South Park School District	**Unit Plan**	**2016-2017**

Dates	This unit consists of approximately 24 days of instruction, review, and assessment.	**Course/Grade**	7th Grade Math
Unit	The Number System Unit 1	**Teacher**	**Mrs. Radomski**

Essential Questions (Maximum 2):

How do you add, subtract, multiply, and divide rational numbers?

How can you use operations to solve real world problems with rational numbers?

Pennsylvania State Common Core Standards: (Mathematics)

2.1 Numbers and Operations

CC.2.1.7.E.1 Apply and extend previous understandings of operations with fractions to operations with rational numbers.

Pennsylvania State Common Core Standards: (English Language Arts)

1.2 Reading Informational Text
Students read, understand, and respond to informational text—with an emphasis on comprehension, vocabulary acquisition, and making connections among ideas and between texts with focus on textual evidence.

CC.1.2.7.A
Determine two or more central ideas in a text and analyze their development over the course of the text; provide an objective summary of the text.

CC.1.2.7.B
Cite several pieces of textual evidence to support analysis of what the text says explicitly, as well as inferences, conclusions, and/or generalizations drawn from the text.

CC.1.2.7.F
Determine the meaning of words and phrases as they are used in grade-level reading and content, including interpretation of figurative, connotative, and technical meanings.

CC.1.2.7.J
Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression.

CC.1.2.7.K
Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade-level reading and content, choosing flexibly from a range of strategies and tools.

CC.1.2.7.L
Read and comprehend literary nonfiction and informational text on grade level, reading independently and proficiently.

1.3 Reading Literature
Students read and respond to works of literature—with an emphasis on comprehension, vocabulary acquisition, and making connections among ideas and between texts with a focus on textual evidence.

CC.1.3.7.B
Cite several pieces of textual evidence to support analysis of what the text says explicitly, as well as inferences, conclusions, and/or generalizations drawn from the text.

CC.1.3.7.F
Determine the meaning of words and phrases as they are used in grade-level reading and content, including interpretation of figurative, connotative meanings.

CC.1.3.7.I
Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade-level reading and content, choosing flexibly from a range of strategies and tools.

1.4 Writing
Students write for different purposes and audiences. Students write clear and focused text to convey a well-defined perspective and appropriate content.

CC.1.4.7.A
Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information clearly.

CC.1.4.7.C
Develop and analyze the topic with relevant facts, definitions, concrete details, quotations, or other information and examples; include graphics and multimedia when useful to aiding comprehension.

CC.1.4.7.D
Organize ideas, concepts, and information using strategies such as definition, classification, comparison/contrast, and cause/effect; use appropriate transitions to create cohesion and clarify the relationships among ideas and concepts; provide a concluding statement or section; include formatting when useful to aiding comprehension.

CC.1.4.7.F
Demonstrate a grade appropriate command of the conventions of Standard English grammar, usage, capitalization, punctuation, and spelling.

CC.1.4.7G
Write arguments to support claims.

CC.1.4.7.I
Acknowledge alternate or opposing claims and support claim with logical reasoning and relevant evidence, using accurate, credible sources and demonstrating an understanding of the topic.

CC.1.4.7.J
Organize the claim(s) with clear reasons and evidence clearly; clarify relationships among claim(s) and reasons by using words, phrases, and clauses to create cohesion; provide a concluding statement or section that follows from and supports the argument presented.

CC.1.4.7.L
Demonstrate a grade appropriate command of the conventions of Standard English grammar, usage, capitalization, punctuation, and spelling.

1.5 Speaking and Listening
Students present appropriately in formal speaking situations, listen critically, and respond intelligently as individuals or in group discussions.

CC.1.5.7.A
Engage effectively in a range of collaborative discussions, on grade-level topics, texts, and issues, building on others' ideas and expressing their own clearly.

CC.1.5.7.D
Present claims and findings, emphasizing salient points in a focused, coherent manner with pertinent descriptions, facts, details, and examples; use appropriate eye contact, adequate volume, and clear pronunciation.

CC.1.5.7.G
Demonstrate command of the conventions of Standard English when speaking based on Grade 7 level and content.

