South Park School District	Lesson Plan	2018-2019	
Dates	This unit consists of approximately 14 days of instruction, review, and assessment.	**Course/Grade**	7th Grade Math
Unit	Angles and Triangles Unit 4 Part 1	**Teacher**	**Mrs. Radomski**

Essential Questions (Maximum 2):

How can we use angles and triangles to represent real-world situations?

Pennsylvania State Standards: (Mathematics)

M07.B-E.2.3.1 Determine the reasonableness of an answer(s), or interpret the solution(s) in the context of the problem.

M07.C-G.1.1.2 Identify or describe the properties of all types of triangles based on angle and side measure.

M07.C-G.1.1.3 Use and apply the triangle inequality theorem.

M07.C-G.2.1.1 Identify and use properties of supplementary, complementary, and adjacent angles in a multi- step problem to write and solve simple equations for an unknown angle in a figure.

M07.C-G.2.1.2 Identify and use properties of angles formed when two parallel lines are cut by a transversal (e.g., angles may include alternate interior, alternate exterior, vertical, corresponding).

Pennsylvania State Common Core Standards: (Mathematics)

2.2 Algebraic Concepts

CC.2.2.7.B.3 Model and solve real-world and mathematical problems by using and connecting numerical, algebraic, and/or graphical representations.

2.3 Geometry

CC.2.3.7.A.1 Solve real-world and mathematical problems involving angle measure, area, surface area, circumference, and volume.

CC.2.3.7.A.2 Visualize and represent geometric figures and describe the relationships between them.

<u>Pennsylvania State Common Core Standards:</u> (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

- Identify Angles & Parts of Angles
- Identify Parallel, Perpendicular, & Skew Lines, and Angles Formed by a Transversal
- Solve problems using angle measurements
- Classify Triangles by Their Side Lengths & Angle Measures
- Construct triangles using the Triangle Inequality Theorem

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
Go Math Accelerated Grade 7 Workbook
Scholastic Math Magazine

☒ Supplementary Materials
Materials listed on Unit Lesson Plans

☒ Workbook/Worksheets

☒ Teacher-prepared materials

☒ Individual Title

☒ Technology
Go Math Online Textbook
Chromebooks
Google Classroom
Khan Academy

☒ 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
Mrs. Radomski
Unit 4 Part 1– Angles and Triangles (14 days)

Unit Order ***Date***	**Lessons and *Objectives*** **Bell Ringer**	**Activities / Materials / Assessments / <u>Homework</u>**
1 of 14 *11/27/18*	Points, Lines, Planes, and Angles *Students classify, name, and construct geometric figures.* Complementary and Supplementary Angles *Students identify angles and parts of angles.* **Warm-up Question:** Geometry is the study of what? {points, lines, shapes, space}	○ Go over the Unit 4 Notes (The Language of Geometry) ○ Go over the Unit 4 Practice A and B WS together ○ Go over the How Are Angles Related? Notes ○ Have the students work on How Are Angles Related? and Practice A WS with a partner and go over the answers when the students finish ○ The students should then work on Practice B and C WS **HW: Complete the Practice B and C WS** ** We will have the Geometric Figures WS if needed
2 of 14 *11/28/18*	Creating and Measuring Angles *Students will create and measure angles using a protractor.* **Warm-up Question:** What is the difference between complementary and supplementary angles? {complementary add up to 90^0 and supplementary add up to 180^0}	○ Check and go over the (Practice B and C WS) ○ Have the students work on Extra Practice WS and go over it when they finish ○ Go over the Measuring with a Protractor Notes ○ The students should work as a group on the Protractor Packet ○ Collect the packet and check it as they finish ○ When they are done and the packet is correct, they should work on the Practice with Angles Before the Quiz WS **HW: Complete the Practice with Angles Before the Quiz WS**
3 of 14 *11/29/18*	Angle Quiz *Students discuss and demonstrate understanding of previous lessons by working on a graded assessment.* **Warm-up Question:** Are there any questions before the quiz? {Answers will vary}	○ Check and go over the homework (Practice with Angles Before the Quiz WS) ○ Have the students take the Angles Quiz ○ When the students finish the quiz, they should work on Khan Academy on their Chromebooks **HW: None**
5 of 14 *11/30/18*	Vertical and Adjacent Angles *Students identify angles and parts of angles.* **Warm-up Question:** If angle ABC measures 20^0 and angle CBD measures 70^0, they are _____ angles. {complementary}	○ Pass back and go over the Angles Quiz ○ Go over the How Are Three or More Angles Related? Notes ○ Have the students work on Classifying Angles WS with a partner and go over the answers when the students finish ○ The students should then complete the How Are Three or More Angles Related? WS and we will go over it when they finish **HW: None**

