South Park School District	Lesson Plan	2016-2017

Dates	This unit consists of approximately 11 days of instruction, review, and assessment.	**Course/Grade**	7th Grade Math
Unit	Area and Circumference Unit 4 and Unit 10 Part 2	**Teacher**	**Mrs. Radomski**

Essential Questions (Maximum 2):

How can we use area and circumference in real-world situations?

Pennsylvania State Standards: (Mathematics)

M07.B-E.2.2.1 Solve word problems leading to equations of the form $px + q = r$ and $p(x + q) = r$, where p, q, and r are specific rational numbers.

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.2.2.2 Solve real-world and mathematical problems involving area, volume, and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms. **Formulas will be provided.**

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

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

- Find The Perimeter of Polygon & Circumference of a Circle
- Find the Area of Rectangles, Parallelograms, Triangles, & Trapezoids
- Find the Area of Circles
- Explore Measurement, symmetry, & Properties of Irregular Figures to Determine the Area of Irregular Figures

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 and Unit 10 Part 2– Area and Circumference (11 days)

Unit Order ***Date***	**Lessons and *Objectives*** **Bell Ringer**	**Activities / Materials / Assessments / <u>Homework</u>**
1 of 11 *1/11/17*	Circles *Students will be able to find the area & circumference of circles.* **Warm-up Question:** What is the distance from the center of the circle to the outer edge called? {radius}	▪ Pass back and go over the Unit 4 Part 1 Test ▪ Pass out the PSSA Grade 7 Formula Sheet ▪ Go over the How Are the Parts of a Circle Related? Notes ▪ The students should work on the Circles Practice A and C WS and we will go over them when they finish ▪ The students should work with their partners on the How Are the Parts of a Circle Related? and Practice B WS and we will go over it when they finish **HW: None**
2 of 11 *1/12/17*	Circles *Students will be able to find the area & circumference of circles in real world situations.* **Warm-up Question:** Find the area of a circle if the radius is 4 m. {50.24 m}	▪ Go over the How Can We Solve Problems Involving Circles? Notes ▪ Go over the Circumference and Area World Problems WS together as a class ▪ SGI: Have the students work on the Circumference and Area of Circles "Find Someone Who" Activity ▪ When they are finished with their activity, the students should work on the How Can We Solve Problems Involving Circles? WS **HW: Complete the How Can We Solve Problems Involving Circles? WS**
3 of 11 *1/13/17*	Area of Rectangles, Parallelograms, Triangles, and Trapezoids *Students will be able to find the area of rectangles, parallelograms, triangles, and trapezoids.* **Warm-up Question:** How would you define area? {the amount of space inside the boundary of a flat (2D) object}	▪ Check and go over the homework (How Can We Solve Problems Involving Circles? WS) ▪ Go over the What is Area? Notes ▪ Have the students work on Area of Parallelograms WS Practice A and B and go over the answers when they finish ▪ Go over the How Are Shapes Decomposed? Notes ▪ Have the students work on Area of Triangles and Trapezoids WS Practice A and B and go over the answers when they finish ▪ Have the students work on the What is Area? and How Are Shapes Decomposed? WS **HW: Complete the What is Area?** and **How Are Shapes Decomposed? WS**

4 of 11 *1/17/17*	Area of Irregular Figures *Students will be able to find the area of irregular figures.* **Warm-up Question:** What does it mean if something is irregular (like clothing)?{not a uniform shape}	▪ Check and go over the homework (What is Area? and How Are Shapes Decomposed? WS) ▪ Go over the What Is A Composite Figure? Notes ▪ Go over the Practice with Composite Figures WS together as a class ▪ Have the students work on More Practice with Composite Figures WS and go over the answers when they finish **HW: Complete the Area of Irregular Figures Practice A WS**
5 of 11 *1/18/17*	Area of Irregular Figures *Students will be able to find the area of irregular figure in real life situations.* **Warm-up Question:** What is the difference between a regular and an irregular figure? {Irregular figures do not have a uniform shape}	▪ Check and go over the homework (Area of Irregular Figures Practice A WS) ▪ Go over the Do We See Composites In Real Life? Notes ▪ As a class, we will go over pg. 281-282 #5, 6, 8, 9, 10, 13, 14 in the book ▪ SGI: Have the students work with groups of 3 on the Area of Composite Figures Round Table Activity ▪ When they are finished, they should work on the Do We See Composites In Real Life? WS **HW: Complete the Do We See Composites In Real Life? WS**
6 of 11 *1/19/17*	Review of Area *Students will be able to review concepts taught in previous lessons on area.* **Warm-up Question:** With composite figures, when do you subtract the area of two figures? When do you add the areas? {You subtract when one is inside the other or when there is a piece taken out of a figure. You add when they sit next to each other.}	▪ Check and go over the homework (Do We See Composites In Real Life? WS) o SGI Group 1: Area of Triangles Solve and Color Activity (Student Led) o SGI Group 2: Area of Quadrilaterals Spin to Ten Activity (Student Led) o SGI Group 3: Composite Figures Review Sheets (Teacher Directed) **HW: None**
7 of 11 *1/20/17*	Area 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}	▪ Have the students take the Area & Circumference Quiz ▪ When the students finish the quiz, they should finish their activities from yesterday and then work on Khan Academy on their Chrome Books **HW: None**
8 of 11 *1/23/17*	Scale Drawings *Students will be able to make comparisons between and find dimensions of scale drawings and actual objects.* **Warm-up Question:** What makes shapes similar? {Angles must be equal and sides must be proportionate}	

9 of 11 *1/24/17*	Scale Drawings *Students will be able to make comparisons between and find dimensions of scale drawings and actual objects.* **Warm-up Question:** What makes shapes similar? {Angles must be equal and sides must be proportionate}	
10 of 11 *1/25/17*	Cumulative review of Unit 4 Part 2 Objectives. *Students will be able to review the material covered in Unit 4 Part 2.* **Warm-up Question:** A rectangle measures 2ft by 5ft. It is enlarged by a scale factor of two. What is the area of the enlarged rectangle? {$40ft^2$}	
11 of 11 *1/26/17*	Unit 4 Part 2 Test *Students are individually evaluated on their understanding of the objectives in Unit 4 Part 2.* **Warm-up Question:** Are there any questions before the test? {Answers will vary}	