Skills	Resources
Skills	**Resources**

Skills

- +, -, x, ÷ Integers
- +, -, x, ÷ Rational Numbers
- Apply properties to operations
- +, -, x, ÷ Rational Numbers in real life situations

Assessments

- ☒ Tests
- ☒ Quizzes
- ☒ Worksheets
- ☒ Homework
- ☒ Teacher Observation
- ☒ Student Writing
- ☒ Student Presentations
- ☐ Student Projects
- ☒ Student Written Response (reflection)

- ☐ Peer Evaluation
- ☐ Rubric Scoring
- ☒ Group Grade
- ☐ Other

Resources

☒ Textbook
Holt Go Math
Scholastic Math Magazine

☒ Supplementary Materials
Materials listed on Unit Lesson Plans

☒ Workbook/Worksheets

☒ Teacher-prepared materials

☒ Individual Title

☒ Technology
Holt Go Math Online Textbook
Chromebook

☒ Other
Modified homework and assessments:
Intervention and Enrichment worksheets to help reinforce difficult concepts presented or to engage in higher-level applications of concepts.

Special Education Adaptations/Modifications:
• Adapted/modified assignments and/or assessments for gifted / enriched students
• Follow IEP / 504 / GIEP / SDI accommodations as documented

Differentiated Instruction / SGI Activities:
• Critical thinking – Open-ended class discussion
• Cooperative learning
• Peer lead grouping
• Problem-solving activities

Reading & Writing:
• Non-fiction reading excerpts that include writing prompts and multiple choice questions – monthly Scholastic Math Magazines and unit related articles

Math 7
Grade 7- Mrs. Radomski
Unit 1 – The Number System (24 days)

Unit Order *Date*	**Lessons and *Objectives*** **Bell Ringer**	**Activities / Materials /** **Assessments / <u>Homework</u>**
1 of 24 *9/6/16*	Class Orientation *Students will learn the classroom expectations for the year.*	- Introduce myself - Have the students complete the First Day Ice Breaker Activity - Explain the set up of the room, fire drill procedure, show were the safety supplies are - Pass out and go over the syllabus, remind handout, and the Daily Warm-up Question (using Google Classroom) - Explain the "How we are learning?" wall and The Radonkulous Games (rules and positive behavior incentives) - Read out loud and discuss as a class the Why is math so hard? Article. Go over the Levels of Understanding Graphic on the wall. - Pass out and have the students work on the Ice Breaker with a partner. It will be one bonus point. It was collected and we will talk about it tomorrow. **HW: Get the syllabus signed and returned**
2 of 24 *9/7/16*	Critical Thinking *Students will be able to learn to think critically.* **Warm-up Question**: *If you had to describe your level of understanding at the end of last year, where would you rank? {Expert, Practitioner, Apprentice, Novice}*	- Collect any papers - Using the whiteboards and groups of 4, have the student complete the "A Great Classmate" activity. When they are finished, the students will share what they came up with the class. I will add what they came up with to a poster board to hang in the classroom. - Read out loud and discuss as a class the following articles - Show your work! - How to work a math problem! - Have the students break into groups of 3 and complete the That's Entertainment Activity. We went over the students' guesses and explanations. **HW: Get the syllabus signed and returned**

3 of 24
 	
9/8/16
	Concept Review
	Students will be able to review concepts taught last year.
	
	Warm-up Question: *What is one topic from last year you were good at and what was one topic last year you needed more work on? {Answers will vary}*
		▪ Collect any papers
		▪ Pass out and discuss the How to take a math test of check point Article and the Test-Taking Tips Handout (we didn't read together due to time constraints)
		▪ Small Group Instruction
		    ○ SGI Group 1: Ratio and Proportion Task Cards to review concepts taught in 6th grade (Student Led Group of 4)
		    ○ SGI Group 2: Operations with Rational Numbers Scavenger Hunt to review concepts taught in 6th grade (Partners will work together)
		    ○ SGI Group 3: Graphical Representations Cut and Paste Flip Book to review concepts taught in 6th grade (Partners will work together)
		▪ Have an extra Math Symbols WS for those that finish early
		
		HW: Get the syllabus signed and returned

4 of 24 *9/9/16*	Additive Inverse *Students will be able to describe situations in which operations make 0, show that a number and its opposite have a sum of zero, and represent addition and subtraction on a number line.* **Warm-up Question**: *What is an algebraic expression? {numbers, operations, and variables but no equal sign}*	▪ Collect any papers ▪ Have the students complete the Integer Operations Assessment- Part 1 ▪ Go over the What is the Additive Inverse Notes ▪ Have the students work on the What is the Additive Inverse Worksheet while I distribute textbooks ▪ Go over the answers to the worksheet once all of the books are out ▪ Pass out the Online Textbook Information Sheet and have the students log on to the online math curriculum website on their Chromebooks. Give them time to explore some of the resources that our offered. ▪ The students will also be given information on how to log in to their Khan Academy Class. **HW: None**
5 of 24 *9/12/16*	Adding Integers *Students will be able to apply properties to add integers in real world contexts.* **Warm-up Question**: *The opposite of any number is called its_____ {additive inverse}*	▪ Go over the first part of the Unit 1: 1.1-1.2 Notes ▪ Have the students work on pg. 10 #3-16 odd and go over the answers when they finish ▪ Go over the second part of the Unit 1: 1.1-1.2 Notes ▪ Have the students work on pg. 11-12 #18-24 with their partners and go over the answers when they finish ▪ Go over the final part of the Unit 1: 1.1-1.2 Notes ▪ Have the students work on pg. 17-18 #16-24 even and #26-30, 32 with their groups **HW: Complete pg. 17-18 #16-24 even and #26-30, 32**

