



Probability and Statistics 3-4 Syllabus

Course Goals

1 Confidence with Data

Students explore and analyze data sets within the context of multiple forms of graphical representation, keeping in mind that data science is a rapidly growing field.

2 Real-Life Applications

Students discover many real-life examples where they can use their statistical knowledge to make a difference in the world.

3 Accelerated Learning

Students are exposed to content above their current grade level.

Course Topics

1 Introduction to Probability

Students explore the definition of probability by predicting whether the probability of a given event is certain, likely, equally, unlikely, or impossible. Students also calculate simple probability.

2 Theoretical vs. Experimental Probability

Students compare the difference between theoretical probability and experimental probability.

3 Dependent vs. Independent Events

Students calculate and compare the probability of two events when the events are dependent and when the events are independent.

4 Tree Diagrams

Students use tree diagrams to generate the probability of each event and use this to solve real-life problems.

5 Mean, Median, Mode, and Range

Students find the mean, median, mode, and range of data sets and discuss their meaning.

6 Stem and Leaf Plots

Students create and analyze stem and leaf plots.

7 Line Plots

Students create and analyze line plots from real-life examples.

8 Scatter Plot

Students create and analyze scatter plots from various data sets. A brief discussion of correlation is also covered.

9 Line Graphs

Students create and analyze line graphs using data sets.

10 Bar Graphs

Students create and analyze bar graphs using data sets.

11 Pie Graphs

Students create and analyze pie graphs using data sets.

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