09 Probability

Content Area: **Mathematics**
Course(s):
Time Period: **Week1**
Length: **1 Week**
Status: **Published**

Stage 1: Desired Results

Probability

Unit Overview/ Rationale

Standards & Indicators

Common Core: Mathematics, Common Core: Grade 8, Mathematical Practice

1. Make sense of problems and persevere in solving them.

2. Reason abstractly and quantitatively.

3. Construct viable arguments and critique the reasoning of others.

4. Model with mathematics.

5. Use appropriate tools strategically.

6. Attend to precision.

7. Look for and make use of structure.

8. Look for and express regularity in repeated reasoning.

MA.7.7.SP.C.6	Approximate the probability of a chance event by collecting data on the chance process that produces it and observing its long-run relative frequency, and predict the approximate relative frequency given the probability.
MA.7.7.SP.C.7	Develop a probability model and use it to find probabilities of events. Compare probabilities from a model to observed frequencies; if the agreement is not good, explain possible sources of the discrepancy.
MA.7.7.SP.C.7a	Develop a uniform probability model by assigning equal probability to all

	outcomes, and use the model to determine probabilities of events.
MA.7.7.SP.C.7b	Develop a probability model (which may not be uniform) by observing frequencies in data generated from a chance process.
MA.7.7.SP.C.8	Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation.
MA.7.7.SP.C.8a	Understand that, just as with simple events, the probability of a compound event is the fraction of outcomes in the sample space for which the compound event occurs.
MA.7.7.SP.C.8b	Represent sample spaces for compound events using methods such as organized lists, tables and tree diagrams. For an event described in everyday language (e.g., “rolling double sixes”), identify the outcomes in the sample space which compose the event.
MA.7.7.SP.C.8c	Design and use a simulation to generate frequencies for compound events.
MA.7.7.SP.C.5	Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. 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.

Big Ideas - Students will understand that...

-Random sampling can be used to draw inferences about a population.

-Informal comparative inferences about two populations can be drawn.

-Sampling has an effect on data collection.

Essential Questions - What provocative questions will foster inquiry and transfer of learning

-How do you determine a theoretical probability?

-How do you determine an experimental probability?

-How do you create a sample space?

-How do you create a simulation to determine the probability of an event?

Content - Students will know...

Key concepts:

biased question, box plot, inference, interquartile range, mean absolute deviation, population, random sample, sample, variability

Skills - Students will be able to...

-Learn how to gather data about a population.

-Use data from samples to make predictions and estimates about populations.

-Compare data about two populations using measures of center and measures of variability.

-Solve problems involving data sets.

Stage 2: Assessment Evidence

Assessment

Stage 3: Learning Plan

Learning Activities

Resources

Pearson

Algebra 1

c2012,

Chapter 9