

Teaching Suggestions

Science and Mathematics Lab

(Course 1, Lesson 11-5; Course 2, Lesson 9-7; Course 3, Lesson 8-6)

The Gender of Children

OVERVIEW

This activity provides students with the opportunity to explore independent events. Students will simulate the determination of gender in offspring as an independent event.

RECOMMENDED TIME

1 class period

MATERIALS

- coin

PREPARATION

No special preparation is needed.

TEACHING THE LAB

1. Have students work individually.
2. After each student has completed his or her simulation, compare the results of the class simulations.

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The Gender of Children (continued)

Answers and Conclusions

1. Sample answer: two families; one family
2. Sample answer: two families
3. eight
4. It is possible, but not common.
5. The gender of each child does not depend on the gender of any other child.

EXTENSION

1. Sample answer: three families; two families
2. Sample answer: zero families
3. 32
4. It is possible, but highly unlikely.

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The Gender of Children

INTRODUCTION

There is an equal probability that a child will be born female or male. When a family has more than one child, the gender of each child is an independent event that is not influenced by the gender of previously born children.

OBJECTIVES

In this lab, you will:

- explore a series of independent events in a simulation.
- compare the results of your simulation with those of your classmates.

MATERIALS

- coin

DATA AND OBSERVATIONS

Family	Child 1	Child 2	Child 3
A			
B			
C			
D			
E			
F			
G			
H			
I			
J			

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The Gender of Children (continued)

PROCEDURE

1. Run a simulation to find the gender of each child in ten families. Each family will have three children. To find the gender of each child, toss a coin. If the coin comes up heads, the child is male. If the coin comes up tails, the child is female. Toss the coin for each child and then move to the next family. Record the results in your Data Table.
2. Compare your results to those of your classmates.

Questions and Conclusions

1. How many families had three male children? three female children?
2. How many of your families had the same order of male and female children?
3. How many different combinations of offspring are possible in this simulation?
4. Did anyone else in the class have exactly the same simulation results as you?
5. Why is the gender of each child an independent event?

EXTENSION

Repeat the simulation for five offspring and record the results in the Data Table below. Then answer Questions 1–4 again.

Family	Child 1	Child 2	Child 3	Child 4	Child 5
A					
B					
C					
D					
E					
F					
G					
H					
I					
J					