

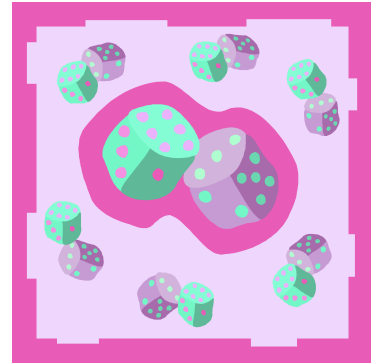
Algebra/Geometry Institute 2006

Lesson Plan 1: Probability

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Grade Level: 5th



Competency: Collect, read, organize, and interpret data and explore probability

Benchmark: Investigate the probability and patterns in, number cubes, and spinners

Objective: Use probability to predict the outcome of a single event and express the result as a fraction or decimal.

Instructional Activities:

The teacher will begin class by defining probability. Using a transparency, the teacher will write the definition of probability as a comparison between the number of favorable outcomes and the number of possible outcomes. The teacher will use a spinner as a model to demonstrate how to investigate the outcomes of the spinner with numbers labeled 1,2,4,5,7,8,10. The number 1 is on the spinner twice. The number 2 is on the spinner 3 times. The numbers 4, 5, 7,8, and 10 are on the spinner once.

The teacher will tell students that they will write probability as a fraction or decimal. The teacher will explain to students that when exploring the probability, they have to count the total number of objects that they are dealing with. The total number will be the denominator of the fraction, which is the total number of possible outcomes. The numerator will be the number of favorable outcomes.

The teacher will ask students to look at the spinner to investigate probability and will call on volunteers at random to answer questions. The teacher says, "What is the number of possible outcomes?" The teacher says, "What is the probability of the spinner landing on a 1,2,4, and so on?" This modeling will help students grasp an understanding of how to use objects to investigate probability. The teacher will record students' responses on the transparency and give feedback to the students.

The teacher will review odd, even, prime and composite numbers with students. The teacher will use a number cube to model how to explore probability. Students will answer questions as called upon. The teacher says, "What is the probability of the cube landing on an even number, odd number, prime number, composite number, a number that is divisible by 2 and a number that is not divisible by 2?"

The teacher will divide the class into four groups. The teacher will give each group a spinner to use to investigate probability. Each group will be given an activity sheet to complete (see attachment1). On the activity sheet, students will be asked questions about their spinner. Students will also have to convert some of their answers on the activity

sheet to decimals. In following lessons, students will continue to practice with probability using various objects such as, cards, skittles, and marbles. Students will use the same instructions from the previous lesson that was introduced.

Materials and Resources:

Whiteboard/Markers Transparency

Overhead projector Spinner

Activity Sheets Skittles

Paper Pencil Marbles

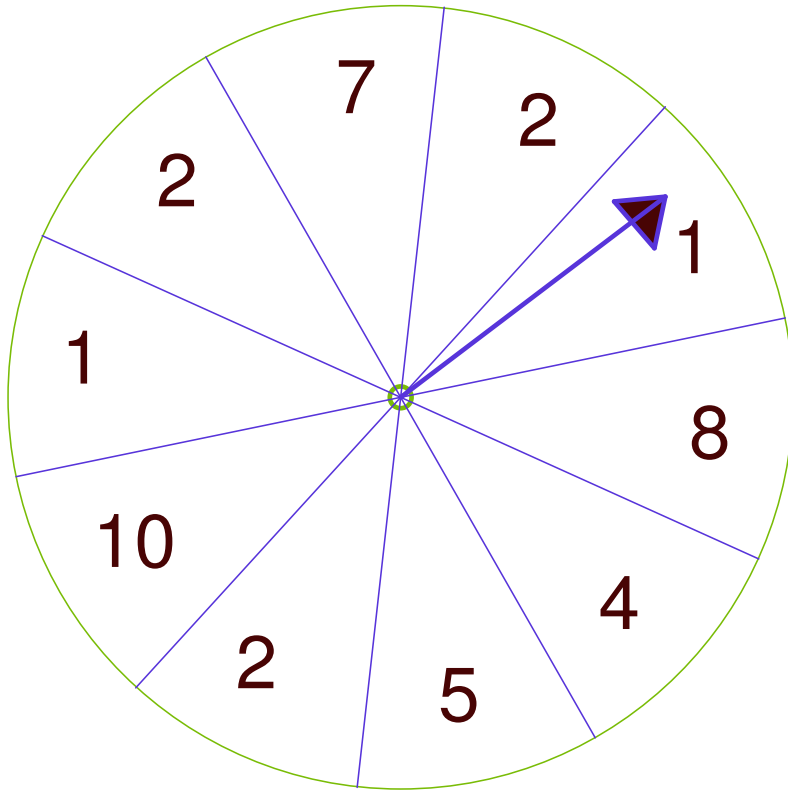
Textbook: Saxon Math Fifth Grade, Copyright , 1995

Assessment:

The teacher will observe the students to make sure that they are writing correct fractions and decimals on their activity sheet. The teacher will check each group's activity sheets. The teacher will assess the students using their oral responses. The teacher will give a benchmark test at the end of the week to check for mastery of the skill, probability.

Attachment 1

The teacher will demonstrate to students how to investigate probability using the spinner below.



Attachment 2

Probability

Directions: Use the spinner given to answer the questions. Put your answer in fraction form.

1. What is the probability that the arrow will land on a 4? _____
2. What is the probability that the arrow will land on an even number? _____
3. What is the probability that the arrow will land on an odd number? _____
4. What is the probability that the arrow will land on a composite number? _____
5. What is the probability that the arrow will land on a prime number? _____
6. What is the probability that the arrow will land on a number less than 5? _____
7. What is the probability that the arrow will land on a number greater than 5? _____
8. How many possible outcomes are there if the arrow is spun once? _____
9. What is the probability that the arrow will land on a 1? _____
10. What is the probability that the arrow will land on a 3? _____

Directions: Write each answer for 1-10 as a decimal.

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____