Sixth Grade: Math Curriculum

Unit: Chapter 1 (Whole Numbers & Decimals)	Time: September	Standards:
Essential Questions • How do you divide multi-digit numbers? • How do you write the prime factorization of a number? • How can you find the least common multiple (LCM) of two whole numbers? • How can you find the greatest common factor (GCF) of two whole numbers? • How can you use the strategy *draw a diagram* to help you solve problems involving the GCF and the Distributive Property? • How do you add and subtract multi-digit decimals? • How do you multiply multi-digit decimals? • How do you divide decimals by whole numbers? • How do you divide whole numbers and decimals by decimals?	**Enduring Understandings** • I can easily divide large numbers. • I can write the prime factorization of any number. • I can find the LCM and GCF of two whole numbers. • I can easily add, subtract, multiply, and divide multi-digit decimals.	6.NS.B.2 Fluently divide multi-digit numbers using the standard algorithm. 6.NS.B.3 Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation. 6.NS.B.4 Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers 1-100 with a common factor as a multiple of a sum of two whole numbers with no common factor. *For example, express 36 + 8 as 4 (9 + 2).*
Benchmark Assessment(s) ➢ SWBAT complete practice test that requires them to divide multi-digit numbers with 80% accuracy (PARCC test prep workbook pgs. 15-16). 6.N.B.2 ➢ SWBAT complete practice test that requires them to add, subtract, multiply, and divide multi-digit decimals with 80% accuracy (PARCC test prep workbook pgs. 17-18). 6.NS.B.3 ➢ SWBAT complete practice test that requires them to find the GCF and LCM of two whole numbers with 80% accuracy (PARCC test prep workbook pgs. 19-20). 6.NS.B.4		**Other Assessments** ✓ Beginning-of-Year Test ✓ Mid-Chapter Checkpoint (Chp.1) ✓ Chapter 1 Test ✓ Vocabulary Quiz **Materials** -Go Math! Student workbook (chp. 1) -Go Math! PARCC workbook

Date of BOE Approval: June 21, 2022

Sixth Grade: Math Curriculum

SUGGESTED ACTIVITIES

- Real World Project: (demonstrating an understanding of division of fractions and extending the notion of number to the system of rational numbers, including negative numbers) Student workbook pg.2 and Critical Area Projects pg. B1-B2 (via Think Central).
- Grab and Go Activity 16 (GCF) and readers (Planning Guide pg. PG94).
- Chapter 1 STEM Activities: Gravity, Here Comes the Sun, The Ring of Fire, A Giant Among Giants, Model It!

REINFORCEMENT

- Reteach worksheet pages (chapter resources book)
- Personal Math Trainer (Think Central)
- Math On the Spot videos
- Response to Intervention Activities (Think Central)
- ELL Activities
- Strategic Intervention Guide (Think Central)
- Intensive Intervention Guide (Think Central)

ENRICHMENT

- Enrich worksheet pages (chapter resources book)
- STEM activities (Think Central)
- Mega Math (Think Central)
- *i*Tools (Think Central)
- Advances Learners Activities
- Extend the Project Activities (Real World/Critical Area Project- In book & Think Central)

Suggested Websites

- Mixed Operations Decimals Games
  http://www.math-play.com/decimal-math-games.html
- Factor Games
  http://illuminations.nctm.org/Activity.aspx?id=4134
  http://www.khanacademy.org

Suggested Materials

- GoMath! Manipulatives Set
- Go Math! Grab and Go Activity Center

Cross-Curricular Connections

21st Century Skills

9.2.8.CAP.3: Explain how career choices, educational choices, skills, economic conditions, and personal behavior affect income.
9.4.8.GCA.2: Demonstrate openness to diverse ideas and perspectives through active discussions to achieve a group goal.
9.4.8.TL.2: Gather data and digitally represent information to communicate a real-world problem (e.g., MS-ESS3-4, 6.1.8.EconET.1, 6.1.8.CivicsPR.4).
9.4.8.TL.3: Select appropriate tools to organize and present information digitally
9.4.8.TL.5: Compare the process and effectiveness of synchronous collaboration and asynchronous collaboration.

SEL

Students will work on developing, implementing, and modeling effective problem solving and critical thinking skills. They will also need to demonstrate and understanding of the need for mutual respect when viewpoints differ and demonstrate an awareness of the expectations for social interactions in a variety of settings.

Language Arts

W.6.5. With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.

Date of BOE Approval: June 21, 2022

Sixth Grade: Math Curriculum

Unit: Chapter 2 (Fractions)	Time: September	Standards:
Essential Questions • How can you convert between fractions and decimals? • How can you compare and order fractions and decimals? • How do you multiply fractions? • How do you simplify fractional factors by using the greatest common factor? • How can you use a model to show division of fractions? • How can you use compatible numbers to estimate quotients of fractions and mixed numbers? • How do you divide fractions? • How can you use a model to show division of mixed numbers? • How do you divide mixed numbers? • How can you use the strategy *use a model* to help you solve a division problem?	**Enduring Understandings** • I can convert fractions and decimals. • I can compare and order fractions and decimals. • I can multiply fractions. • I can simplify factors of fractions by using the greatest common factor. • I can use a model to show division of fractions. • I can use compatible numbers to estimate quotients of fractions and mixed numbers. • I can divide fractions. • I can use a model to show division of mixed numbers. • I can divide mixed numbers. • I can solve problems with fractions and mixed numbers by using a model.	6.NS.A.1 Interpret and compute quotients as fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem. 6.NS.B.4 Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers 1-100 with a common factor as a multiple of a sum of two whole numbers with no common factor. 6.NS.C.6c Find and position integers and other rational numbers on a horizontal or vertical number line diagram; find and position pairs of integers and other rational numbers on a coordinate plane. 6.NS.C.7a Interpret statements of inequality as statements about the relative position of two numbers on a number line diagram.
Benchmark Assessment(s) ➢ SWBAT complete practice test that requires them to interpret and compute quotients of fractions, solve word problems with 80% accuracy (PARCC test prep workbook pgs. 13-14: 6.NS.A.1). ➢ SWBAT complete practice test that requires them to find and position integers on a horizontal or vertical line diagram with 80% accuracy (PARCC test prep workbook pgs. 27-28: 6.NS.C.6c). ➢ SWBAT complete practice test that requires them to interpret statements of inequality as statements about the relative position of two umbers on a number line diagram with 80% accuracy (PARCC test prep workbook pgs. 29-30: 6.NS.C.7a)		**Other Assessments** ✓ Mid-Chapter Checkpoint (Chp.2) ✓ Chapter 2 Test ✓ Vocabulary Quiz (Chp.2) **Materials** -Go Math! Student workbook (chp. 2) -Go Math! PARCC workbook

Date of BOE Approval: June 21, 2022

Sixth Grade: Math Curriculum

SUGGESTED ACTIVITIES

- Real World Project: Continued from Chapter 1 (demonstrating an understanding of division of fractions and extending the notion of number to the system of rational numbers, including negative numbers) Student workbook pg.2 and Critical Area Projects pg. B1-B2 (via Think Central).
- Grab and Go Activity 2 (Circle Fun, Equal Measures, Are We Equals) (PG pg. 94)
- Grab and Go Activity 9 (Penalty Shot) (PG pg. 94)
- Grab and Go readers (Planning Guide pg. 94).
- Chapter 2 STEM Activities: A Rocky World

REINFORCEMENT

-Reteach worksheet pages (chapter resources book)
-Personal Math Trainer (Think Central)
-Math On the Spot videos
-Response to Intervention Activities (Think Central)
-ELL Activities
-Strategic Intervention Guide (Think Central)
-Intensive Intervention Guide (Think Central)

ENRICHMENT

-Enrich worksheet pages (chapter resources book)
-STEM activities (Think Central)
-Mega Math (Think Central)
-*i*Tools (Think Central)
-Advances Learners Activities
-Extend the Project Activities (Real World/Critical Area Project- In book & Think Central)

Suggested Websites

-Multiplying and Dividing Fractions (Brain Pop)
https://www.brainpop.com/math/numbersandoperations/multiplyinganddividingfractions/
-Multiplying and Dividing Fractions Game
https://www.studyladder.com/games/activity/multiplying-and-dividing-fractions-20460

Suggested Materials

-GoMath! Manipulatives Set
-Go Math! Grab and Go Activity Center

Cross-Curricular Connections

21st Century Skills

9.2.8.CAP.3: Explain how career choices, educational choices, skills, economic conditions, and personal behavior affect income.
9.4.8.GCA.2: Demonstrate openness to diverse ideas and perspectives through active discussions to achieve a group goal.
9.4.8.TL.2: Gather data and digitally represent information to communicate a real-world problem (e.g., MS-ESS3-4, 6.1.8.EconET.1, 6.1.8.CivicsPR.4).
9.4.8.TL.3: Select appropriate tools to organize and present information digitally
9.4.8.TL.5: Compare the process and effectiveness of synchronous collaboration and asynchronous collaboration.

