

South Park School District		Lesson Plan		2018-2019	
Dates	This unit consists of approximately 9 days of instruction, review, and assessment.		Course/Grade	7 <sup>th</sup> Grade Math	
Unit	Statistics & Probability Unit 5 Part 2		Teacher	Mrs. Radomski	
<u>Essential Questions (Maximum 2):</u>					
How can we use probability in real-world situations?					
<u>Pennsylvania State Standards: (Mathematics)</u>					
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.D-S.3.1.1 Predict or determine whether some outcomes are certain, more likely, less likely, equally likely, or impossible (i.e., a probability near 0 indicates an unlikely event, a probability around 1/2 indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event).					
M07.D-S.3.2.1 Determine the probability of a chance event given relative frequency. Predict the approximate relative frequency given the probability.					
M07.D-S.3.2.2 Find the probability of a simple event, including the probability of a simple event <b>not</b> occurring.					
M07.D-S.3.2.3 Find probabilities of independent compound events using organized lists, tables, tree diagrams, and simulation.					
<u>Pennsylvania State Common Core Standards: (Mathematics)</u>					
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.					
2.4 Measurement, Data, and Probability					
CC.2.4.7.B.3 Investigate chance processes and develop, use, and evaluate probability models.					

## **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:**

- Use Informal Measures of Probability
- Use the FCP (Fundamental Counting Principle) to Determine the Possible Outcomes
- Find Experimental Probability
- Find the Theoretical Probability of an Event
- Interpret, Analyze, & Calculate the Probability in Various Types of Probability Exercises
- Find the Probability of Independent & Dependent Events

### **Assessments**

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Tests                                 | <input type="checkbox"/> Peer Evaluation        |
| <input checked="" type="checkbox"/> Quizzes                               | <input type="checkbox"/> Rubric Scoring         |
| <input checked="" type="checkbox"/> Worksheets                            | <input checked="" type="checkbox"/> Group Grade |
| <input checked="" type="checkbox"/> Homework                              | <input type="checkbox"/> Other                  |
| <input checked="" type="checkbox"/> Teacher Observation                   |   |
| <input checked="" type="checkbox"/> Student Writing                       |   |
| <input checked="" type="checkbox"/> Student Presentations                 |   |
| <input type="checkbox"/> Student Projects                                 |   |
| <input checked="" type="checkbox"/> Student Written Response (reflection) |   |

### **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 5 Part 2– Statistics and Probability (11 days)

Unit Order  Date	Lessons and <i>Objectives</i> Bell Ringer	Activities / Materials / Assessments / <u>Homework</u>
<b>1 of 11</b>  3/6/19	Probability <i>Students will be able to find the probability of an event.</i>  <b>Warm-up Question:</b> How many cards are there in a full deck (not including jokers)? {52 cards}	<ul style="list-style-type: none"> <li>• Pass back and go over the Unit 5 Project</li> <li>• Read out loud the What is Probability? How Does It Shape Our Lives? Article</li> <li>• Go over the What is Probability? Notes</li> <li>• Have the students work on the Probability Word Problems Packet with their group and go over the answers when they finish.</li> </ul> <p><b>HW: Complete the What is Probability? WS</b></p>
<b>2 of 11</b>  3/7/19	Theoretical & Experimental Probability <i>Students will be able to calculate probability using theoretical and experimental methods.</i>  <b>Warm-up Question:</b> What is the difference between an experiment, a trial, and an outcome? {experiment (before), trial (during), outcome (after)}	<ul style="list-style-type: none"> <li>• Check and go over the homework (What is Probability? WS)</li> <li>• Go over the first part of the What Are Experimental &amp; Theoretical Probability? Notes</li> <li>• Have the students work on the MasterMath WS and go over the answers when they finish</li> <li>• Go over the second half of the What Are Experimental &amp; Theoretical Probability? Notes</li> <li>• Have the students work on the Experimental Probability WS with their group</li> <li>• Go over the WS when they finish</li> </ul> <p><b>HW: None</b></p>
<b>3 of 11</b>  3/8/19	Sample Space and The Fundamental Counting Principle <i>Students will be able to find the number of possible outcomes in an experiment.</i>  <b>Warm-up Question:</b> What does a tree diagram show? {all the possible combinations of an event}	<ul style="list-style-type: none"> <li>• Go over the What is Sample Space? Notes</li> <li>• Have the students complete the What is Sample Space? WS and go over the answers when they finish</li> <li>• Go over the Fundamental Counting Principle Practice A and B WS together</li> <li>• Have the students work on the Probability: Counting Principle WS</li> <li>• Go over the answers when the students finish</li> </ul> <p><b>HW: Complete the Fundamental Counting Principle Problem Solving WS</b></p>

