<table>
<thead>
<tr>
<th>Day</th>
<th>Subject</th>
<th>Grade 7 Pre-Algebra</th>
</tr>
</thead>
<tbody>
<tr>
<td>Day 1</td>
<td>Standard:</td>
<td>Sample space for composite events</td>
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<tr>
<td>Day 2</td>
<td>Objective:</td>
<td>Represent sample space for composite events</td>
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<td>Day 3</td>
<td>Assessment:</td>
<td>Represent sample space for composite events</td>
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<tr>
<td>Day 4</td>
<td>Teacher:</td>
<td>Stephanie White</td>
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**COVID-19 Health Related School Close Instruction Template**

*All assessments must have a completed product for submission by students and the means for scoring as the student work must be graded. Please attach any materials that will be enclosed in the packet ensuring they are labeled by instructional day.*

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**Tasks:**

- Students will complete the Khan Academy assignments. (Khan Academy will be assigned at the end of the week.)
- Students will use the digital component to complete the lessons.
- Students will complete the assignment on their own. (Days 1, 2, 3, and 4.)
- Students will complete the assignment on their own. (Day 5.)

**Materials Needed:**

- Electronic device for digital component. (Note: digital component is optional.)
- Math folder with good notes.
- Math folder with good notes (an additional folder for notes)
- Math folder with good notes (a notebook for notes)
- Math folder with good notes (another notebook for notes)
- Math folder with good notes (also another notebook for notes)

**Description of Tasks:**

- Day 1: Lesson 1
- Day 2: Lesson 2
- Day 3: Lesson 3
- Day 4: Lesson 4
- Day 5: Lesson 5

**Goals:**

- Develop a deep understanding of the concepts taught.
- Apply the concepts to solve real-world problems.

**Standards:**

- 7.SP.C.8a: Multiply a fraction or mixed number by a whole number. Understand a fraction as a multiple of a unit fraction. Use visual fraction models to represent a fraction as a multiple of a unit fraction. 7.SP.A.4: A compound event in which one or more events occur is represented by a sample space. Represent each outcome in the sample space by an element, and represent a compound event by an appropriate subset of the sample space. The probability of a compound event is the sum of the probabilities of all its outcomes. Represent these probabilities by fractions, decimals, or percents. 7.SP.A.1: Understood a sample space and the outcomes it contains. Use a sample space to determine probabilities of events. Represent sample space for composite events. Represent sample space for composite events.
<table>
<thead>
<tr>
<th>Day 6</th>
<th>Day 7</th>
<th>Day 8</th>
<th>Day 9</th>
<th>Day 10</th>
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</thead>
<tbody>
<tr>
<td><strong>Assignment</strong></td>
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<td><strong>Materials Needed</strong></td>
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<tr>
<td><strong>Standards &amp; Learning Goals</strong></td>
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<td><strong>Feedback</strong></td>
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</table>

**Graded:** Please attach any materials that will be enclose in the packet ensuring they are labeled by instructional day.

All assignments must have a legible product for submission by students and the means for scoring as the student work must be graded. Please read the scoring criteria and apply accordingly.
<table>
<thead>
<tr>
<th>Activity</th>
<th>Assessment Criteria</th>
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</thead>
<tbody>
<tr>
<td>Write a paragraph on another subject</td>
<td>Complete all practice problems</td>
</tr>
<tr>
<td>Prepare for ALEKS</td>
<td>Complete all practice problems</td>
</tr>
<tr>
<td>Complete the review and assessment</td>
<td>Review sections below and complete all practice problems</td>
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</table>

Graded: Please attach any materials that will be included in the packet. Encourage them to submit these materials to receive full credit. All assignments must have a complete product for submission. By signing the submission sheet, the student work must be turned in on time.
ALTEKS will be scored based on our ongoing ALTEKS log and rubric.

Workbook assignments will be graded upon return for accuracy and completion.

Students will complete 20 mins of ALTEKS.

Day 1 Packet

(Attached)

Students will work through the review packet on probability (attached).

