


# Conducting a Probability Experiment

NCTM Standards 5, 7, 8, 9

## A probability experiment: How many heads?

- 1 If you flip one penny and one nickel at the same time, what are the possible outcomes?



		Penny	
		H	T
Nickel	h	hH	
	t		

- 2 Perform the experiment. Flip the two coins 20 times. Record the number of heads for each flip in the table below.

Trial	1	2	3	4	5	6	7	8	9	10
Number of Heads										

Trial	11	12	13	14	15	16	17	18	19	20
Number of Heads										

- 3 Use fractions to describe your results.

0 heads:  $\frac{\boxed{\phantom{00}}}{\boxed{20}}$

1 head:  $\frac{\boxed{\phantom{00}}}{\boxed{\phantom{00}}}$

2 heads:  $\frac{\boxed{\phantom{00}}}{\boxed{\phantom{00}}}$

This table shows Alison's data for the same coin-flipping experiment.

Trial	1	2	3	4	5	6	7	8	9	10
Number of Heads	1	1	2	0	1	2	1	0	0	1

Trial	11	12	13	14	15	16	17	18	19	20
Number of Heads	1	1	1	2	0	1	0	1	1	2

Supply the missing question (Q) or answer (A).

4 Q: What are the possible outcomes? A: \_\_\_\_\_

5 Q: \_\_\_\_\_ A: 20 times

\_\_\_\_\_

6 Q: In what fraction of all the trials did the outcome "two heads" occur? A: \_\_\_\_\_

7 Q: \_\_\_\_\_ A:  $\frac{11}{20}$

\_\_\_\_\_

Make up a question and corresponding answer of your own.

8 Q: \_\_\_\_\_ A: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

9 **Challenge** Write a question about the data in the table above for which this number sentence would be a reasonable answer.

Q: \_\_\_\_\_ A:  $\frac{4}{20} + \frac{5}{20} = \frac{9}{20}$

\_\_\_\_\_

\_\_\_\_\_