6 of 24 *9/13/16*	Subtracting Integers *Students will be able to apply properties to subtract integers in real world contexts.* **Warm-up Question**: *Evaluate -8 + (-7) {-15}*	▪ Check and go over the homework (pg. 17-18 #16-24 even and #26-30, 32) ▪ Go over the first part of the Unit 1: 1.3-1.4 Notes ▪ Have the students work on pg. 22 #3-15 odd and go over the answers when they finish ▪ Go over the second part of the Unit 1: 1.3-1.4 Notes ▪ Have the students work on pg. 23-24 #16-25 with their partners and go over the answers when they finish ▪ Have the students work on pg. 29-30 #13-23 with their groups **HW: Complete pg. 29-30 #13-23**
7 of 24 *9/14/16*	Multiplying or Dividing Integers *Students will be able to apply properties to multiply and divide integers in real world contexts.* **Warm-up Question**: *What is the rule for subtracting integers? {Keep, Change, Opposite*	▪ Check and go over the homework (pg. 29-30 #13-23) ▪ Have the students take the Ready to Go On? and Assessment Readiness Quiz (pg. 31-32) ▪ We will check it and hand it in class to check for understanding before we move forward ▪ Go over the Unit 1: 2.1-2.2 Notes ▪ Have the students work on pg. 40 #1-11 odd and #13-16 & pg. 46 #1-13 odd and #15-19 and go over the answers when they finish ▪ Have the students work on pg. 41 #17-23 and pg. 47 #20-23, 28 with their partners **HW: Complete pg. 41 #17-23 and pg. 47 #20-23, 28**
8 of 24 *9/15/16*	Integer Word Problems *Students will be able to solve word problems with integers using the four operations* **Warm-up Question:** *A penalty in Meteor-Mania is -5 seconds. A penalty in Cosmic Calamity is -7 seconds. Yolanda had penalties totaling -30 seconds in a game of Meteor-Mania and -35 seconds in a game of Cosmic Calamity. In which game did Yolanda receive more penalties? Justify your answer. {Meteor-Mania}*	▪ Check and go over the homework (pg. 41 #17-23 and pg. 47 #20-23, 28) ▪ Go over the pg. 52 #2-14 even together ▪ Small Group Instruction o SGI Group 1: Unit 1 Sections 1 and 2 Check Point Review to review the material covered in this section (Teacher will work with this group) o SGI Group 2: Adding and Subtracting Integers "Cut and Paste" Activity to review the material covered in this section (Partners will work together) o SGI Group 3: pg. 52 #1-15 odd (Partners will work together) *** HAVE AN EXTRA ACTIVITY IF NEEDED: Multiplying and Dividing Integers "Speed Dating" Activity* **HW: Review Problems for Unit 1 Sections 1 and 2 Check Point**