SEL

Students will work on developing, implementing, and modeling effective problem solving and critical thinking skills. They will also need to demonstrate and understanding of the need for mutual respect when viewpoints differ and demonstrate an awareness of the expectations for social interactions in a variety of settings.

Language Arts

W.6.5. With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.

Date of BOE Approval: June 21, 2022

Sixth Grade: Math Curriculum

Unit: Chapter 3 (Rational Numbers)	Time: October	Standards:
Essential Questions • How can you use positive and negative numbers to represent real-world quantities? • How can you compare and order integers? • How can you plot rational numbers on a number line? • How can you compare and order rational numbers? • How can you find and interpret the absolute value of rational numbers? • How can you interpret comparisons involving absolute values? • How can you plot ordered pairs of rational numbers on a coordinate plane? • How do you find the relationship between points on a coordinate plane ? • How can you find the distance between two points that lie on a horizontal or vertical line on a coordinate plane? • How can drawing a diagram help me solve a problem on the coordinate plane?	**Enduring Understandings** • I can use positive and negative numbers to represent real world quantities. • I can compare and order integers. • I can plot rational numbers on a number line. • I can use a number line to identify opposite integers. • I can compare and order rational numbers. • I can find and interpret the absolute value of rational numbers. • I can use interpret comparisons involving absolute values. • I can plot ordered pairs of rational numbers on a coordinate plane. • I can identify the relationship between points on a coordinate plane. • I can find horizontal and vertical distance on a coordinate plane. • I can draw a diagram to solve problems on the coordinate plane.	6.NS.C.5 Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation. 6.NS.C.6a Recognize opposite signs of numbers as indicating locations on opposite sides of 0 on the number line; recognize that the opposite of the opposite of a number is the number itself, e.g., -(-3)=3, and that 0 is its own opposite. 6.NS.C.6b Understand signs of numbers in ordered pairs as indicating locations in quadrants of the coordinate plane; recognize that when two ordered pairs differ only by signs, the locations of the points are related by reflections across one or both axes. 6.NS.C.6c Find and position integers and other rational numbers on a horizontal or vertical number line diagram; find and position pairs of integers and other rational numbers on a coordinate plane. 6.NS.C.7a Interpret statements of inequality as statements about the relative position of two umbers on a number line diagram. *For example, interpret -3>-7 as a statement that -3 is located to the right of -7 on a number line oriented from left to right.* 6.NS.C.7b Write, interpret, and explain statements of order for rational numbers in real-world contexts. *For example, write -3 degrees C >-7 degrees C to express the fact that -3 degrees C is warmer than -7 degrees C.* 6.NS.C.7c Understand the absolute value of a rational number as its distance from 0 on the number line; interpret absolute value as a magnitude for a positive or negative quantity in a real-world situation. *For example, for an account balance of -30 dollars, write /-30/ = 30 to describe the size of the debt in dollars.* 6.NS.C.7d Distinguish the comparisons of absolute value from statements about order. *For example, recognize that an account balance less than -30 dollars represents a debt greater than 30 dollars.* 6.NS.C.8 Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate.

Date of BOE Approval: June 21, 2022

Sixth Grade: Math Curriculum

Benchmark Assessment(s)

- SWBAT complete practice test that requires them to use positive and negative numbers to represent quantities in real-world contexts with 80% accuracy (PARCC test prep workbook pgs. 21-22: 6.NS.C.5).
- SWBAT complete practice test that requires them to recognize opposite signs of numbers as indicating locations on opposite sides of zero on the number line with 80% accuracy (PARCC test prep workbook pgs. 23-24: 6.NS.C.6a)
- SWBAT complete practice test that requires them to identify which quadrant each ordered pairs belongs with 80% accuracy (PARCC test prep workbook pgs. 25-26: 6.NS.C.6b).
- SWBAT complete practice test that requires them write, interpret, and explain statements of order for rational numbers in real-world contexts with 80% accuracy (PARCC test prep workbook pgs. 31-32: 6.NS.C.7b)
- SWBAT complete practice test that requires them to interpret absolute value as magnitude for a positive or negative quantity in a real-world situation with 80% accuracy (PARCC test prep workbook pgs. 33-34: 6.NS.C.7c)
- SWBAT complete practice test that requires them to distinguish comparisons of absolute value from statements about order with 80% accuracy (PARCC test prep workbook pgs. 35-36: 6.NS.C.7d)
- SWBAT complete practice test that requires them to graph points in all four quadrants of the coordinate plane, as well as find distances between points, with 80% accuracy (PARCC test prep workbook pgs. 37-38: 6.NS.C.8).

Other Assessments

- ✓ Mid-Chapter Checkpoint (Chp.3)
- ✓ Chapter 3 Test
- ✓ Vocabulary Quiz (Chp.3)

Materials

-Go Math! Student workbook (chp. 3)
-Go Math! PARCC workbook

SUGGESTED ACTIVITIES

- Real World Project: Continued from Chapter 1 (demonstrating an understanding of division of fractions and extending the notion of number to the system of rational numbers, including negative numbers) Student workbook pg.2 and Critical Area Projects pg. B1-B2 (via Think Central).
- Grab and Go Activity 6 (Point out the Figure, Point Match (PG pg. 94)
- Grab and Go Activity 7 (Integer Opposites, Integer Order, Integer Face-off) (PG pg. 94)
- Grab and Go readers (Planning Guide pg. 94).
- Chapter 3 STEM Activities: What a drag!

REINFORCEMENT

-Reteach worksheet pages (chapter resources book)
-Personal Math Trainer (Think Central)
-Math On the Spot videos
-Response to Intervention Activities (Think Central)
-ELL Activities
-Strategic Intervention Guide (Think Central)
-Intensive Intervention Guide (Think Central)

ENRICHMENT

-Enrich worksheet pages (chapter resources book)
-STEM activities (Think Central)
-Mega Math (Think Central)
-*i*Tools (Think Central)
-Advances Learners Activities
-Extend the Project Activities (Real World/Critical Area Project- In book & Think Central)

Date of BOE Approval: June 21, 2022

Sixth Grade: Math Curriculum

Suggested Websites	**Suggested Materials**
-Rational and Irrational Numbers (Brain Pop) https://www.brainpop.com/math/numbersandoperations/rationalandirrationalnumbers/ http://www.khanacademy.org http://www.scootpad.com	-*GoMath! Manipulatives Set* -*Go Math! Grab and Go Activity Center*

Cross-Curricular Connections

21st Century Skills

9.2.8.CAP.3: Explain how career choices, educational choices, skills, economic conditions, and personal behavior affect income.
9.4.8.GCA.2: Demonstrate openness to diverse ideas and perspectives through active discussions to achieve a group goal.
9.4.8.TL.2: Gather data and digitally represent information to communicate a real-world problem (e.g., MS-ESS3-4, 6.1.8.EconET.1, 6.1.8.CivicsPR.4).
9.4.8.TL.3: Select appropriate tools to organize and present information digitally
9.4.8.TL.5: Compare the process and effectiveness of synchronous collaboration and asynchronous collaboration.

SEL

Students will work on developing, implementing, and modeling effective problem solving and critical thinking skills. They will also need to demonstrate and understanding of the need for mutual respect when viewpoints differ and demonstrate an awareness of the expectations for social interactions in a variety of settings.

Language Arts

W.6.5. With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.