6 of 14 *12/3/18*	Solving Problems Using Angle Relationships *Students will be able to solve problems using angle relationships.* **Warm-up Question:** Complete the statement. Vertical angles are _____ . {congruent}	○ Go over the How Do You Use Angles To Solve Problems? Notes ○ Go over the How Do You Use Angles To Solve Problems? WS together ○ The students should work in their groups on the Complementary and Supplementary Angles WS and we will go over it when they finish **HW: None** **Have an extra worksheet that could be added to the SGI tomorrow if needed*
7 of 14 *12/4/18*	Review of Angle Relationships *Students will be able to review concepts taught in previous lessons.* **Warm-up Question:** Two angles are supplementary. The first angle is 4x. The second angle is 100 degrees. Determine the value of x. {20}	○ Small Group Instruction ○ SGI Group 1: Classifying Angles Card Sort Activity to review the vocabulary covered in this unit (Student Led) ○ SGI Group 2: Vertical and Adjacent Angles Maze Activity to review the material covered in this unit (Student Led) ○ SGI Group 3: Complementary and Supplementary Angles Solve and Color to practice the problem solving covered in this unit (Student Led with Teacher Assistance) **HW: None**
8 of 14 *12/5/18*	Angle Relationships Quiz *Students discuss and demonstrate understanding of previous lessons by working on a graded assessment.* **Warm-up Question:** Are there any questions before the quiz? {Answers will vary}	○ Finish the Small Group Instruction from yesterday ○ Have the students take the Angles Relationships Quiz ○ When the students finish the quiz, they should work on Khan Academy on their Chromebooks **HW: None**
9 of 14 *12/6/18*	Parallel and Perpendicular Lines *Students will be able to identify parallel and perpendicular lines and the angles formed by a transversal.* **Warm-up Question:** Fill in the blank: _____ angles are 2 angles in the same plane that have the same vertex, share a common side, and do not overlap. {adjacent}	○ Go over the Angle Relationships and Parallel Lines Notes ○ Go over the Angle Relationships and Parallel Lines WS together ○ The students should work in their groups on the Practice A and B WS and we will go over it when they finish ○ The students should work on the Transversal WS and we will go over it when they finish **HW: Complete the Practice C and Problem Solving WS**
10 of 14 *12/7/18*	Triangles: Classification & Triangle Sum Theory *Students find unknown angles in triangles using algebra and classify triangles using angle lengths and side measures.* **Warm-up Question:** How many degrees are in a triangle? {180}	○ Check and go over the homework (Practice C and Problem Solving WS) ○ Go over the How Are Triangles Classified? Notes ○ Go over the How Are Triangles Classified? WS together as a class ○ The students should work in their groups on the Classifying Triangles Practice A and C WS and Triangles Practice A and C WS ○ We will go over them when they finish **HW: None**

11 of 14 *12/10/18*	Triangles: Classification & Triangle Sum Theory *Students find unknown angles in triangles using algebra and classify triangles using angle lengths and side measures.* **Warm-up Question:** Will the following side lengths form a triangle? 2 cm, 3 cm, 4 cm {Yes}	○ Go over the How Are Triangles Constructed? Notes ○ SGI: Have the students work in small groups on the Conditions of a Triangle Activity ○ During the second period of the block, go over the How Are Angles and Triangles Related? Notes and the Finding the Measures of the Angles in Triangles WS ○ Have the students work on the Angles in a Triangle Packet **HW: Complete the Angles in a Triangle Packet**
12 of 14 *12/11/18*	Triangles Quiz *Students discuss and demonstrate understanding of previous lessons by working on a graded assessment.* **Warm-up Question:** Are there any questions before the quiz? {Answers will vary}	○ Check and go over the homework (Angles in a Triangle Packet) ○ Have the students complete the Triangles Study Guide WS and go over it when they finish ○ Have the students take the Triangles Mini-Quiz ○ When the students finish the quiz, they should work on the Angles and Triangles Study Guide **HW: Complete the Angles and Triangles Study Guide**
13 of 14 *12/12/18*	Cumulative review of Unit 4 Part 1 Objectives. *Students will be able to review the material covered in Unit 4 Part 1.* **Warm-up Question:** Kale is given the following information to construct a triangle. 800 angle, 400 angle, and 400 angle. Determine what type (a unique triangle, more than one triangle, or no triangle) of triangle will be constructed. {more than one triangle}	○ Check and go over the homework (Angles and Triangles Study Guide) ○ The students will play the Angles and Triangles Review Game (using the Task Cards) with their partners **HW: Study for the test tomorrow**
14 of 14 *12/13/18*	Unit 4 Part 1 Test *Students are individually evaluated on their understanding of the objectives in Unit 4 Part 1.* **Warm-up Question:** Are there any questions before the test? {Answers will vary}	○ Give the students a final chance to ask any questions they have about the material that will be covered on the test ○ Have the students complete the Unit 4 Part 1 Test ▪ When they are finished, the students will complete their monthly Reading/Writing Assignment using the Scholastic Math Magazine ○ When the students finish the assignment, they should work on Khan Academy on their Chromebooks **HW: None**