Unit 1	Course Name:	Considerations or scaffolds for Support
Day 1	<ul> <li>Standard(s):G.PR.10.1</li> <li>Describe categories of events as subsets of a sample space using unions, intersections, or complements of other events. Apply the Addition Rule conceptually, P(A or B) = P(A) + P(B)</li> <li>-P(A and B), and interpret the answers in context.</li> <li>LT: I am learning to describe categories of events as subsets of a sample space using unions, intersections, or complements of other events.</li> <li>SC:</li> <li>o I can communicate informed decisions by applying the Addition Rule to a problem involving the probability of compound events.</li> <li>o I can use Venn Diagrams and two-way tables to help visualize events.</li> <li>o I can use two-way tables to reveal the sample space.</li> <li>o I can use Venn Diagrams to show intersections of two or more events.</li> <li>Lesson/Activity:</li> <li>Resources:Desmos and 3-Act Tasks; GeoGebra Geometry (free); Transformations booklet &amp; PowerPoint – uses patty paper to discover reflections and rotations; Quizlet vocabulary &amp; word wall.Gimkit</li> </ul>	Scaffolding throughout the lesson and applications will be provided for rigor. Students will work in pairs for turn and talk. Graphic organizers
Day 2	<ul> <li>Standard(s):G.PR.10.2</li> <li>Apply and interpret the general Multiplication Rule conceptually to independent events of a sample space, P(A and B) = [P(A)]x[P(B A)] = [P(B)]x[P(A B)] using contingency tables or tree diagrams.</li> <li>LT: I am learning to apply and interpret the general Multiplication Rule conceptually to independent events of a sample space using contingency tables or tree diagrams.</li> <li>SC:</li> <li>o I can relate the conditional probability back to the conceptual interpretation of probability studied in previous courses.</li> </ul>	Scaffolding throughout the lesson and applications will be provided for rigor. Students will work in pairs for turn and talk. Graphic organizers

Unit 8 (8 days)

	<ul> <li>I understand the Multiplication Rule conceptually with limited emphasis on the manipulation of the equation.</li> <li>I can use a tree diagram to help me visualize events and probabilities of those events.</li> <li>Lesson/Activity:</li> <li>Resources:Desmos and 3-Act Tasks; <u>GeoGebra Geometry</u> (free); Transformations booklet &amp; PowerPoint – uses patty paper to discover reflections and rotations; Quizlet vocabulary &amp; word wall.Gimkit</li> </ul>	
Day 3	<ul> <li>Standard(s): G.PR.10.3</li> <li>Use conditional probability to interpret risk in terms of decision-making and investigate questions such as those involving false positives or false negatives from screening tests.</li> <li>LT:</li> <li>I am learning to use conditional probability to interpret risk in terms of decision-making.</li> <li>I am learning to investigate questions such as those involving false positives or false negatives from screening tests.</li> <li>SC:</li> <li>I can answer relevant questions based on the appropriate risk measures.</li> <li>I can explain how studies and/or models are used to determine risk measures.</li> <li>I can recognize the chances of a false positive or a false negative is not the same as the chances of having the condition or not having the condition given the test result.</li> <li>I can interpret and communicate the consequences of making the false positive or false negative errors.</li> <li>I can interpret the notation for conditional probability in context.</li> <li>Lesson/Activity:</li> <li>Resources:Desmos and 3-Act Tasks; GeoGebra Geometry (free); Transformations booklet &amp; PowerPoint – uses patty paper to discover reflections and rotations; Quizlet vocabulary &amp; word wall.Gimkit</li> </ul>	Scaffolding throughout the lesson and applications will be provided for rigor. Students will work in pairs for turn and talk. Graphic organizers
Day 4	Standard(s):G.PR.10.4	Scaffolding throughout the lesson and

