

Math 7 Strategies 1

Pletcher
Week Oct. 23 Probability

Week of Oct. 23-28, 2023

- Monday: Use handout, notes to focus on the fundamental counting principle.
Multiple events get multiplied together.
Ex. How many outfits from 2 pants, 3 shirts, and 4 sweaters?
Complete last 2 pages of handout.
- Tuesday: Use handout, notes to focus on the making of tree diagrams
and tables for compound probability.
Again, multiple events get multiplied together.

Wednesday: Gummy Bear Day

Lab on Random pick day. Recreate a medium bag of gummies bear from our large sorted bag. Pick 4 gummies to for each student to simulate the snack bags we had earlier. Always restock so medium bag contains the same distribution. In the end calculate your mean number of each color from 5 snack bags. Does it match or how far off is it?

Thursday: Use the studyisland simulation problem to show random number table use for probability. Complete the sampling section on [studyisland.com](https://www.studyisland.com)

Friday: Test on sampling and compound probability.

Rules of Probability to remember

Probability is between 0 (unlikely) to 1 (likely)

Use probability percent TIMES a set of trials to predict

“Not” is $(1 - \text{Probability})$ as a shortcut to ADDING up each individual ones for simple probability. Studyisland.com has this as Simple Probability section.

Compound probability is multiplying events together. For example rolling an even number and flipping a coin on Heads.

Outcomes sample space: List, tree diagram, simulation, etc to show ALL possibilities

Next Unit - October 5 pickup

ASSESSMENT ANCHOR

M07.D-S.1 Use random sampling to draw inferences about a population.

DESCRIPTOR

M07.D-S.1.1 Use random samples.

ELIGIBLE CONTENT

M07.D-S.1.1.1 Determine whether a sample is a random sample given a real-world situation.

M07.D-S.1.1.2 Use data from a random sample to draw inferences about a population with an unknown characteristic of interest.
Example 1: Estimate the mean word length in a book by randomly sampling words from the book.
Example 2: Predict the winner of a school election based on randomly sampled survey data.

ASSESSMENT ANCHOR

M07.D-S.2 Draw comparative inferences about populations.

DESCRIPTOR

M07.D-S.2.1 Use statistical measures to compare two numerical data distributions.

ELIGIBLE CONTENT

M07.D-S.2.1.1 Compare two numerical data distributions using measures of center and variability.
Example 1: The mean height of players on the basketball team is 10 cm greater than the mean height of players on the soccer team. This difference is equal to approximately twice the variability (mean absolute deviation) on either team. On a line plot, note the difference between the two distributions of heights.
Example 2: Decide whether the words in a chapter of a seventh-grade science book are generally longer than the words in a chapter of a fourth-grade science book.

Unit Objectives - Math 7 PSSA

ASSESSMENT ANCHOR

M07.D-S.3 Investigate chance processes and develop, use, and evaluate probability models.

DESCRIPTOR

M07.D-S.3.1 Predict or determine the likelihood of outcomes.

ELIGIBLE CONTENT

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 $\frac{1}{2}$ indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event).

ASSESSMENT ANCHOR

M07.D-S.3 Investigate chance processes and develop, use, and evaluate probability models.

DESCRIPTOR

M07.D-S.3.2 Use probability to predict outcomes.

ELIGIBLE CONTENT

M07.D-S.3.2.1 Determine the probability of a chance event given relative frequency. Predict the approximate relative frequency given the probability.

Example: When rolling a number cube 600 times, predict that a 3 or 6 would be rolled roughly 200 times but probably not exactly 200 times.

M07.D-S.3.2.2 Find the probability of a simple event, including the probability of a simple event **not** occurring.

*Example: What is the probability of **not** rolling a 1 on a number cube?*

M07.D-S.3.2.3 Find probabilities of independent compound events using organized lists, tables, tree diagrams, and simulation.