



Standard #: MAFS.912.S-MD.2.6

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Use probabilities to make fair decisions (e.g., drawing by lots, using a random number generator). ★

Subject Area: Mathematics	Grade: 912
Domain-Subdomain: Statistics & Probability: Using Probability to Make Decisions	Cluster: Level 2: Basic Application of Skills & Concepts
Cluster: Use probability to evaluate outcomes of decisions -	Date Adopted or Revised: 02/14
Content Complexity Rating: Level 2: Basic Application of Skills & Concepts - More Information	Date of Last Rating: 02/14
Status: State Board Approved	

Related Courses

Course Number	Course Title
1200340:	Algebra 2 Honors (Specifically in versions: 2014 - 2015, 2015 and beyond (current))
1210300:	Probability & Statistics with Applications Honors (Specifically in versions: 2014 - 2015, 2015 and beyond (current))
1298310:	Advanced Topics in Mathematics (formerly 129830A) (Specifically in versions: 2014 - 2015, 2015 and beyond (current))

Related Resources

Lesson Plan

Name	Description
Modeling Conditional Probabilities 1: Lucky Dip:	This lesson unit is intended to help you assess how well students are able to understand conditional probability, represent events as a subset of a sample space using tables and tree diagrams, and communicate their reasoning clearly.
Modeling Conditional Probabilities 2:	This lesson unit is intended to help you assess how well students understand conditional probability, and, in particular, to help you identify and assist students who have the following difficulties representing events as a subset of a sample space using tables and tree diagrams and understanding when conditional probabilities are equal for particular and general situations.
Probability:	This lesson is designed to develop students' understanding of probability in real life situations. Students will also be introduced to running experiments, experimental probability, and theoretical probability. This lesson provides links to discussions and activities related to probability as well as suggested ways to integrate them into the lesson. Finally, the lesson provides links to follow-up lessons designed for use in succession with the current one.
Tree Diagrams and Probability:	This lesson is designed to develop students' ability to create tree diagrams and figure probabilities of events based on those diagrams. This lesson provides links to discussions and activities related to tree diagrams as well as suggested ways to work them into the lesson. Finally, the lesson provides links to follow-up lessons designed for use in succession with the current one.

Worksheet

Name	Description
Replacement and Probability:	This lesson is designed to develop students' understanding of sampling with and without replacement and its effects on the probability of drawing a desired object. The lesson provides links to discussions and activities related to replacement and probability as well as suggested ways to work them into the lesson. Finally, the lesson provides links to follow-up lessons that are designed to be used in succession with the current one.

Teaching Idea

Name	Description
The Birthday Paradox:	The exercise detailed in this resource poses a paradox regarding birthdays. The question raised: how large does a group have to be in order to have a 50% or better probability that two or more people in the group share the same birthday? Intuitions about probability are challenged as students use their calculators to simulate random values to represent the birthdays and reach an answer.

Problem-Solving Task

Name	Description
Unexpected Answers:	This lesson is designed to introduce students to statistical situations where the probabilities or outcomes might not be what is first expected. The lesson provides links to discussions and activities motivated by the idea of unexpected answers. Finally, the lesson provides links to follow-up lessons designed for use in succession with an introduction to probability and unexpected answers in probability.