Date of BOE Approval: June 21, 2022

Sixth Grade: Math Curriculum

Unit: Chapter 4 (Ratios and Rates)	Time: October	Standards:
Essential Questions • How can you use positive and negative numbers to represent real-world quantities? • How can you compare and order integers? • How can you plot rational numbers on a number line? • How can you compare and order rational numbers? • How can you find and interpret the absolute value of rational numbers? • How can you interpret comparisons involving absolute values? • How can you plot ordered pairs of rational numbers on a coordinate plane? • How do you find the relationship between points on a coordinate plane ? • How can you find the distance between two points that lie on a horizontal or vertical line on a coordinate plane? • How can drawing a diagram help me solve a problem on the coordinate plane?	**Enduring Understandings** • I can use positive and negative numbers to represent real world quantities. • I can compare and order integers. • I can plot rational numbers on a number line. • I can use a number line to identify opposite integers. • I can compare and order rational numbers. • I can find and interpret the absolute value of rational numbers. • I can use interpret comparisons involving absolute values. • I can plot ordered pairs of rational numbers on a coordinate plane. • I can identify the relationship between points on a coordinate plane. • I can find horizontal and vertical distance on a coordinate plane. • I can draw a diagram to solve problems on the coordinate plane.	6.RP.A.1 Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. *For example, "The ratio of wings to beaks in the bird house at the zoo was 2:1, because for every 2 wings there was 1 beak." "For every vote a candidate A received, candidate C received nearly three votes."* 6.RP.A.2 Understand the concept of a unit rate a/b associated with a ratio a:b with b≠0, and use rate language in the context of a ratio relationship. *For example, "This recipe has a ratio of 3 cups of flour to 4 cups of sugar, so there is ¾ cup of flour for each cup of sugar." "We paid $75 for 15 hamburgers, which is a rate of $5 per hamburger."* 6.RP.A.3a Make tables of equivalent ratios relating quantities with whole number measurements, find missing values in the tables, and plot the pairs of values on the coordinate plane. Use tables to compare ratios. 6.RP.A.3b Solve unit rate problems including those involving unit pricing and constant speed. *For example, if it took 7 hours to mow 4 lawns, then at that rate, how many lawns could be mowed in 35 hours? At what rate were lawns being mowed?*
Benchmark Assessment(s) ➢ SWBAT complete practice test that requires them to demonstrate understanding of ratios and use ratio language to describe ratio relationships, with 80% accuracy (PARCC test prep workbook pgs. 1-2: 6.RP.A.1). ➢ SWBAT complete practice test that requires them to demonstrate their understanding of the concept of unit rates, with 80% accuracy (PARCC test prep workbook pgs. 3-4: 6.RP.A.2) ➢ SWBAT complete practice test that requires them to make tables of equivalent ratios relating to quantities with whole number measurements, with 80% accuracy (PARCC test prep workbook pgs. 5-6: 6.RP.A.3a). ➢ SWBAT complete practice test that requires them to solve unit rate problems including those involving unit pricing and constant speed, with 80% accuracy (PARCC test prep workbook pgs. 7-8: 6.RP.A.3b)		**Other Assessments** ✓ Mid-Chapter Checkpoint (Chp.4) ✓ Chapter 4 Test ✓ Vocabulary Quiz (Chp.4) **Materials** -Go Math! Student workbook (chp. 4) -Go Math! PARCC workbook

Date of BOE Approval: June 21, 2022

Sixth Grade: Math Curriculum

SUGGESTED ACTIVITIES

- Real World Project: Continued from Chapter 1 (demonstrating an understanding of division of fractions and extending the notion of number to the system of rational numbers, including negative numbers) Student workbook pg.2 and Critical Area Projects pg. B1-B2 (via Think Central).
- Going to the Baseball Hall of Fame game (workbook pg. 210A-C).
- The Write Way journal entry (workbook pg. 210D).
- Grab and Go Activity 2 (Circle Fun) (PG pg. 94)
- Grab and Go Activity 16 (Rates) (PG pg. 94)
- Grab and Go Activity 19 (Writing an Equivalent Ratio) (PG pg. 94)
- Grab and Go readers (Planning Guide pg. 94).
- Chapter 4 STEM Activities: Gaining Leverage, Turn, Turn, Turn, So Inclined, Packing It In!

REINFORCEMENT

-Reteach worksheet pages (chapter resources book)
-Personal Math Trainer (Think Central)
-Math On the Spot videos
-Response to Intervention Activities (Think Central)
-ELL Activities
-Strategic Intervention Guide (Think Central)
-Intensive Intervention Guide (Think Central)

ENRICHMENT

-Enrich worksheet pages (chapter resources book)
-STEM activities (Think Central)
-Mega Math (Think Central)
-*i*Tools (Think Central)
-Advances Learners Activities
-Extend the Project Activities (Real World/Critical Area Project- In book & Think Central)

Suggested Websites

-Ratios (Brain Pop)
https://www.brainpop.com/math/ratioproportionandpercent/ratios/
-Let's Make a Deal-Unit Rate Activity (free download)
www.teacherspayteachers.com/product/lets-make-a-deal-unit-rate-activity-379894
http://www.khanacademy.org
http://www.scootpad.com

Suggested Materials

-GoMath! Manipulatives Set
-Go Math! Grab and Go Activity Center

Cross-Curricular Connections

21st Century Skills

9.2.8.CAP.3: Explain how career choices, educational choices, skills, economic conditions, and personal behavior affect income.
9.4.8.GCA.2: Demonstrate openness to diverse ideas and perspectives through active discussions to achieve a group goal.
9.4.8.TL.2: Gather data and digitally represent information to communicate a real-world problem (e.g., MS-ESS3-4, 6.1.8.EconET.1, 6.1.8.CivicsPR.4).
9.4.8.TL.3: Select appropriate tools to organize and present information digitally
9.4.8.TL.5: Compare the process and effectiveness of synchronous collaboration and asynchronous collaboration.

SEL- *Students will work on developing, implementing, and modeling effective problem solving and critical thinking skills. They will also need to demonstrate and understanding of the need for mutual respect when viewpoints differ and demonstrate an awareness of the expectations for social interactions in a variety of settings.*

Language Arts- *W.6.5. With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.*

Date of BOE Approval: June 21, 2022

Sixth Grade: Math Curriculum

Unit: Chapter 5 (Percents)	Time: November	Standards:
Essential Questions • How can you use a model to show a percent? • How can you write percents as fractions and decimals? • How can you write fractions and decimals as percents? • How do you find a percent of a quantity? • How can you use the strategy *use a model* to help you solve a percent problem? • How can you find the whole given a part and the percent?	**Enduring Understandings** • I can use a model to show a percent. • I can write percents as fractions and decimals. • I can write fractions and decimals as percents. • I can find a percent of a quantity. • I can solve percent problems by using a model. • I can find the whole given a part and the percent.	6.RP.A.3c Find a percent of a quantity as a rate per 100 (e.g., 30% of a quantity means 30/100 times the quantity); solve problems involving finding the whole, given a part and the percent.
Benchmark Assessment(s) ➢ SWBAT complete practice test that requires them to find a percent of a quantity as a rate per 100 and solve problems involving finding the whole, given a part and the percent, with 85% accuracy (PARCC test prep workbook pgs. 9-10: 6.RP.A.3c).		**Other Assessments** ✓ Mid-Chapter Checkpoint (Chp.5) ✓ Chapter 5 Test ✓ Vocabulary Quiz (Chp.5) **Materials** -Go Math! Student workbook (chp. 5) -Go Math! PARCC workbook
SUGGESTED ACTIVITIES		
• Real World Project: Continued from Chapter 1 (demonstrating an understanding of division of fractions and extending the notion of number to the system of rational numbers, including negative numbers) Student workbook pg.2 and Critical Area Projects pg. B1-B2 (via Think Central). • Concentration game (workbook pg. 268A). • The Write Way journal entry (workbook pg. 268B). • Grab and Go Activity 8 (34%, 0.34, and 17/50; Percent Partners) (PG pg. 94) • Grab and Go Activity 10 (Happening Hobbies, Sporting Circles, Finding Percents) (PG pg. 94) • Grab and Go readers (Planning Guide pg. 94). • Chapter 5 STEM Activities: Sort it Out, Peeling the Layers, Input and Output		**REINFORCEMENT** -Reteach worksheet pages (chapter resources book) -Personal Math Trainer (Think Central) -Math On the Spot videos -Response to Intervention Activities (Think Central) -ELL Activities -Strategic Intervention Guide (Think Central) -Intensive Intervention Guide (Think Central)