9 of 24 9/16/16	Unit 1 Sections1 and 2 Check Point *Students will be able to solve integer problems with all four operations.* **Warm-up Question:** *An elevator starts at the 6th floor. It goes up 7 floors twice, and then it goes down 10 floors. Which floor does it end up on? {10th floor}*	▪ The students will take the Unit 1 Sections 1 and 2 Check Point ▪ When the students are finished with their Check Point, they should log into their Khan Academy account on their Chromebook and complete their assignment. **HW: None**
10 of 24 9/19/16	Introduction to Rational Numbers and Operations with Decimals *Students will be able to solve problems with decimals.* **Warm up Question:** *What is a rational number? {a number that can be written as a ratio of two integers}*	▪ Pass back and go over the Unit 1 Sections 1 and 2 Check Point ▪ Read the "Why are fractions so important…" Article ▪ Go over the first part of the Unit 1 Section 3.1 Part 1 Notes ▪ Have the students complete pg. 64-66 #1-23 odd, 27, 28 and go over when the students finish ▪ Finish the Unit 1 Section 3.1 Part 1 Notes ▪ Have the students work on the Unit 1 Section 3.1 Part 1 Worksheet and go over when the students finish **HW: None**
11 of 24 9/20/16	I was absent	▪ Check and go over the HW (3-1 WS) ▪ Have the students complete the Decimal Review WS (no calculators) ▪ You can have the students put them up on the board when they are all done ▪ Have the students complete the monthly Reading in Math Assignment using the Scholastic Math Magazine ▪ After they turn in the reading assignment, the students should work on Khan Academy using their Chrome books **HW: None**
12 of 24 9/21/16	I was absent	▪ The students should complete Integer WS 1 and Integer WS 2. When they finish, go over the answers. (no calculators) ▪ SGI: After they finished their assignments, the students should work on Khan Academy using their Chrome books **HW: None**
13 of 24 9/22/16	Adding & Subtracting Fractions with Like and Unlike Denominators. *Students will be able to add and subtract fractions with like and unlike denominators.* **Warm-up Question:** *What operations with fractions do you need to use a common denominator? {add and subtract}*	▪ Go over the Adding and Subtracting Fractions Notes ▪ Go over the Practice with Fractions WS and have the students present the last few problems in class ▪ Have the students work on Adding and Subtracting Fractions Practice A WS together **HW: Complete the Adding and Subtracting Fractions Practice B WS**

14 of 24 *9/23/16*	Adding & Subtracting Mixed Numbers with Like and Unlike Denominators. *Students will be able to add and subtract mixed numbers with like and unlike denominators.* **Warm-up Question:** *To add or subtract mixed numbers, you must first turn the mixed number into an _____ fraction? {improper}*	▪ Check and go over the homework (Adding and Subtracting Fractions Practice B WS) ▪ Go over the Adding and Subtracting Mixed Numbers Notes ▪ Go over the Adding and Subtracting Mixed Numbers WS in groups ▪ Have the students work on the Adding and Subtracting Mixed Numbers Practice B WS (odds) **HW: Complete the Adding and Subtracting Mixed Numbers Practice B WS (evens)**
15 of 24 *9/26/16*	Unit Check Point Adding and Subtracting Fractions and Mixed Numbers *Students will be able to discuss and demonstrate understanding of previous lessons by working on a graded assessment.* **Warm-up Question:** *At midnight, Caitlin heard a forecaster say that it would be cloudy for exactly 72 hours and then sunny. Caitlin knew the forecaster was wrong. Explain. {In 72 hours (3 days), it will be midnight again, so it would not be sunny}*	▪ Check and go over the homework (Adding and Subtracting Mixed Numbers Practice B WS (evens)) ▪ Have the students work on the Adding and Subtracting Fractions and Mixed Numbers WS ▪ Go over the review sheet when the students are finished ▪ Have the students complete the Check Point for Adding and Subtracting Fractions and Mixed Numbers ▪ SGI: After the Check Point, the students should work on Khan Academy using their Chromebooks **HW: None**
16 of 24 *9/27/16*	Multiplying and Dividing Fractions and Mixed Numbers *Students will be able to multiply and divide fractions and mixed numbers.* **Warm-up Question:** *Do you need a common denominator to multiply and divide fractions? {no}*	▪ Pass back and go over Check Point Adding and Subtracting Fractions and Mixed Numbers ▪ Go over the Multiplying Fractions and Mixed Numbers Notes ▪ Go over the Multiplying Fractions and Mixed Numbers Practice A WS together --- ▪ Go over the Dividing Fractions and Mixed Numbers Notes ▪ Go over the Dividing Fractions and Mixed Numbers Practice AWS together ▪ Have the students work on the Multiplying and Dividing Fractions and Mixed Numbers Practice WS with partners **HW: Complete the Multiplying and Dividing Fractions and Mixed Numbers Practice WS-2**