Electronic Device for digital component

Math binder with typed notes

Probability Packet Attached

7.5.P.8a.8b

Event

Represent sample spaces for compound events using methods such as organized lists, tables, and tree diagrams. Identify the outcomes in the sample space which compose the event. Use the sample space to find the probability of a compound event.
ATEKS will be scored based on our ongoing ATEKS log and rubric.

Workbook assignments will be graded upon return for accuracy and completion.

Students will complete 20 mins of ATEKS.

Day 2 - Lesson 7 and 8 All

Students will work through the review sections listed below and complete all practice problems.

Electronic Device for digital component

Math binder with typed notes

Math CC 7: Math Instructional Workbook (White) that has already been sent home.

Describe real-world situations in which (positive and negative) rational numbers are combined, emphasizing rational numbers that combine to make 0. Represent sums of rational numbers (p + q) on horizontal and vertical number lines, showing the distance along the number line is |q| and including situations in which q is negative and positive. 7.NS.A.1a.
ALEKS will be scored based on our ongoing ALEKS log and rubric.

Workbook assignments will be graded upon return for accuracy and completion.

Students will complete 20 mins of ALEKS

Day 3 - Lesson 9 and 10 all

Students will work through the review sections listed below and complete all practice problems.

Electronic Device for digital component

Math binder with typed notes

Ready CC 7MATH Instructional Workbook (White) that has already been sent home.

I.RP.4

Calculate and interpret unit rates of various quantities involving ratios of fractions that contain like and different units.
ALEKS will be scored based on our ongoing ALEKS Log and rubric.

Workbook assignments will be graded upon return for accuracy and completion.

Students will complete 20 mins of ALEKS.

DAY 4 - Lesson 11 and 15 all.

Students will work through the Review sections listed below and complete all practice problems.

Electronic Device for digital component.

Math binder with typed notes.

Ready CC Math Instructional Workbook (white) that has already been sent home.

7.EE.B.4.a

Use variables to represent quantities in a real-world or mathematical problem by constructing simple equations and inequalities to represent problems.
Khan scores itself and will be used as a grade as a part of our ongoing intervention scores.

Workbook assignments will be graded upon return for accuracy and completion.

Students will complete this week's Khan Academy assignments.

Day 5: Lesson 16 and 20 all

Students will work through the review sections listed below and complete all practice problems.

Electronic device for digital component.

Math binder with typed notes.

Read CC Math Instructional Workbook (white) that has already been sent home.

*7.EE.B.4.a*, use variables to represent quantities in a real-world or mathematical problem by constructing simple equations and inequalities to represent problems.
ALiExS will be scored based on our on going ALiExS log and rubric.

Workbook assignments will be graded upon return for accuracy and completion.

Students will complete 20 mins of ALiExS

Day 6 - Lesson 21 and 23 all

Students will work through the review sections listed below and complete all practice problems.

Electronic Device for Digital component

Math binder with typed notes

Ready CC Math Instructional Workbook (white) that has already been sent home.

7.6 B.4

Relationship between the circumference and area of a circle. Know the formulas for the area and circumference of a circle and use them to solve problems. Give an informal derivation of the
ALEKS will be scored based on our running ALEKS log and rubric.

Workbook assignments will be graded upon return for accuracy and completion.

Students will complete 20 mins of ALEKS.

Day 7 - Lesson 24 and 25 all.

Students will work through the review sections listed below and complete all practice problems.

Electronic Device for digital component.

Mail binder with typed notes.

Ready CC Math Instructional Workbook (white) that has already been sent home.


Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects.

Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects.
| ALEKS will be scored based on our ongoing ALEKS log andrubric.
| Workbook assignments will be graded upon return for accuracy and completion.
| Students will complete 20 mins of ALEKS.
| Day 8- Unit 1 PARCC Review pages 44-76.
| Students will work through the Review sections listed below and complete all practice problems.
| Electronic device for digital components.
| Main binder with typed notes.
| Ready? Mark institutional workbook (white) that has already been sent home.