Date of BOE Approval: June 21, 2022

Sixth Grade: Math Curriculum

	ENRICHMENT -Enrich worksheet pages (chapter resources book) -STEM activities (Think Central) -Mega Math (Think Central) -*i*Tools (Think Central) -Advances Learners Activities -Extend the Project Activities (Real World/Critical Area Project- In book & Think Central)
Suggested Websites -Percents, ratios, proportions (Brain Pop) https://www.brainpop.com/math/ratioproportionandpercent/ratios/ -Math Academy Dining Out! (Explorations in Fractions, Decimals and Percents) (PDF) www.actuarialfoundation.org/pdf/math-academy-dining-out.pdf http://www.khanacademy.org http://www.scootpad.com	**Suggested Materials** -GoMath! Manipulatives Set -Go Math! Grab and Go Activity Center
Cross-Curricular Connections ***21st Century Skills*** 9.2.8.CAP.3: Explain how career choices, educational choices, skills, economic conditions, and personal behavior affect income. 9.4.8.GCA.2: Demonstrate openness to diverse ideas and perspectives through active discussions to achieve a group goal. 9.4.8.TL.2: Gather data and digitally represent information to communicate a real-world problem (e.g., MS-ESS3-4, 6.1.8.EconET.1, 6.1.8.CivicsPR.4). 9.4.8.TL.3: Select appropriate tools to organize and present information digitally 9.4.8.TL.5: Compare the process and effectiveness of synchronous collaboration and asynchronous collaboration. ***SEL*** *Students will work on developing, implementing, and modeling effective problem solving and critical thinking skills. They will also need to demonstrate and understanding of the need for mutual respect when viewpoints differ and demonstrate an awareness of the expectations for social interactions in a variety of settings.* ***Language Arts*** *W.6.5. With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.*	

Date of BOE Approval: June 21, 2022

Sixth Grade: Math Curriculum

Unit: Chapter 6 (Units of Measure)	Time: November- December	Standards:
Essential Questions • How can you use ratio reasoning to convert from one unit of length to another? • How can you use ratio reasoning to convert from one unit of capacity to another? • How can you use ratio reasoning to convert from one unit of weight or mass to another? • How can you transform units to solve problems? • How can you use the strategy *use a formula* to solve problems involving distance, rate, and time?	**Enduring Understandings** • I can convert from one unit of length to another. • I can convert from one unit of capacity to another. • I can convert from one unit of weight or mass to another. • I can transform units to solve problems. • I can solve percent problems with distance, rate, and time by using a formula.	6.RP.A.3D Use ratio reasoning to convert measurement units; manipulate and transform units appropriately when multiplying or dividing quantities. 6.EE.A.2a Write expressions that record operations with numbers and with letters standing for numbers. *For example, express the calculation "Subtract y from 5" as 5-y.*

Benchmark Assessment(s)

- ➢ SWBAT complete practice test that requires them to use ratio reasoning to convert ratio units, as well as manipulate and transform units appropriately when multiplying or dividing quantities, with 80% accuracy (PARCC test prep workbook pgs. 11-12: 6.RP.A.3D).
- ➢ SWBAT complete practice test that requires them to write expressions that record operations with numbers and with letters standing for numbers, with 80% accuracy (PARCC test prep workbook pages 41-42: 6.EE.A.2a).

Other Assessments

- ✓ Mid-Chapter Checkpoint (Chp.6)
- ✓ Chapter 6 Test
- ✓ Vocabulary Quiz (Chp.6)
- ✓ Conversion Quiz

Materials

-Go Math! Student workbook (chp. 6)
-Go Math! PARCC workbook

SUGGESTED ACTIVITIES

- Bingo game (workbook pg. 314A).
- The Write Way journal entry (workbook pg. 314B).
- Grab and Go Activity 16 (Rates) (PG pg. 94)
- Grab and Go Activity 17 (Estimating Units of Measure) (PG pg. 94)
- Grab and Go readers (Planning Guide pg. 94).

REINFORCEMENT

-Reteach worksheet pages (chapter resources book)
-Personal Math Trainer (Think Central)
-Math On the Spot videos
-Response to Intervention Activities (Think Central)
-ELL Activities
-Strategic Intervention Guide (Think Central)
-Intensive Intervention Guide (Think Central)

Date of BOE Approval: June 21, 2022

Sixth Grade: Math Curriculum

• Chapter 6 STEM Activities: It's the Law, Speed it up!	**ENRICHMENT** -Enrich worksheet pages (chapter resources book) -STEM activities (Think Central) -Mega Math (Think Central) -*i*Tools (Think Central) -Advances Learners Activities -Extend the Project Activities (Real World/Critical Area Project- In book & Think Central)
Suggested Websites -Customary Units (Brain Pop) https://www.brainpop.com/math/numbersandoperations/customaryunits/ -Metric Units (Brain Pop) https://www.brainpop.com/math/geometryandmeasurement/metricunits/ -Measurement Interactive Games www.sheppardsoftware.com/mathgames/menus/measurement.htm http://www.khanacademy.org http://www.scootpad.com	**Suggested Materials** *-GoMath! Manipulatives Set* *-Go Math! Grab and Go Activity Center*
Cross-Curricular Connections ***21st Century Skills*** 9.2.8.CAP.3: Explain how career choices, educational choices, skills, economic conditions, and personal behavior affect income. 9.4.8.GCA.2: Demonstrate openness to diverse ideas and perspectives through active discussions to achieve a group goal. 9.4.8.TL.2: Gather data and digitally represent information to communicate a real-world problem (e.g., MS-ESS3-4, 6.1.8.EconET.1, 6.1.8.CivicsPR.4). 9.4.8.TL.3: Select appropriate tools to organize and present information digitally 9.4.8.TL.5: Compare the process and effectiveness of synchronous collaboration and asynchronous collaboration. ***SEL*** *Students will work on developing, implementing, and modeling effective problem solving and critical thinking skills. They will also need to demonstrate and understanding of the need for mutual respect when viewpoints differ and demonstrate an awareness of the expectations for social interactions in a variety of settings.* ***Language Arts*** *W.6.5. With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.*	

Date of BOE Approval: June 21, 2022

Sixth Grade: Math Curriculum

Unit: Chapter 7 (Algebra: Expressions)	Time: January	Standards:
Essential Questions • How do you write and find the value of expressions involving exponents? • How do you use the order of operations to evaluate expressions involving exponents? • How do you write an algebraic expression to represent a situation? • How can you describe the parts of an expression? • How do you evaluate an algebraic expression or a formula? • How can you use variables and algebraic expressions to solve problems? • How can you use the strategy *use a model* to combine like terms? • How can you use properties of operations to write equivalent algebraic expressions? • How can you identify equivalent algebraic expressions?	**Enduring Understandings** • I can write and evaluate expressions involving exponents. • I can use the order of operations to evaluate expressions involving exponents. • I can write algebraic expressions. • I can use identify and describe parts of expressions. • I can evaluate algebraic expressions and formulas. • I can use algebraic expressions to solve problems. • I can combine like terms by using models. • I can use the properties of operations to generate equivalent algebraic expressions. • I can identify equivalent algebraic expressions.	6.EE.A.1 Write and evaluate numerical expressions involving whole-number exponents. 6.EE.A.2a Write expressions that record operations with numbers and with letters standing for numbers. For example, express the calculation "Subtract y from 5" as 5-y. 6.EE.A.2b Identify parts of an expression using mathematical terms (sum, term, product, factor, quotient, coefficient); view one or more parts of an expression as a single entity. For example, describe the expression 2 (8+7) as a product of two factors; view (8+7) as both a single entity and a sum of two terms. 6.EE.A.2c Evaluate expressions at specific values of their variables. Include expressions that arise from formulas used in real-world problems. Perform arithmetic operations, including those involving whole number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations). For example, use the formulas V = s cubed and A = 6s squared to find the surface area of a cube with sides of length s = ½. 6.EE.A.3 Apply the properties of operations to generate equivalent expressions. For example, apply the distributive property to the expression 3 (2+x) to product the equivalent expression 6+3x; apply the distributive property to the expression 24x+18y to produce the equivalent expression 6(4x+3y); apply properties of operations to y+y+y to produce the equivalent 3y. 6.EE.A.4 Identify when two expressions are equivalent (i.e., when two expressions name the same number regardless of which value is substituted into them). For example, the expressions y+y+y and 3y are equivalent because they name the same number regardless of which number y stands for. 6.EE.B.6 Use variables to represent numbers and write expressions when solving a real-world or mathematical problem; understand that a variable can represent and unknown number, or, depending on the purpose at hand, any number in a specified set.