17 of 24 *9/28/16*	Adding and Subtracting Rational Numbers *Students will be able to apply properties to add and subtract rational numbers in real world contexts.* **Warm-up Question:** *A football team loses 3.5 yards on their first play. On the next play, they gain 3.5 yards. What is the overall increase or decrease in yards? {0 yards}*	▪ Check and go over the HW (Multiplying and Dividing Fractions and Mixed Numbers Practice WS-2) ▪ Go over the How Can Rational Numbers Be Added? Notes ▪ Have the students work with their partners on the How Can Rational Numbers Be Added? Worksheet ▪ When they are finished, they should get it checked by me ▪ Go over the How Can Rational Numbers Be Subtracted? Notes ▪ Have the students work with their partners on the How Can Rational Numbers Be Subtracted? Worksheet **HW: Complete the How Can Rational Numbers Be Subtracted? Worksheet**
18 of 24 *9/29/16*	Adding and Subtracting Rational Numbers *Students will be able to apply properties to add and subtract rational numbers in real world contexts.* **Warm-up Question:** *When you have the same sign, you _____ and when you have different signs, you _____? {add, subtract}*	▪ Check and go over the HW (How Can Rational Numbers Be Subtracted? Worksheet) ▪ Have the students complete pg. 72 #1-16 and pg. 79 #1-15 and go over it when they finish it ▪ The class will complete the Adding and Subtracting Positive and Negative Numbers WS with the whiteboards **HW: None**
19 of 24 *9/30/16*	Rational Numbers Word Problems *Students will be able to solve word problems with rational numbers using the addition and subtraction.* **Warm-up Question:** *Joe is diving 2 ½ feet below sea level. He decides to descend 7 ½ more feet. How many feet below sea level is he? {10 feet below}*	▪ Check and go over the HW (Adding and Subtracting Positive and Negative Numbers WS) ▪ Go over the How Are Rational Numbers Used In Real Life? Notes ▪ ==Have the students complete the How Are Rational Numbers Used In Real Life? Worksheet in small groups== ▪ When they are finished, they will put their answers on whiteboards and share with the rest of the class ▪ Once everyone is finished presenting, have the students work on pg. 73-74 #18-31 and pg. 80-81 #16-24 *(they can use calculators)* ▪ When they are finished, we will go over it **HW: None**
20 of 24 *10/3/16*	Multiplying or Dividing Rational Numbers *Students will be able to apply properties to multiply and divide rational numbers in real world contexts.* **Warm-up Question:** *Remember back: When you multiply or divide, if the numbers have the same sign, the answer is _____. {positive}*	▪ Go over the How Can Rational Numbers Be Multiplied and Divided? Notes ▪ Have the students complete the How Can Rational Numbers Be Multiplied and Divided? Worksheet with their partners and we will go over the answers when they finish ▪ Go over the How Are Rational Numbers Used In Real Life? Notes ▪ Have the students complete the How Are Rational Numbers Used In Real Life? Worksheet and they will hand it in when they are finished ▪ Once they finish, the students should work on pg. 87-88 #18-26 evens and pg. 93-94 #23-28 *(they can use calculators)* ▪ When they are finished, we will go over it or if it is not done, it will become homework **HW: None**

21 of 24 *10/4/16*	Real World Application of Rational Numbers *Students will be able to use one of the four operations to solve real-world problems with rational numbers.* **Warm-up Question:** *Solve (-10.5)(-3.2)* *{33.6}*	▪ Small Group Instruction 　o SGI Group 1: Multiplying and Dividing Rational Numbers Maze Activity to review the material covered in this unit (Student Led) 　o SGI Group 2: Operations with Rational Numbers Scavenger Hunt to review the material covered in this unit (Student Led) 　o SGI Group 3: Breaking the Bakery Activity to review the material covered in this unit (Student Led with Teacher Assistance) **HW: None**
22 of 24 *10/5/16*	Real World Application of Rational Numbers *Students will be able to use one of the four operations to solve real-world problems with rational numbers.* **Warm-up Question:** *Solve* $\frac{1}{5} - \left(-\frac{3}{5}\right)$ $\{\frac{4}{5}\}$	▪ Finish the Small Group Instruction from yesterday 　o SGI Group 1: Multiplying and Dividing Rational Numbers Maze Activity to review the material covered in this unit (Student Led) 　o SGI Group 2: Operations with Rational Numbers Scavenger Hunt to review the material covered in this unit (Student Led) 　o SGI Group 3: Breaking the Bakery Activity to review the material covered in this unit (Student Led with Teacher Assistance) **HW: None**
23 of 24 *10/6/16*	Unit 1: The Number System Review *Students will be able to review the concepts taught in Unit 1.* **Warm-up Question:** *The absolute value of a number is always _____.* *{positive}*	▪ The students will complete the Operations with Rational Numbers Performance Task with their partners. This will count as part of their test score. ▪ During the second period of the block, the students should complete the Unit 1: The Number System Review Sheet ▪ Go over the answers when the students finish **HW: Study for the Unit 1 Test tomorrow**
24 of 24 *10/7/16*	Unit 1: The Number System Test *Students will be able to discuss and demonstrate an understanding of previous lessons by working on a graded assessment.* **Warm-up Question:** *Write down any question you have before the test. If you don't have a question, write "no questions".* *{Answers will vary}*	▪ Go over any questions the students have about the Unit 1 material ▪ Have the students complete the Unit 1: The Number System Test ▪ After the test, the students should work on Khan Academy using their Chromebooks **HW: None**