivalent ratios

Proportion
Rate
Ratio
Scale
scale drawing
Speed
Term
terms of a ratio

Chapter 17 Understand Percent

Percent
Tip

Chapter 18 Use Percent

Base
Discount
Interest
interest rate
part of base
Percent
Principal
Proportion

Chapter 19 Probability

Combination
compound events
dependent event
disjoint events
Event
Experiment
Experimental probability

fundamental counting principle
independent event
Odds
Permutation
Probability
sample space
theoretical probability

Chapter 20 Perimeter, Circumference, and Area

Area
circumference
diameter
parallelogram
perfect square
perimeter
pi
reasonable
square root

Chapter 21 Volume and Surface Area

cone
cylinder
formulas
net
pentagon
polyhedra
polyhedron
prism
pyramid
quadrilateral
radius

solid figure
surface area
three-dimensional
two-dimensional
unit cube
volume

Boise Independent School District

Sixth grade Essential Learning/Focal Points

*Topics are listed in the order they are to be introduced and explored.
Proficiency will be achieved through continued practice and reinforcement throughout the year.
These concepts represent a compilation of the CIM, CSI and NCTM Focal Points*

First Quarter

Math Concepts	Vocabulary		Resources
Place Value – Millions to Millionths Add and Subtract Whole Numbers Multiply and Divide Whole Numbers Add and Subtract Decimals (aligned horizontally) Multiply and Divide Decimals	Addend Difference Dividend Divisor Product Quotient Operation(s)	Commutative property Associative property Distributive property Identity property Inverse property Zero property	Free Resources: Houghton Mifflin Mathematics text www.eduplace.com/math/mw Mountain Math PLATO Apangea (State purchased for schools in Idaho...used intervention or enrichment) ExamView (located on K: drive of all servers) Drops (Math) Daily Oral Math ADD (Arithmetic Developed Daily) Kim Sutton / Paul Agranoff materials Hands on Equations A+ Math (online) Funbrain.com (online) Cost Resources: Math Worksheet Factory (ordered online) Ed Helper (online subscription) EXCEL Math (purchased worksheet program)

Second Quarter

Math Concepts	Vocabulary		Resources
Order of Operation Add and Subtract Fractions Multiply and Divide Fractions Mean, Median, Mode Converting among metric units of measurement (plus or minus one unit of measure)	Square units / squared Parenthesis Brackets Numerator Denominator Factor Simplify Proper fraction	Improper fraction Mixed number Equivalent fractions Mean Median Mode Average Range	Free Resources: <u>Houghton Mifflin Mathematics</u> text www.eduplace.com/math/mw Mountain Math PLATO Apangea (State purchased for schools in Idaho...used intervention or enrichment) ExamView (located on K: drive of all servers) Drops (Math) Daily Oral Math ADD (Arithmetic Developed Daily) Kim Sutton / Paul Agranoff materials Hands on Equations A+ Math (online) Funbrain.com (online) Cost Resources: Math Worksheet Factory (ordered online) Ed Helper (online subscription) EXCEL Math (purchased worksheet program)

Third Quarter

Math Concepts	Vocabulary		Resources
Converting among customary units of measurement (plus or minus one unit of measure) Convert fractions to decimals and percents Finding area, perimeter and circumference of triangles, circles and parallelograms	Customary Convert Area Circumference Radius Diameter Chord	Formula Parallelograms Perimeter Polygon Protractor Compass	Free Resources: <u>Houghton Mifflin Mathematics</u> text www.eduplace.com/math/mw Mountain Math PLATO Apangea (State purchased for schools in Idaho...used intervention or enrichment) ExamView (located on K: drive of all servers) Drops (Math) Daily Oral Math ADD (Arithmetic Developed Daily) Kim Sutton / Paul Agranoff materials Hands on Equations A+ Math (online) Funbrain.com (online) Cost Resources: Math Worksheet Factory (ordered online) Ed Helper (online subscription) EXCEL Math (purchased worksheet program)