Date of BOE Approval: June 21, 2022

Sixth Grade: Math Curriculum

Benchmark Assessment(s)

- SWBAT complete practice test that requires them to write and evaluate expressions involving whole-number exponents with 80% accuracy (PARCC test prep workbook pgs. 39-40: 6.RP.A.3D).
- SWBAT complete practice test that requires them to identify parts of an expression using mathematical terms with 80% accuracy (PARCC test prep workbook pgs. 43-44: 6.EE.A.2b).
- SWBAT complete practice test that requires them to apply properties of operations to generate equivalent expressions with 80% accuracy (PARCC test prep workbook pgs. 47-48: 6.EE.A.3).
- SWBAT complete practice test that requires them to identify two expressions that are equivalent with 80% accuracy (PARCC test prep workbook pgs. 49-50: 6.EE.A.4).
- SWBAT complete practice test that requires them to use variables to represent numbers and write expressions when solving a real-world or mathematical problem with 80% accuracy (PARCC test prep workbook pgs. 53-54: 6.EE.B.6).

Other Assessments

- ✓ Mid-Chapter Checkpoint (Chp.7)
- ✓ Chapter 7 Test
- ✓ Vocabulary Quiz (Chp.7)

Materials

-Go Math! Student workbook (chp. 7)
-Go Math! PARCC workbook

SUGGESTED ACTIVITIES

- Going Down the Blue Ridge Parkway game (workbook pg. 356A-C).
- The Write Way journal entry (workbook pg. 356D).
- Grab and Go Activity 16 (Greatest Common Factor, Variables and Expressions) (PG pg. 94)
- Grab and Go Activity 17 (Estimating Units of Measure) (PG pg. 94)
- Grab and Go readers (Planning Guide pg. 94).
- Chapter 7 STEM Activities: Comparing Earthquake Magnitudes

REINFORCEMENT

-Reteach worksheet pages (chapter resources book)
-Personal Math Trainer (Think Central)
-Math On the Spot videos
-Response to Intervention Activities (Think Central)
-ELL Activities
-Strategic Intervention Guide (Think Central)
-Intensive Intervention Guide (Think Central)

ENRICHMENT

-Enrich worksheet pages (chapter resources book)
-STEM activities (Think Central)
-Mega Math (Think Central)
-*i*Tools (Think Central)
-Advances Learners Activities
-Extend the Project Activities (Real World/Critical Area Project- In book & Think Central)

Suggested Websites

-Equations with Variables (Brain Pop)
https://www.brainpop.com/math/algebra/equationswithvariables/

-Algebraic Expressions "Who Wants to be a Hundredaire"

Suggested Materials

-GoMath! Manipulatives Set
-Go Math! Grab and Go Activity Center

Date of BOE Approval: June 21, 2022

Sixth Grade: Math Curriculum

http://www.math-play.com/Algebraic-Expressions-Millionaire/algebraic-expressions-game.html
http://www.khanacademy.org
http://www.scootpad.com

Cross-Curricular Connections

21st Century Skills

9.2.8.CAP.3: Explain how career choices, educational choices, skills, economic conditions, and personal behavior affect income.
9.4.8.GCA.2: Demonstrate openness to diverse ideas and perspectives through active discussions to achieve a group goal.
9.4.8.TL.2: Gather data and digitally represent information to communicate a real-world problem (e.g., MS-ESS3-4, 6.1.8.EconET.1, 6.1.8.CivicsPR.4).
9.4.8.TL.3: Select appropriate tools to organize and present information digitally
9.4.8.TL.5: Compare the process and effectiveness of synchronous collaboration and asynchronous collaboration.

SEL

Students will work on developing, implementing, and modeling effective problem solving and critical thinking skills. They will also need to demonstrate and understanding of the need for mutual respect when viewpoints differ and demonstrate an awareness of the expectations for social interactions in a variety of settings.

Language Arts

W.6.5. With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.

Sixth Grade: Math Curriculum

Unit: Chapter 8 (Algebra: Equations and Inequalities)	Time: February	Standards:
Essential Questions • How do you determine whether a number is a solution of an equation? • How do you write an equation to represent a situation? • How can you use models to solve addition equations? • How can you use algebra to solve addition and subtraction equations? • How do you can you use models to solve multiplication equations? • How can you use algebra to solve multiplication and division equations? • How can you use the strategy *solve a simpler problem* to solve equations involving fractions? • How can you determine whether a number is a solution of an inequality? • How can you write an inequality to represent a situation? • How can you represent the solutions of an inequality on a number line?	**Enduring Understandings** • I can determine whether a number is a solution of an equation. • I can translate between words and equations. • I can use models to solve addition equations. • I can use algebra to solve addition and subtraction equations. • I can use models to solve multiplication equations. • I can use models to solve multiplication and division equations. • I can solve equations involving fractions. • I can determine whether a number is a solution of an inequality. • I can write algebraic inequalities. • I can represent solutions of algebraic inequalities on a number line diagram.	6.EE.B.5 Understand solving an equation or inequality as a process of answering a question: which values from a specified set, if any, make the equation or inequality true? Use substitution to determine whether a given number in a specified set makes an equation or inequality true. 6.EE.B.7 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 nonnegative rational numbers. 6.EE.B.8 Write an inequality of the form x>c or x<c to represent the constraint or condition in a real-world or mathematical problem. Recognize that inequalities of the form x>c or x<c have infinitely many solutions; represent solutions of such inequalities on number line diagrams.
Benchmark Assessment(s) ➢ SWBAT complete practice test that requires them solve an equation or inequality as a process of answering a question with 80% accuracy (PARCC test prep workbook pg. 51-52: 6.EE.B.5). ➢ SWBAT complete practice test that requires them to solve real-world and mathematical problems by writing and solving equations with 80% accuracy (PARCC test prep workbook pgs. 55-56: 6.EE.B.7). ➢ SWBAT complete practice test that requires them to write an inequality to represent a constraint or condition in a real-world or mathematical problem with 80% accuracy (PARCC test prep workbook pgs. 57-58: 6.EE.B.8).		**Other Assessments** ✓ Mid-Chapter Checkpoint (Chp.8) ✓ Chapter 8 Test ✓ Vocabulary Quiz (Chp.8) **Materials** -Go Math! Student workbook (chp. 8) -Go Math! PARCC workbook

Date of BOE Approval: June 21, 2022

Sixth Grade: Math Curriculum

SUGGESTED ACTIVITIES

- Pick It game (workbook pg. 420A).
- The Write Way journal entry (workbook pg. 420B).
- Grab and Go Activity 11 (Solving Addition and Subtraction Equations) (PG pg. 94)
- Grab and Go Activity 16 (Variables and Expressions) (PG pg. 94)
- Grab and Go Activity 18 (Algebra Tiles) (PG pg. 94)
- Grab and Go readers (Planning Guide pg. 94).
- Chapter 8 STEM Activities: So Inclined

REINFORCEMENT

-Reteach worksheet pages (chapter resources book)
-Personal Math Trainer (Think Central)
-Math On the Spot videos
-Response to Intervention Activities (Think Central)
-ELL Activities
-Strategic Intervention Guide (Think Central)
-Intensive Intervention Guide (Think Central)

ENRICHMENT

-Enrich worksheet pages (chapter resources book)
-STEM activities (Think Central)
-Mega Math (Think Central)
-*i*Tools (Think Central)
-Advances Learners Activities
-Extend the Project Activities (Real World/Critical Area Project- In book & Think Central)

Suggested Websites

-Writing Algebraic Expressions
http://www.mathgoodies.com/lessons/vol7/equations.html
http://www.khanacademy.org
http://www.scootpad.com

Suggested Materials

-GoMath! Manipulatives Set
-Go Math! Grab and Go Activity Center

Cross-Curricular Connections

21st Century Skills

CRP1. Act as a responsible and contributing citizen and employee.