Discuss real-world situations in which (positive and negative) rational number combinations are combined. Emphasizing rational numbers that along the number line is |9| and include restrictions in which g is negative and positive. 7.NS.A.1b.
ALEKS will be scored based on our ongoing ALEKS Log and Rubric.

Workbook assignments will be graded upon return for accuracy and completion.

Students will complete 20 mins of ALEKS.

Day 9: Unit 2 PARCC Review Pages 122-124

Students will work through the review sections listed below and complete all practice problems.

Electronic Device for digital component.

Math binder with typed notes.

Ready 7 Math Instructional workbook (white) that has already been sent home.

7EE.B.4.a,b

Represent problems and use variables to represent quantities in a real-world or mathematical problem by constructing simple equations and inequalities to
KHAN Academy scores will be used as a grade as a part of our ongoing intervention scores.

Workbook assignments will be graded upon return for accuracy and completion.

Students will complete this week's KHAN Academy assignments.

Day 10 - Unit 3 PARCC Review Pages 166-168

Students will work through the Review sections listed below and complete all practice problems:

- Electronic Device for digital component
- Math binder with typed notes
- Ready CC Math Instructional Workbook (white) that has already been sent home

8.G.C.9
9.G.B.6

and spheres and use them to solve real-world and mathematical problems composed of triangles, quadrilaterals, polygons, cubes, and right prisms. Know the formulas for the volumes of cones, cylinders, solve real-world and mathematical problems involving area, volume, and surface area of two- and three-dimensional objects.
Probability

1. Write the formula for theoretical probability:

\[ P(\text{event}) = \]

2. A spinner for a game is circular shaped and has 5 equal sections. Each section is labeled with the numbers 1-5. Below, use a protractor to draw a picture of the spinner and label each section. Compare with others in the class.

\[
\begin{array}{c}
\text{a. What is the sample space of the spinner?}
\end{array}
\]

\[
\begin{array}{c}
\text{b. What is the probability of spinning a 2? 3? 5? 0?}
\end{array}
\]

\[
\begin{array}{c}
\text{c. What is the experimental probability of the spinner landing on 3 when the spinner is spun 700 times and the spinner lands on 3 a total of 240 times?}
\end{array}
\]

\[
\begin{array}{c}
\text{d. How does the answer for c relate to the theoretical probability?}
\end{array}
\]

\[
\begin{array}{c}
\text{e. Would you consider this spinner to be “fair”? Why?}
\end{array}
\]
3. For a certain carnival game, you can win a prize if you throw two darts at the square board pictured below and both darts hit the board. You win a poster for hitting an even number or a CD for hitting the target on two of the same numbers; you win nothing for a single odd number. Each numbered square is the same size.

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>1</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

a. For the target in problem #3, list the following probabilities:

1) Hitting an even number _______________________

2) Hitting two of the same number _______________________

3) Hitting an odd number _______________________

b. What is the total number of outcomes for throwing two darts? _______

4. Find the following probabilities relating to the dart board. For each problem, assume you hit the board.

a. $P$ (even number the first dart) =

b. $P$ (even number, odd number) =

c. $P$ (even, even) =

d. $P$ (2,3) =

e. $P$ (sum of 4) =

f. $P$ (2,2) =
Independent and Dependent Events

1. Write the formula for the probability of independent events A and B occurring:
   
   \[ P(A \text{ and } B) = \]

2. Write the formula for the probability of dependent events A and B occurring:
   
   \[ P(A \text{ and } B) = \]

3. How do independent events compare with dependent events?

4. You roll two (6-sided) number cubes, a red one and a white one. Find each probability:
   
   a. \( P(5, 2) \)
   b. \( P(5, \text{ odd #}) \)
   c. \( P(3, 3) \)
   d. \( P(\text{even #, odd #}) \)
   e. \( P(4, 4) \)
   f. \( P(\text{less than 5, 6}) \)