Fourth Quarter

Math Concepts	Vocabulary	Resources
Probability Interpret graphs, charts and tables Solve algebraic equations	Probability Algebraic equations Expression Factor Variable	Free Resources: <u>Houghton Mifflin Mathematics</u> text www.eduplace.com/math/mw Mountain Math PLATO Apangea (State purchased for schools in Idaho...used intervention or enrichment) ExamView (located on K: drive of all servers) Drops (Math) Daily Oral Math ADD (Arithmetic Developed Daily) Kim Sutton / Paul Agranoff materials Hands on Equations A+ Math (online) Funbrain.com (online) Cost Resources: Math Worksheet Factory (ordered online) Ed Helper (online subscription) EXCEL Math (purchased worksheet program)

2010-2011	Suggested Syllabus Sixth Grade: Semester One	
Date	Event Sequence	Lecture/Discussion Topics
Aug-23		
Aug-24		
Aug-25	1/2 for Students	
Aug-26	13.1	Ch. 13 Patterns, Functions, Coord. Planes
Aug-27	13.2	
Aug-30	13.3	in particular problem #12
Aug-31	13.4	
Sep-1	Review	
Sep-2	Test	
Sep-3	1.1	Ch. 1 Place Value
Sep-6	Labor Day Holiday	
Sep-7	1.2	
Sep-8	1.3	
Sep-9	1.4	
Sep-10	1.5	
Sep-13	1.6	
Sep-14	1.7	
Sep-15	1.8	
Sep-16	1.9	
Sep-17	Review	
Sep-20	Test	
Sep-21	2.1	Ch. 2 Multiply & Divide Whole Numbers
Sep-22	2.2	
Sep-23	2.2	
Sep-24	2.3	
Sep-27	2.4	
Sep-28	2.4 / 2.5	
Sep-29	2.6	
Sep-30	2.7	
Oct-1	2.8 / 2.9	
Oct-4	Test	
Oct-5	Review	
Oct-6	3.1	Ch. 3 Number Theory
Oct-7	State Inservice	No School
Oct-8	State Inservice	No School
Oct-11	3.2	
Oct-12	3.3	
Oct-13	3.4	
Oct-14	3.5	
Oct-15	3.6	
Oct-18	Review	
Oct-19	Test	
Oct-20	8.1	Ch. 8 Customary & Metric Units of Measure
Oct-21	8.2	

Oct-22	8.3	
Oct-25	8.4	
Oct-26	8.5	
Oct-27	8.6	
Oct-28	8.7	
Oct-29	8.8	End of 1st Quarter (Early Release)
Nov-1	Review	
Nov-2	Test	
Nov-3	9.1	Ch. 9 Collecting and Analyze Data
Nov-4	Conference Days	No School
Nov-5	Conference Days	No School
Nov-8	9.2 / 9.3	
Nov-9	9.3	
Nov-10	9.4	
Nov-11	9.5 / 9.6	
Nov-12	Review/Test	
Nov-15	10.1/10.2	
Nov-16	10.3	
Nov-17	10.4/10.5/10.6	
Nov-18	10.7/10.8	
Nov-19	Flex Day	
Nov-22	Thanksgiving	No School
Nov-23	Thanksgiving	No School
Nov-24	Thanksgiving	No School
Nov-25	Thanksgiving	No School
Nov-26	Thanksgiving	No School
Nov-29	Ch.10 Graph Data	
Nov-30	Ch.10 Graph Data	
Dec-1	Ch.10 Graph Data	
Dec-2	Review	
Dec-3	Test	
Dec-6	4.1	Ch. 4 Fraction and Decimal Concepts
Dec-7	4.2	
Dec-8	4.3	
Dec-9	4.3	
Dec-10	4.4	
Dec-13	4.4	
Dec-14	4.5	
Dec-15	Review	
Dec-16	Test	
Dec-17	Review Basics	Early Release
Dec-20	Winter Break	No School
Dec-21	Winter Break	No School
Dec-22	Winter Break	No School
Dec-23	Winter Break	No School