9.2.8.CAP.3: Explain how career choices, educational choices, skills, economic conditions, and personal behavior affect income.
9.4.8.GCA.2: Demonstrate openness to diverse ideas and perspectives through active discussions to achieve a group goal.
9.4.8.TL.2: Gather data and digitally represent information to communicate a real-world problem (e.g., MS-ESS3-4, 6.1.8.EconET.1, 6.1.8.CivicsPR.4).
9.4.8.TL.3: Select appropriate tools to organize and present information digitally
9.4.8.TL.5: Compare the process and effectiveness of synchronous collaboration and asynchronous collaboration.

SEL

Students will work on developing, implementing, and modeling effective problem solving and critical thinking skills. They will also need to demonstrate and understanding of the need for mutual respect when viewpoints differ and demonstrate an awareness of the expectations for social interactions in a variety of settings.

Language Arts

W.6.5. With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.

Date of BOE Approval: June 21, 2022

Sixth Grade: Math Curriculum

Unit: Chapter 9 (Algebra: Relationships Between Variables)	Time: March	Standards:
Essential Questions • How can you write an equation to represent the relationship between an independent variable and a dependent variable? • How can you translate between equations and tables? • How can you use the strategy *find a pattern* to solve problems involving relationships between quantities? • How can you graph the relationship between two quantities? • How can you translate between equations and graphs?	**Enduring Understandings** • I can write an equation to represent the relationship between an independent variable and a dependent variable. • I can translate between equations and tables. • I can solve problems involving relationships between quantities. • I can graph the relationship between two quantities. • I can translate between equations and graphs.	6.EE.C.9 Use variables to represent two quantities in a real-world problem that change in relationship to one another; write an equation to express one quantity, thought of as the dependent variable, in terms of the other quantity, thought of as the independent variable. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation. *For example, in a problem involving motion at a constant speed, list and graph ordered pairs of distances and times, and write the equation d=65t to represent the relationship between distance and time.*
Benchmark Assessment(s) ➢ SWBAT complete practice test that requires them to use variables to represent two quantities in real-world problems that change relationships to one another with 80% accuracy (PARCC test prep workbook pg. 59-60: 6.EE.C.9).		**Other Assessments** ✓ Mid-Chapter Checkpoint (Chp.9) ✓ Chapter 9 Test ✓ Vocabulary Quiz (Chp.9)
		Materials -Go Math! Student workbook (chp. 9) -Go Math! PARCC workbook

Date of BOE Approval: June 21, 2022

Sixth Grade: Math Curriculum

SUGGESTED ACTIVITIES

- Guess the Word game (workbook pg. 490A).
- The Write Way journal entry (workbook pg. 490B).
- Grab and Go Activity 6 (Function Moves) (PG pg. 94)
- Grab and Go Activity 11 (Function Machine) (PG pg. 94)
- Grab and Go Activity 15 (Functions and Equations) (PG pg. 94)
- Grab and Go readers (Planning Guide pg. 94).
- Chapter 9 STEM Activities: Fast Graphs

REINFORCEMENT

-Reteach worksheet pages (chapter resources book)
-Personal Math Trainer (Think Central)
-Math On the Spot videos
-Response to Intervention Activities (Think Central)
-ELL Activities
-Strategic Intervention Guide (Think Central)
-Intensive Intervention Guide (Think Central)

ENRICHMENT

-Enrich worksheet pages (chapter resources book)
-STEM activities (Think Central)
-Mega Math (Think Central)
-*i*Tools (Think Central)
-Advances Learners Activities
-Extend the Project Activities (Real World/Critical Area Project- In book & Think Central)

Suggested Websites

-Various Chapter 9 Activities: (Mrs. Madsen's Math Page)
https://sites.google.com/a/ccsdut.org/mathwithmadsen/math-helps/ch-9-algebra-relationship-between-variables
http://www.khanacademy.org
http://www.scootpad.com

Suggested Materials

-GoMath! Manipulatives Set
-Go Math! Grab and Go Activity Center

Cross-Curricular Connections

21st Century Skills

9.2.8.CAP.3: Explain how career choices, educational choices, skills, economic conditions, and personal behavior affect income.
9.4.8.GCA.2: Demonstrate openness to diverse ideas and perspectives through active discussions to achieve a group goal.
9.4.8.TL.2: Gather data and digitally represent information to communicate a real-world problem (e.g., MS-ESS3-4, 6.1.8.EconET.1, 6.1.8.CivicsPR.4).
9.4.8.TL.3: Select appropriate tools to organize and present information digitally
9.4.8.TL.5: Compare the process and effectiveness of synchronous collaboration and asynchronous collaboration.

SEL

Students will work on developing, implementing, and modeling effective problem solving and critical thinking skills. They will also need to demonstrate and understanding of the need for mutual respect when viewpoints differ and demonstrate an awareness of the expectations for social interactions in a variety of settings.

Language Arts

W.6.5. With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.

Date of BOE Approval: June 21, 2022

Sixth Grade: Math Curriculum

Unit: Chapter 10 (Area)	Time: April	Standards:
Essential Questions • How can you find the area of parallelograms? • How can you find the relationship among the areas of triangles, rectangles and parallelograms? • How can you find the area of triangles? • How can you find the relationship between the areas of trapezoids and parallelograms? • How can you find the area of trapezoids? • How can you find the area of regular polygons? • How can you find the area of composite figures? • How can you use the strategy *find a pattern* to show how changing dimensions affects area? • How can you plot polygons on a coordinate plane and find their side lengths?	**Enduring Understandings** • I can find the area of parallelograms. • I can investigate the relationship among the areas of triangles rectangles, and parallelograms. • I can find the area of triangles. • I can investigate the relationship between the areas of trapezoids and parallelograms. • I can find the area of trapezoids. • I can find the area of regular polygons. • I can find the area of composite figures. • I can determine the effect of changing dimensions on the area od a polygon. • I can plot polygons on a coordinate plane and use the coordinates to find the side lengths.	6.G.A.1 Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems. 6.G.A.3 Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side joining points with the same first coordinate or the same second coordinate. Apply these techniques in the context of solving real-world and mathematical problems. 6.EE.A.2c Evaluate expressions at specific values of their variables. Include expressions that arise from formulas used in real-world problems. Perform arithmetic operations, including those involving whole number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations). *For example, use the formulas V=s cubed and A=6s squared to find the volume and surface area of a cube with sides on length s=1/2.* 6.EE.B.7 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 nonnegative rational numbers. 6.NS.C.8 Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or in the same second coordinate.
Benchmark Assessment(s) ➢ SWBAT complete practice test that requires them to find the area of triangles and polygons with 80% accuracy (PARCC test prep workbook pg. 61-62: 6.G.A.1). ➢ SWBAT complete practice test that requires them to draw polygons in the coordinate plane given coordinates for the vertices with 80% accuracy (PARCC test prep workbook pg. 65-66: 6.G.A.3).		**Other Assessments** ✓ Mid-Chapter Checkpoint (Chp.10) ✓ Chapter 10 Test ✓ Vocabulary Quiz (Chp.10) **Materials** -Go Math! Student workbook (chp. 10) -Go Math! PARCC workbook

Date of BOE Approval: June 21, 2022

Sixth Grade: Math Curriculum

SUGGESTED ACTIVITIES

- Going to the Philadelphia Zoo game (workbook pg. 532A-C).
- The Write Way journal entry (workbook pg. 532D).
- Grab and Go Activity 3 (Risky Rectangles, Complex Areas) (PG pg. 94)
- Grab and Go Activity 6 (Point Out the Figure) (PG pg. 94)
- Grab and Go Activity 18 (Areas of Geometric Figures) (PG pg. 94)
- Grab and Go Activity 19 (Areas of Parallelograms and Trapezoids) (PG pg. 94)
- Grab and Go readers (Planning Guide pg. 94).
- Chapter 10 STEM Activities: Mean, Median, Mode and Range

REINFORCEMENT

-Reteach worksheet pages (chapter resources book)
-Personal Math Trainer (Think Central)
-Math On the Spot videos
-Response to Intervention Activities (Think Central)
-ELL Activities
-Strategic Intervention Guide (Think Central)
-Intensive Intervention Guide (Think Central)