	<ul> <li>Define permutations and combinations and apply this understanding to compute probabilities of compound events and solve meaningful problems.</li> <li>LT:</li> <li>I am learning to define permutations and combinations.</li> <li>I am learning to compute probabilities of compound events using permutations and combinations.</li> <li>I am learning to solve meaningful problems.</li> </ul>	applications will be provided for rigor. Students will work in pairs for turn and talk. Graphic organizers
	<ul> <li>SC:</li> <li>I understand the terms permutation and combination.</li> <li>I can solve simple problems involving selection and arrangement of objects in a line, including those involving repetition and restriction.</li> <li>I understand and can apply permutations and combinations.</li> <li>I can interpret formal notation to communicate about combinations and permutations</li> <li>Lesson/Activity:</li> <li>Resources:Desmos and 3-Act Tasks; GeoGebra Geometry (free); Transformations booklet &amp; PowerPoint – uses patty paper to discover reflections and rotations; Quizlet vocabulary &amp; word wall.Gimkit</li> </ul>	
Day 5	<ul> <li>Standard(s):G.PR.10.5</li> <li>Interpret the probability distribution for a given random variable and interpret the expected value.</li> <li>LT:</li> <li>o I am learning to interpret the probability distribution for a given random variable.</li> <li>o I am learning to interpret the expected value.</li> <li>SC:</li> <li>o I understand that the probabilities in a distribution are between 0 and 1, and that they should sum to 1.</li> <li>o I can define a random variable and understand that the sample space consists of all the values the random variable can take.</li> </ul>	Scaffolding throughout the lesson and applications will be provided for rigor. Students will work in pairs for turn and talk. Graphic organizers

	<ul> <li>I can explore and develop an understanding that the expected value is the mean of the probability distribution.</li> <li>I can solve real-life problems given the expected value and interpret its meaning within context.</li> <li>Lesson/Activity:</li> <li>Resources:Desmos and 3-Act Tasks; GeoGebra Geometry (free); Transformations booklet &amp; PowerPoint – uses patty paper to discover reflections and rotations; Quizlet vocabulary &amp; word wall.Gimkit</li> </ul>	
Day 6	<ul> <li>Standard(s):G.PR.10.6</li> <li>Develop a probability distribution for variables of interest using theoretical and empirical (observed) probabilities and calculate and interpret the expected value.</li> <li>LT:</li> <li>o I am learning to develop a probability distribution for variables of interest using theoretical and empirical (observed) probabilities.</li> <li>o I am learning to calculate and interpret the expected value.</li> <li>SC:</li> <li>o I can calculate the probability of all possible outcomes of a given event and display the probability of each graphically.</li> <li>o I understand the sum of all probabilities within one distribution will be 1 (100%).</li> <li>o I can find the probability of a certain quantity.</li> <li>o I can find the probability of a range of quantities.</li> <li>Lesson/Activity:</li> <li>Resources:Desmos and 3-Act Tasks; GeoGebra Geometry (free); Transformations booklet &amp; PowerPoint – uses patty paper to discover reflections and rotations; Quizlet vocabulary &amp; word wall.Gimkit</li> </ul>	Scaffolding throughout the lesson and applications will be provided for rigor. Students will work in pairs for turn and talk. Graphic organizers
Day 7	Standards:G.PR.10.1 through 6 LT: review for CFA SC: I can demonstrate mastery of probability skill sets	Scaffolding throughout the lesson and applications will be

	Lesson/Activity:review for CFA Resources: Desmos and 3-Act Tasks; <u>GeoGebra Geometry</u> (free); Transformations booklet & PowerPoint – uses patty paper to discover reflections and rotations; Quizlet vocabulary & word wall.Gimkit	provided for rigor. Students will work in pairs for turn and talk. Graphic organizers
Day 8	Standards: G.PR.10.1 through 6 LT: I can demonstrate mastery of probability skill sets SC: I can demonstrate mastery of probability skill sets Lesson/Activity: CFA test for unit 8 Resources:	Scaffolding throughout the lesson and applications will be provided for rigor. Students will work in pairs for turn and talk. Graphic organizers
Day 9		
Day 10	Standards: LT: SC: Lesson/Activity: Resources:	
Day 11		
Day 12	The following standards will be implemented as time allows	
Day 13	Standard(s):G.PR.10.7 Calculate the expected value of a random variable and interpret it as the mean of a given probability distribution. LT: o I am learning to calculate the expected value of a random variable.	