<b>4 of 11</b>  3/11/19	Review of Probability <i>Students will be able to review the concepts taught in previous lessons on probability.</i>  <b>Warm-up Question:</b> What is the difference between experimental and theoretical probability? {exp. is based on exp. results and theoretical is based on making certain assumptions about an experiment}	<ul style="list-style-type: none"> <li>Have the students work on the SGI activities <ul style="list-style-type: none"> <li>SGI Group 1: Simple Probability Maze Activity (Student Led)</li> <li>SGI Group 2: Experimental and Theoretical Probability Stations Activity (Teacher will work with these groups)</li> <li>SGI Group 3: Making Predictions Dominos Activity (Student Led)</li> </ul> </li> </ul> <p><b>HW: Study for the quiz tomorrow</b></p>
<b>5 of 11</b>  3/12/19	Probability Quiz <i>Students will be able to discuss and demonstrate an understanding of previous lessons by working on a graded assessment.</i>  <b>Warm-up Question:</b> Are there any questions before the quiz? {Answers will vary}	<ul style="list-style-type: none"> <li>Have the students finish the SGI activities that they started yesterday <ul style="list-style-type: none"> <li>SGI Group 1: Simple Probability Maze Activity (Student Led)</li> <li>SGI Group 2: Experimental and Theoretical Probability Stations Activity (Teacher will work with these groups)</li> <li>SGI Group 3: Making Predictions Dominos Activity (Student Led)</li> </ul> </li> <li>Have the students take the Probability Quiz</li> <li>When they are finished, the students will complete their monthly Reading/Writing Assignment using the Scholastic Math Magazine</li> <li>When the students finish the assignment, they should work on Khan Academy on their Chrome Books</li> </ul> <p><b>HW: None</b></p>
<b>6 of 11</b>  3/13/19	Independent Events <i>Students will be able to find the probabilities of independent events.</i>  <b>Warm-up Question:</b> What does the word "independent" mean? {not depending on something else}	<ul style="list-style-type: none"> <li>Pass back and go over the Probability Quiz</li> <li>Go over the What Is An Independent Event? Notes</li> <li>Go over the Independent Event WS together</li> <li>SGI: Have the students work with their partners on the Independent Probability He Said, She Said Activity</li> <li>When they are finished, they should work on the What Is An Independent Event? WS</li> </ul> <p><b>HW: Complete the What Is An Independent Event? WS</b></p>
<b>EXTRA</b>  3/14/19	Pi Day Activities  <b>Warm-up Question:</b> What is the numerical value of $\pi$ ? {3.14}	<ul style="list-style-type: none"> <li>We will break the class into teams. They will compete in the following activities. The winning team will receive a pie treat. <ul style="list-style-type: none"> <li>Activity 1: <b>Pi Day Jeopardy</b> (Webquest)</li> <li>Activity 2: <b>Trashketball</b> (Solving Area and Circumference of a Circle Questions)</li> </ul> </li> <li>If more time is needed, the students will create <b>Pi Day Skylines and Word Scramble.</b></li> </ul> <p><b>HW: None</b></p>