ENRICHMENT

-Enrich worksheet pages (chapter resources book)
-STEM activities (Think Central)
-Mega Math (Think Central)
-*i*Tools (Think Central)
-Advances Learners Activities
-Extend the Project Activities (Real World/Critical Area Project- In book & Think Central)

Suggested Websites

-Finding Area of Triangles (Game)
https://www.studyladder.com/games/activity/area-of-triangles-13135
-Finding Area of Trapezoids (Game)
https://www.studyladder.com/games/activity/area-of-trapezoids-18124
http://www.khanacademy.org
http://www.scootpad.com

Suggested Materials

-GoMath! Manipulatives Set
-Go Math! Grab and Go Activity Center

Cross-Curricular Connections

21st Century Skills

9.2.8.CAP.3: Explain how career choices, educational choices, skills, economic conditions, and personal behavior affect income.
9.4.8.GCA.2: Demonstrate openness to diverse ideas and perspectives through active discussions to achieve a group goal.
9.4.8.TL.2: Gather data and digitally represent information to communicate a real-world problem (e.g., MS-ESS3-4, 6.1.8.EconET.1, 6.1.8.CivicsPR.4).
9.4.8.TL.3: Select appropriate tools to organize and present information digitally
9.4.8.TL.5: Compare the process and effectiveness of synchronous collaboration and asynchronous collaboration.

SEL

Students will work on developing, implementing, and modeling effective problem solving and critical thinking skills. They will also need to demonstrate and understanding of the need for mutual respect when viewpoints differ and demonstrate an awareness of the expectations for social interactions in a variety of settings.

Language Arts

W.6.5. With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.

Date of BOE Approval: June 21, 2022

Sixth Grade: Math Curriculum

Unit: Chapter 11 (Surface Area and Volume)	Time: April-May	Standards:
Essential Questions • How do you use nets to represent three-dimensional figures? • How can you find the relationship between a net and the surface area of a prism? • How can you find the surface area of prisms? • How can you find the surface area of a pyramid? • How can you find the relationship between the volume and the edge lengths of a prism with fractional edge lengths? • How can you find volumes of rectangular prisms with fractional edge lengths? • How can you solve problems involving area, surface area, and volume using a formula?	**Enduring Understandings** • I can use nets to represent three-dimensional figures. • I can use nets to recognize that the surface area of a prism is equal to the sum of areas of its faces. • I can find the surface area of prisms. • I can find the surface area of prisms. • I can find the volume of rectangular prisms with fractional edge lengths. • I can use formulas to find the volume of rectangular prisms with fractional edge lengths. • I can solve problems involving area, surface area, and volume when using formulas.	6.G.A.1 Find the area of right triangles, other triangles, special quadrilaterals and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems. 6.G.A.2 Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths, and shoe that the volume is the same as would be found by multiplying the edge lengths of the prism. Apply the formulas V=lwh and V=bh to find volumes of right rectangular prisms with fractional edge lengths in the context of solving real-world and mathematical problems. 6.G.A.4 Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world and mathematical problems. 6.EE.A.2c Evaluate expressions at specific values of their variables. Include expressions that arise from formulas used in real-world problems. Perform arithmetic operations, including those involving whole number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations). *For example, use the formulas V=s cubed and A=6s squared to find the volume and surface area of a cube with sides of length s=1/2.*
Benchmark Assessment(s) ➢ SWBAT complete practice test that requires them to find the volume if a right rectangular prism with fractional edge lengths with 80% accuracy (PARCC test prep workbook pg. 63-64: 6.G.A.2). ➢ SWBAT complete practice test that requires them to evaluate expressions at specific values of their variables with 80% accuracy (PARCC test prep workbook pgs. 45-46: 6.EE.A.2c). ➢ SWBAT complete practice test that requires them to represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area, with 80% accuracy (PARCC test prep workbook pg. 67-68: 6.G.A.4).		**Other Assessments** ✓ Mid-Chapter Checkpoint (Chp.11) ✓ Chapter 11 Test ✓ Vocabulary Quiz (Chp.11) **Materials** -Go Math! Student workbook (chp. 11) -Go Math! PARCC workbook

Date of BOE Approval: June 21, 2022

Sixth Grade: Math Curriculum

SUGGESTED ACTIVITIES

- Bingo game (workbook pg. 596A).
- The Write Way journal entry (workbook pg. 596B).
- Grab and Go Activity 17 (Estimating Units of Measure, Volumes of Cylinders and Rectangular Prisms, Volume of a Prism) (PG pg. 94)
- Grab and Go readers (Planning Guide pg. 94).
- Chapter 11 STEM Activities: Cell-ebrate, Measuring Space

REINFORCEMENT

-Reteach worksheet pages (chapter resources book)
-Personal Math Trainer (Think Central)
-Math On the Spot videos
-Response to Intervention Activities (Think Central)
-ELL Activities
-Strategic Intervention Guide (Think Central)
-Intensive Intervention Guide (Think Central)

ENRICHMENT

-Enrich worksheet pages (chapter resources book)
-STEM activities (Think Central)
-Mega Math (Think Central)
-iTools (Think Central)
-Advances Learners Activities
-Extend the Project Activities (Real World/Critical Area Project- In book & Think Central)

Suggested Websites

-Interactives: Geometry 3-D Shapes (Tutorial and virtual manipulatives)
https://www.learner.org/interactives/geometry/area_surface.html
http://www.khanacademy.org
http://www.scootpad.com

Suggested Materials

-GoMath! Manipulatives Set
-Go Math! Grab and Go Activity Center

Cross-Curricular Connections

21st Century Skills

9.2.8.CAP.3: Explain how career choices, educational choices, skills, economic conditions, and personal behavior affect income.
9.4.8.GCA.2: Demonstrate openness to diverse ideas and perspectives through active discussions to achieve a group goal.
9.4.8.TL.2: Gather data and digitally represent information to communicate a real-world problem (e.g., MS-ESS3-4, 6.1.8.EconET.1, 6.1.8.CivicsPR.4).
9.4.8.TL.3: Select appropriate tools to organize and present information digitally
9.4.8.TL.5: Compare the process and effectiveness of synchronous collaboration and asynchronous collaboration.

SEL

Students will work on developing, implementing, and modeling effective problem solving and critical thinking skills. They will also need to demonstrate and understanding of the need for mutual respect when viewpoints differ and demonstrate an awareness of the expectations for social interactions in a variety of settings.

Language Arts

W.6.5. With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.

Date of BOE Approval: June 21, 2022

Sixth Grade: Math Curriculum

Unit: Chapter 12 (Data Displays & Measures of Center)	Time: May-June	Standards:
Essential Questions • How do you identify a statistical question? • How can you describe how a data set was collected? • How can you use dot plots and frequency tables to display data? • How can you use histograms to display data? • How does the mean represent a fair share and balance point? • How can you describe a set of data using mean, median, and mode? • How does an outlier affect measures of center? • How can you solve problems involving data by drawing a diagram?	**Enduring Understandings** • I can recognize statistical questions. • I can describe a data set by stating what quantity was measured and how it was measured. • I can use frequency tables and dot plots to organize data. • I can display data in histograms. • I can understand the mean as a fair share and as a balance point. • I can summarize a data set by using mean, median, and mode. • I can determine the effects of outliers on measures of center. • I can solve problems involving data by drawing a diagram.	6.SP.A.1 Recognize a statistical question as one that anticipates variability In the data related to the question and accounts for it in the answers. *For example, "How old am I" is not a statistical question, but "How old are the students in my school" is a statistical question because one anticipates variability in students' age.* 6.SP.B.4 Display numerical data in plots on a number line, including dot plots, histograms, and box plots. 6.SP.B.5a Summarize numerical data sets in relation to their context, such as by reporting the number of observations. 6.SP.B.5b Summarize numerical data sets in relation to their context, such as by describing the nature of the attribute under investigation, including how it was measured and its units of measurement. 6.SP.B.5c Summarize numerical data sets in relation to their context, such as by giving quantitative measures of center (mean and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered. 6.SP.B.5d Summarize numerical data sets in relation to their context, such as by relating the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered.
Benchmark Assessment(s) ➢ SWBAT complete practice test that requires them to recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers, with 80% accuracy (PARCC test prep workbook pg. 69-70: 6.SP.A.1). ➢ SWBAT complete practice test that requires them to display numerical data in plots on a number line with 80% accuracy (PARCC test prep workbook pg.75-76: 6.SP.B.4). ➢ SWBAT complete practice test that requires them to report the number of observations, as well as describe the nature of the attribute under investigation, with 80% accuracy (PARCC test prep workbook pg. 77-78: 6.SP.B.5a & 6.SP.B.5b).		**Other Assessments** ✓ Mid-Chapter Checkpoint (Chp.12) ✓ Chapter 12 Test ✓ Vocabulary Quiz (Chp.12) **Materials** -Go Math! Student workbook (chp. 12) -Go Math! PARCC workbook

