

Name:

Date:

Exploring Bias through Sampling

Instruction:

1. You are given a jar with 50 red marbles and 50 blue marbles. You need to estimate the number of each color by sampling only 10 marbles at a time.
2. Draw 10 marbles from the jar without looking. Record the number of red and blue marbles.
3. Repeat this process 5 times.
4. Record your data. Fill in the table below with your results:

Sample Number	Red Marbles	Blue Marbles
1		
2		
3		
4		
5		

Analysis:

- Calculate the average number of red and blue marbles from your samples.

- Compare this average to the actual number in the jar (50 red and 50 blue).

Discussion Questions:

- Did your samples accurately represent the marbles in the jar? Why or why not?
- How can sampling bias affect data used in AI systems?
- What can be done to reduce bias in sampling?