	o I am learning to interpret expected value as the mean of a given probability distribution.	
	SC: o I can use the expected value of a random variable to make informed decisions. o I can calculate the expected value of a random variable as the sum of each o $X_n * P(X_n)$ . o I understand the sum is a weighted average of the outcomes (weighted by the probability). Lesson/Activity: Resources:Desmos and 3-Act Tasks; <u>GeoGebra Geometry</u> (free); Transformations booklet & PowerPoint – uses patty paper to discover reflections and rotations; Quizlet vocabulary & word wall.Gimkit	
Day 14	Standards: LT: SC: Lesson/Activity: Resources:	
Day 15	<ul> <li>Standard(s):G.PR.10.8</li> <li>Compare the payoff values associated with the probability distribution for a random variable and make informed decisions based on expected value and measures of variability.</li> <li>LT:</li> <li>I am learning to compare the payoff values associated with the probability distribution for a random variable.</li> <li>I am learning to make informed decisions based on expected value and measures of variability.</li> </ul>	
	<ul> <li>SC:</li> <li>o I can make decisions about real-life problems considering net value or payoff.</li> <li>o I can understand that two probability distributions can have the same expected value, but one may vary more than the other, and this should be considered in decision-making.</li> </ul>	

	o I can compute and interpret expected values for games of chance, insurance policies, and other real-life situations.	
	Lesson/Activity: Resources:Desmos and 3-Act Tasks; <u>GeoGebra Geometry</u> (free); Transformations booklet & PowerPoint – uses patty paper to discover reflections and rotations; Quizlet vocabulary & word wall.Gimkit	
Day 16	Standards: LT: SC: Lesson/Activity: Resources:	
Day 17	<ul> <li>Standard(s): G.DSR.11.1 Construct and summarize categorical data for two categories in two-way frequency tables. LT: I am learning to construct and summarize categorical data for two categories in two-way frequency tables. SC: <ul> <li>I can identify, calculate, and interpret joint, marginal, and conditional relative frequencies in context of the data.</li> <li>I can analyze meaningful, real-life data and recognize possible associations and trends in the data.</li> <li>I can understand and apply concepts of sample space to describe categorical data.</li> </ul> </li> <li>Lesson/Activity: Resources:Desmos and 3-Act Tasks; GeoGebra Geometry (free); Transformations booklet &amp; PowerPoint – uses patty paper to discover reflections and rotations; Quizlet vocabulary &amp; word wall.Gimkit</li> </ul>	
Day 18	Standards: LT:	

	SC: Lesson/Activity: Resources:	
Day 19	Standard(s): G.DSR.11.2 Use categorical data in two-way frequency tables to calculate and interpret probabilities based on the investigation. LT: I am learning to use categorical data in two-way frequency tables to calculate and interpret probabilities based on the investigation. SC: o I can use two-way frequency tables to find probabilities for unions and intersections. o I can use two-way frequency tables to compute conditional probabilities Lesson/Activity: Resources:Desmos and 3-Act Tasks; <u>GeoGebra Geometry</u> (free); Transformations booklet & PowerPoint – uses patty paper to discover reflections and rotations; Quizlet vocabulary & word wall.Gimkit	
Day 20	Standards: LT: SC: Lesson/Activity: Resources:	
Day 21	Standard(s): LT: SC: Lesson/Activity: CFA -test Resources:	
Day 22	Standards: LT:	

	SC: Lesson/Activity: Resources:	
Day 23	Standards: LT: SC: Lesson/Activity: Resources:	