<p><b>7 of 11</b></p> <p>3/15/19</p>	<p>Dependent Events</p> <p><i>Students will be able to find the probabilities of dependent events.</i></p> <p><b>Warm-up Question:</b> What does the word “dependent” mean? {relying on something else}</p>	<ul style="list-style-type: none"> <li>Check and go over the homework (What Is An Independent Event? WS)</li> <li>Go over the What Is A Dependent Event? Notes</li> <li>Go over the Dependent Event WS together</li> <li><b>SGI: Have the students work with their partners on the Dependent Probability Cut and Paste Activity</b></li> <li>When they are finished, they should work on the What Is A Dependent Event? WS</li> </ul> <p><b>HW: Complete the What Is A Dependent Event? WS</b></p>
<p><b>EXTRA</b></p> <p>3/18/19</p>	<p>March Madness Project Preparation</p> <p><i>Students will be able to prepare their brackets to be used for a later activity.</i></p> <p><b>Warm-up Question:</b> What is March Madness? {NCCA Basketball Tournament}</p>	<ul style="list-style-type: none"> <li>Introduce the <b>March Madness Activity</b> that the students will complete in April after the tournament concludes.</li> <li>Have the students watch segments of the <b>March Madness Selection Sunday Show</b> and <b>NCCA Bracket Numbers to Know on ESPN</b> and have them use their knowledge of statistics to fill out a <b>March Madness Bracket</b>. They are able to use the men’s or women’s brackets for this activity, but the women’s bracket will not be out until tonight.</li> <li>They should fill out their brackets, pick one player to collect stats on, and write a paragraph on the back of the bracket explaining why they chose their Final Four and Champion.</li> <li>Collect their brackets and save them for a later date.</li> </ul> <p><b>HW: None</b></p>
<p><b>8 of 11</b></p> <p>3/19/19</p>	<p>Cumulative review of Unit 5 Part 2 Objectives.</p> <p><i>Students will be able to review the material covered in Unit 5 Part 2.</i></p> <p><b>Warm-up Question:</b> What is the probability of randomly selecting a queen and then a king from a standard deck of cards? {4/663 }</p>	<ul style="list-style-type: none"> <li>Check and go over the homework (What Is An Independent Event? WS)</li> <li>Have the students work on the SGI activities <ul style="list-style-type: none"> <li>SGI Group 1: Probability Task Card Activity (Student Led)</li> <li>SGI Group 2: Probability Review Packet (Teacher will work with these groups)</li> <li>SGI Group 3: Number Cube Probability Activity (Student Led)</li> </ul> </li> </ul> <p><b>HW: None</b></p>
<p><b>9 of 11</b></p> <p>3/20/19</p>	<p>Unit 5 Part 2 Test</p> <p><i>Students will be individually evaluated on their understanding of the objectives in Unit 5 Part 2.</i></p> <p><b>Warm-up Question:</b> Are there any questions before the test? {Answers will vary}</p>	<ul style="list-style-type: none"> <li>The students should work on the Probability Study Guide</li> <li>When the students finish, we will go over it.</li> <li>Give the students a final chance to ask any questions they have about the material that will be covered on the test</li> <li>Have the students complete the Unit 5 Part 2 Test</li> <li>When the students finish the assignment, they should work on Khan Academy on their Chromebooks</li> </ul> <p><b>HW: None</b></p>

<p><b>10 of 11</b></p> <p><i>3/21/19</i></p>	<p>The Game of Life Project; Cumulative review of rational numbers, percents, statistics, and probability objectives. <i>Students present study guide solutions and engage in discussion of assessment content.</i></p> <p><b>Warm-up Question:</b> How does probability play a role in the board game 'Life'? {Answers will vary}</p>	<ul style="list-style-type: none"> <li>Introduce <b>The Game of Life Math Money Project</b></li> <li>Have the students work on the project until the end of class</li> </ul> <p><b>HW: None</b></p>
<p><b>11 of 11</b></p> <p><i>3/22/19</i></p>	<p>The Game of Life Project; Cumulative review of rational numbers, percents, statistics, and probability objectives. <i>Students present study guide solutions and engage in discussion of assessment content.</i></p> <p><b>Warm-up Question:</b> No Question Today</p>	<ul style="list-style-type: none"> <li>Have the students work on <b>The Game of Life Math Money Project</b></li> </ul> <p><b>HW: None</b></p>