5. You have 6 chips numbered 1 through 6 in a cup. You pull one out, then another out without replacing the first one. Find each probability:
   
   a. \( P(5, 2) \)
   b. \( P(5, \text{ odd #}) \)
   c. \( P(3, 3) \)
   d. \( P(\text{even #, odd #}) \)
e. \( P(4,4) \)

f. \( P(\text{less than 5, 6}) \)

6. Find the probability of each event. Use a standard deck of 52 playing cards.

a) \( P(\text{heart}) \)  
b) \( P(\text{heart, heart}) \) [without replacement]

c) \( P(\text{heart, heart, heart}) \) [w/ replacement]  
d) \( P(\text{heart, heart, heart, heart}) \) [w/o replacement]

7. The Stair Game

The game starts on the fifth step of a staircase. Each player’s turn consists of flipping two coins and moving up or down according to the following rules. If no heads appear on the player’s two coins, the player does not move. If one head appears, the player moves up one stair. If two heads appear, the player moves down one stair.

Before this game is tested as a class, answer the following questions with a partner.

a. Find \( P(\text{no move}) \)  
b. Find \( P(\text{up one}) \)  
c. Find \( P(\text{down one}) \)

d. Where would the player expect to be in 8 turns? 40 turns? Answer in terms of movement on the staircase.
e. A staircase has 26 stairs. To win the game, a player must reach the top step. How many turns would you expect it to take for one player to reach the top step when the player starts on the 10th step? Use words, numbers or diagrams to support your answer.
Expected Value

The **expected value** of a game is defined as the sum of the products of each value of each outcome and the corresponding probability of the outcome.

Example:

The spinner above has four regions. The spinner is equally likely to land in any region. To find the expected value, follow these steps:

a. For each region, multiply the value of the prize (this example is a dollar amount) by the probability of landing on that prize. Put these values in the blanks.

```
region 1 + region 2 + region 3 + region 4 = Expected Value
```

b. Then add them up.

To qualify for a **fair game**, the cost to play the game would be equal to the expected value. For this game to be fair, the cost to play would be ______________.

1. In a carnival game, players win prizes by rolling a cube. The cube has one red side, one white side, one blue side and three green sides. This game costs $1 to play. If the cube stops with the red face up, the player receives a prize worth 50 cents. If it stops with the white face up, the player wins a prize worth $1. When a blue face is showing, the prize is worth $1.50. If the cube shows a green face, the player wins nothing.

   a. Verify that the cube game is not mathematically fair by calculating the expected value. Show all work below.

   b. Adjust the cost of playing the game to make it fair.
2. Imagine that you are the manager of a carnival. One of the game operators has designed a new game. In this game, players pick one card out of an ordinary deck of 52 playing cards. An ace wins $10, a face card (K, Q, or J) wins $1, and all other cards win nothing. Determine the cost to play this game in order to make it a fair game. Show work below.

3. Heather flipped a coin five times, and each time it came up heads. Heather flips the coin one more time.

Which is the theoretical probability that it will come up tails?

O  A.  \[
\frac{1}{6}
\]

O  B.  \[
\frac{1}{2}
\]

O  C.  \[
\frac{3}{5}
\]

O  D.  \[
\frac{5}{6}
\]
4. Mr. Gulati is holding five cards numbered 1 through 5. He has asked five students to each randomly pick a card to see who goes first in a game. Whoever picks the card numbered 5 goes first. Juanita picks first, gets the card numbered 4, and keeps the card.

Which is the probability that Yoko will get the card numbered 5 if she picks second?

O A. \( \frac{1}{2} \)

O B. \( \frac{1}{3} \)

O C. \( \frac{1}{4} \)

O D. \( \frac{1}{5} \)

5. Twenty-six squares of paper lettered A to Z are placed in a can. One letter is randomly chosen from the can and turns out to be the letter G. A second letter is drawn without putting the letter G back into the can.

Which is the probability that it will be the letter F?

O A. \( \frac{1}{25} \)

O B. \( \frac{1}{26} \)

O C. \( \frac{2}{25} \)

O D. \( \frac{2}{26} \)