

Data Analysis & Probability

BIG IDEA: The validity and reliability of data needs to be considered *

Aspect emphasize in each grade:

Grade 5 - Graphs can be used to show many-to-one correspondence.

Grade 6 - Examining outcomes of a (situation) leads to determining theoretical probability.

Grade 7 - Circle graphs are a visual representation that illustrates proportion.

Grade 8 - Determining averages is one way of making sense of large data sets.

Grade 9 - The validity and reliability of data needs to be considered.

Mathematic Competencies

Analyzing a problem

- Use multiple strategies to develop, construct, and apply mathematical understanding through problem solving
- Estimate the reasonableness of decimal and fraction calculations
- Develop and apply mental math strategies to determine decimal and fraction calculations, deepen understanding, and reinforce whole number computational fluency

Reasoning and proof

- Inductively and deductively reason.
- Use logic to explore, make connections, predict, analyze, generalize, and make conclusions

Communicating

- Communicate concretely, pictorially, symbolically, and using spoken and written language to express, describe, explain, represent, clarify, modify, reinforce, apply, defend and extend mathematical ideas

Connecting

- Visualize and describe mathematical concepts
- Connect mathematical concepts to each other and to the “real” world

Representing

- Develop mathematical understanding through concrete, pictorial, and symbolic representations
- Use technology appropriately to explore and create patterns, examine relationships, test conjectures, solve problems, record, communicate and represent thinking

Data Analysis & Probability UNIT OF STUDY

I can collect, display and analyze data to solve problems.	
6 ADRM	I can create, label and interpret line graphs to draw conclusions.
6 ADRM	I can select, justify and use appropriate methods of collecting data, including questionnaires, experiments, databases, and electronic media.
6 ADRM	I can graph collected data and analyze the graph to solve problems
7 ADRM	I can use my understanding of central tendency and range to: <ul style="list-style-type: none"> • determine the measures of central tendency (mean, median, mode) and range of a data set. • select the most appropriate measure(s) of central tendency to report findings.
7 ADRM	I can determine the effect on the mean, median and mode when an outlier is included in a data set.
7 ADRM	I can construct, label and interpret circle graphs to solve problems.
I can use experimental or theoretical probabilities to represent and solve problems involving uncertainty.	
6 ADRM	I can use my understanding of probability to: <ul style="list-style-type: none"> • identify all possible outcomes of a probability experiment • differentiate between experimental and theoretical probability • determine the theoretical probability of outcomes in a probability experiment • determine the experimental probability of outcomes in a probability experiment • compare experimental results with the theoretical probability for an experiment.
6 ADRM	I can perform and describe single transformations of a 2-D shape in the first quadrant of the Cartesian plane (limited to whole number vertices)
7 ADRM	I can express probabilities as ratios, fractions and percents.
7 ADRM	I can identify the sample space (where the combined sample space has 36 or fewer elements) for a probability experiment involving TWO independent events.
7 ADRM	I can conduct a probability experiment to compare the theoretical probability (determined using a tree diagram, table or another graphic organizer) and experimental probability of two independent events.

