Teaching Probability to Kids: Techniques for Probability Math Lessons

Probability is the likelihood of something happening. It is used in weather reports, sports, science and much more. Here are some techniques for introducing kids to the theory of probability.

Ways to Teach Probability

Terminology

Below are several terms that kids should learn along the way. You may find it helpful to explicitly teach these terms to students by having them create a math dictionary in the back of their notebooks. You should also actively use these terms while teaching.

Experiment
A setting or circumstance that includes chance (probability) and that gives a result.

Outcome
The result of performing an experiment.

Probability
The likelihood of an event happening.

Experiments

Experiments are a helpful tool because they allow children to visualize and experience probability in understandable and memorable ways. In addition, experiments will likely increase students' motivation and engagement. Below are several common activities to use in your classroom.

Spinner
Use a spinner that is divided into four equal parts, all labeled with different colors. Ask students, 'What is the likelihood that the spinner will land on red when you spin it?'

There is as much chance that the spinner will land on red as the other colors because the parts on the spinner are the same size. So, there is one chance out of four that the spinner will land on red. It is written as 1/4.

Say the colors on the spinner are red, blue, white and green. Ask students to calculate the probability of the spinner landing on a primary color (red or blue). Because two of the four parts are primary colors, there is a 2/4, or 1/2,
chance. The probability in this case is higher than the previous situation because a higher fraction or percent of the spinner contains primary colors.

**Dice**

There are six sides to a die, each with its own number. The probability of throwing the die with any given number is therefore one in six, or 1/6.

Challenge your students by asking what the likelihood is for rolling an even number. Because there are three even numbers on the die, the likelihood is one out of three (1/3). The same is true for an odd number.

**Probability Games**

**Dice Addition**

This game can be used to review and reinforce probability, so you may want to have students play it multiple times before an exam. Give your students 11 pennies and a strip of paper with 11 rectangles on it. Each rectangle should larger than the pennies, and they should be numbered from 2-12.

Each child will also need a paper to keep track of how many times he throws the dice. The object of the game is to take all of the counters off of the paper in as few rolls of the dice as possible.

To begin, tell your students how to arrange their counters on the paper. The first time, place a counter on each square. The second time, place the counters only on even numbers, and the third time, only on odd numbers.

Have students take turns rolling the dice. Each time the dice are rolled, all players remove a counter from that number on their paper - unless, of course, it has no counter on it. Keep track of the number of times the dice are rolled, even if a counter cannot be removed. After playing for four or five days, you can tally up the scores and come up with some hypotheses concerning the probability of certain kinds of counter placements taking the fewest (or most) throws of the dice to be removed.

**M&M Sacks**

For this game, you will need a paper sack and about a dozen M&Ms in several colors. Put the M&Ms in the sack one at a time, recording how many of each color and the total number put in. Mix them up well. Have the students predict what color of M&M will be pulled out of the sack. You can then figure out the probability of pulling out that color. For example, if you have 12 M&Ms, and your students want to pull out a green one, but there are two green ones in the sack, the probability would be 2/12 or 1/6.

Keep track of which M&Ms have been removed and how many are left in the sack, and do it over again until all of the M&Ms have been removed. The probability will change each time an M&M is removed. For example, once the green one has been removed, the probability of pulling out another green one the next time would be 1/11 because only one green one remains and there are only 11 still in the sack.

**Source:** [http://mathandreadinghelp.org/teaching_probability_to_kids.html](http://mathandreadinghelp.org/teaching_probability_to_kids.html)