Date of BOE Approval: June 21, 2022

Sixth Grade: Math Curriculum

SUGGESTED ACTIVITIES

- Picture It game (workbook pg. 648A).
- The Write Way journal entry (workbook pg. 648B).
- Grab and Go Activity 10 (Sporting Circles) (PG pg. 94)
- Grab and Go Activity 12 (Mean, Median, and Mode) (PG pg. 94)
- Grab and Go readers (Planning Guide pg. 94).
- Chapter 12 STEM Activities: Graph it!

REINFORCEMENT

-Reteach worksheet pages (chapter resources book)
-Personal Math Trainer (Think Central)
-Math On the Spot videos
-Response to Intervention Activities (Think Central)
-ELL Activities
-Strategic Intervention Guide (Think Central)
-Intensive Intervention Guide (Think Central)

ENRICHMENT

-Enrich worksheet pages (chapter resources book)
-STEM activities (Think Central)
-Mega Math (Think Central)
-*i*Tools (Think Central)
-Advances Learners Activities
-Extend the Project Activities (Real World/Critical Area Project- In book & Think Central)

Suggested Websites

-Histograms (Tutorial and virtual manipulatives)
https://www.mathsisfun.com/data/histograms.html
-Frequency Table Tutorial
http://www.virtualnerd.com/middle-math/probability-statistics/frequency-tables-line-plots/practice-make-frequency-table
http://www.khanacademy.org
http://www.scootpad.com

Suggested Materials

-GoMath! Manipulatives Set
-Go Math! Grab and Go Activity Center

Cross-Curricular Connections

21st Century Skills

9.2.8.CAP.3: Explain how career choices, educational choices, skills, economic conditions, and personal behavior affect income.
9.4.8.GCA.2: Demonstrate openness to diverse ideas and perspectives through active discussions to achieve a group goal.
9.4.8.TL.2: Gather data and digitally represent information to communicate a real-world problem (e.g., MS-ESS3-4, 6.1.8.EconET.1, 6.1.8.CivicsPR.4).
9.4.8.TL.3: Select appropriate tools to organize and present information digitally
9.4.8.TL.5: Compare the process and effectiveness of synchronous collaboration and asynchronous collaboration.

SEL

Students will work on developing, implementing, and modeling effective problem solving and critical thinking skills. They will also need to demonstrate and understanding of the need for mutual respect when viewpoints differ and demonstrate an awareness of the expectations for social interactions in a variety of settings.

Language Arts

W.6.5. With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.

Date of BOE Approval: June 21, 2022

Sixth Grade: Math Curriculum

Unit: Chapter 13 (Variability and Data Distributions)	Time: June	Standards:
Essential Questions • How can you describe overall patterns in a data set? • How can you use box plots to display data? • How do you calculate the mean absolute deviation of a data set? • How can you summarize a data set by using range, interquartile range, and mean absolute deviation? • How can you choose appropriate measures of center and variability to describe a data set? • What do measures of center and variability indicate about a data set? • How can you describe the distribution of a data set collected to answer a statistical question? • How can you use the strategy *work backward* to draw conclusions about a data set?	**Enduring Understandings** • I can describe overall patterns in data, including clusters, peaks, gaps, and symmetry. • I can display data in box plots. • I can find mean absolute deviation as a measure of variability from the mean. • I can summarize a data set by using range, interquartile range, and mean absolute deviation. • I can choose appropriate measures of center and variability to describe data, and justify the choice. • I can recognize what measures of center and variability indicate about a data set. • I can describe the distribution of a data set collected to answer a statistical question. • I can use the strategy *work backward* to draw conclusions about a data set.	6.SP.A.2 Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and overall shape. 6.SP.A.3 Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a single number. 6.SP.B.4 Display numerical data in plots on a number line, including dot plots, histograms, and box plots. 6.SP.B.5c Summarize numerical data sets in relation to their context, such as by giving quantitative measures of center (mean and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered. 6.SP.B.5d Summarize numerical data sets in relation to their context, such as by relating the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered.
Benchmark Assessment(s) ➢ SWBAT complete practice test that requires them to understand that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and overall shape, with 80% accuracy (PARCC test prep workbook pg. 71-72: 6.SP.A.2). ➢ SWBAT complete practice test that requires them to recognize that a measure of center for a numerical data set summarizes all of its values with a single number, with 80% accuracy (PARCC test prep workbook pg. 73-74: 6.SP.A.3). ➢ SWBAT complete practice test that requires them to find quantitative measures of center and variability with 80% accuracy (PARCC test prep workbook pg. 79-80: 6.SP.B.5c). ➢ SWBAT complete practice test that requires them to relate the choice of measures of center and variability to the shape of the data distribution, with 80% accuracy (PARCC test prep workbook pg.81-82 : 6.SP.B5d).		**Other Assessments** ✓ Mid-Chapter Checkpoint (Chp.13) ✓ Chapter 13 Test ✓ Vocabulary Quiz (Chp.13) **Materials** -Go Math! Student workbook (chp. 13) -Go Math! PARCC workbook

Date of BOE Approval: June 21, 2022

Sixth Grade: Math Curriculum

SUGGESTED ACTIVITIES

- Concentration game (workbook pg. 706A).
- The Write Way journal entry (workbook pg. 706B).
- Grab and Go Activity 7 (Integer Opposites) (PG pg. 94)
- Grab and Go Activity 12 (Mean, Median, and Mode) (PG pg. 94)
- Grab and Go Activity 18 (Box-and-Whisker Plot) (PG pg. 94)
- Grab and Go readers (Planning Guide pg. 94).
- Chapter 13 STEM Activities: Interpreting Graphs, Crunching Data!

REINFORCEMENT

-Reteach worksheet pages (chapter resources book)
-Personal Math Trainer (Think Central)
-Math On the Spot videos
-Response to Intervention Activities (Think Central)
-ELL Activities
-Strategic Intervention Guide (Think Central)
-Intensive Intervention Guide (Think Central)

ENRICHMENT

-Enrich worksheet pages (chapter resources book)
-STEM activities (Think Central)
-Mega Math (Think Central)
-*i*Tools (Think Central)
-Advances Learners Activities
-Extend the Project Activities (Real World/Critical Area Project- In book & Think Central)

Suggested Websites

-Khan Academy (Tutorial and virtual manipulatives)
https://www.khanacademy.org/math/probability/descriptive-statistics/box-and-whisker-plots/e/analyzing-data-with-box-plots
http://www.scootpad.com

Suggested Materials

-GoMath! Manipulatives Set
-Go Math! Grab and Go Activity Center

Cross-Curricular Connections

21st Century Skills

9.2.8.CAP.3: Explain how career choices, educational choices, skills, economic conditions, and personal behavior affect income.
9.4.8.GCA.2: Demonstrate openness to diverse ideas and perspectives through active discussions to achieve a group goal.
9.4.8.TL.2: Gather data and digitally represent information to communicate a real-world problem (e.g., MS-ESS3-4, 6.1.8.EconET.1, 6.1.8.CivicsPR.4).
9.4.8.TL.3: Select appropriate tools to organize and present information digitally
9.4.8.TL.5: Compare the process and effectiveness of synchronous collaboration and asynchronous collaboration.

SEL

Students will work on developing, implementing, and modeling effective problem solving and critical thinking skills. They will also need to demonstrate and understanding of the need for mutual respect when viewpoints differ and demonstrate an awareness of the expectations for social interactions in a variety of settings.

Language Arts

W.6.5. With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.

Date of BOE Approval: June 21, 2022