

UNIT
1

LAB
1

The Scientific Method

Purpose: To practice using the scientific method.

Problem: Every time you flip a coin, there is a 1:2 chance that it will be heads or tails. How well does this hold when you actually flip a coin? In 100 coin flips, will 50 flips be heads and 50 flips be tails?

Research: Other scientists have done this experiment before. The results came back that you do not get heads or tails 50% of the time out of 1,000 flips.

Hypothesis: Using the information from the research, write a hypothesis that you will test. (Hint: what do you expect the results to be after you flip the coin 100 times?)

If a coin is flipped 100 times, _____

Procedure:

1. Using the coin provided, flip it into the air, catch it, and place it down on the table.
2. If the heads side is facing up, record "H" in the data table. If the tails side is facing up, record "T" in the data table.
3. Repeat steps one and two until you have completed 100 coin flips.

Data: Record any data from the lab in the table below.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50

Before continuing to the next 50 flips, answer the following questions:

- How many times did heads appear after 50 flips? _____
- How many times did tails appear after 50 flips? _____

Turn to the next page and complete the remaining 50 flips.

Name _____

Period _____

Date _____

51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

Before continuing, answer the following questions:

- How many times did heads appear after the second 50 flips? _____
- How many times did tails appear after the second 50 flips? _____

Analysis &
Results:

In the space below answer the following questions.

1. In 100 flips, how many times did heads appear? _____
2. In 100 flips, how many times did tails appear? _____
3. What percent of times did heads appear? _____
4. What percent of times did tails appear? _____
5. For the entire class, how many times did heads appear? _____
6. For the entire class, how many times did tails appear? _____
7. What percent of times did heads appear for the class? _____
8. What percent of times did tails appear for the class? _____
9. List 3 variables that are in this lab.
 - a. _____
 - b. _____
 - c. _____

Conclusion: Was your hypothesis correct? _____

How might the variables affect the outcome of the experiment?