Dec-24	Winter Break	No School
Dec-27	Winter Break	No School
Dec-28	Winter Break	No School
Dec-29	Winter Break	No School
Dec-30	Winter Break	No School
Dec-31	Winter Break	No School
Jan-3	5.1	Ch. 5 Add and Subtract Fractions
Jan-4	5.2	
Jan-5	5.3	
Jan-6	5.4	
Jan-7	5.4	
Jan-10	5.5	
Jan-11	Review	
Jan-12	Test	
Jan-13	Catch-Up Day	
Jan-14	Catch-Up Day	
Jan-17	Martin Luther King Jr Day	No School
Jan-18	6.1	Ch. 6 Multiply and Divide Fractions
Jan-19	6.2	
Jan-20	6.2	
Jan-21	6.3	End of 1st Semester (Early Release)

2009-2010	Suggested Syllabus Sixth Grade: Semester Two	
Date	Event Sequence	Notes
24-Jan	District In-service	No School
25-Jan	6.3	
26-Jan	6.4	
27-Jan	6.4	
28-Jan	6.5	
31-Jan	6.5	
1-Feb	6.6/6.7	
2-Feb	Review	
3-Feb	Test	
4-Feb	7.1/7.2	Ch. 7 Multiply and Divide Decimals
7-Feb	7.3	
8-Feb	7.4	
9-Feb	7.5 / 7.6	
10-Feb	7.7 Review	
11-Feb	Test	
14-Feb	14.1	Ch. 14 Plane Figures
15-Feb	14.2	
16-Feb	14.4	
17-Feb	14.5	
18-Feb	14.6	
21-Feb	President's Day Holiday	No School
22-Feb	14.7	
23-Feb	14.8	
24-Feb	Review	
25-Feb	Test	
28-Feb	15.1	Ch. 15 Congruence and Construction
1-Mar	15.2	
2-Mar	15.3	
3-Mar	15.4	
4-Mar	15.5	
7-Mar	15.6 (skip 15.7)	*Window for Math Survey
8-Mar	15.8	March 8th - March 12th
9-Mar	* Math Survey Optional Day	
10-Mar	Review	
11-Mar	Test	
14-Mar	20.1	Ch. 20 Perimeter, Circumference and Area
15-Mar	20.4	
16-Mar	20.2	
17-Mar	20.3	
18-Mar	Catch-Up Day	
21-Mar	20.5	
22-Mar	20.6	

23-Mar	20.7	
24-Mar	Review	
25-Mar	Test	End of Third Quarter (Early Release)
28-Mar	Spring Break	No School
29-Mar	Spring Break	No School
30-Mar	Spring Break	No School
31-Mar	Spring Break	No School
1-Apr	Spring Break	No School
4-Apr	ISAT Review	The Math Spring Assessment is
5-Apr	ISAT Review	OPTIONAL and is an ISAT pre-test.
6-Apr	ISAT Review	
7-Apr	ISAT Review	
8-Apr	ISAT Review	
11-Apr	19.1	Ch. 19 Probability
12-Apr	19.2	*Window for Spring ISAT Testing
13-Apr	19.3	April 12th - May 7th
14-Apr	Review	
15-Apr	Test	
18-Apr	16.1 / 16.2	Ch. 16 Ratio and Proportion
19-Apr	16.3	
20-Apr	16.4	
21-Apr	16.5	skip 16.6
22-Apr	Review	
25-Apr	Test	
26-Apr	17.1 / 17.2	Ch. 17 Understanding Percent
27-Apr	17.3	
28-Apr	17.4	
29-Apr	17.5	
2-May	18.1	Ch. 18 Using Percents
3-May	18.2	
4-May	18.3	
5-May	18.4 / 18.5	
6-May	Test Ch. 17 & 18	
9-May	11.1	Ch. 11 Integers
10-May	11.2	
11-May	11.4 / 11.5	
12-May	11.7 / 11.8	
13-May	11.9	No Assessment on Integers
16-May	21.3	Ch. 21 Volume and Surface Area
17-May	21.7	
18-May	21.4	
19-May	21.6	
20-May	Test	
23-May	Math Review/Catch Up	
24-May	Math Review/Catch Up	

25-May	Math Review/Catch Up	
26-May	Math Review/Catch Up	
27-May	Math Review/Catch Up	
30-May	Memorial Day Holiday	No School
31-May	Math Review/Catch Up	
1-Jun	Math Review/Catch Up	
2-Jun	Math Review/Catch Up	
3-Jun		Last Day of School (Early Release)