

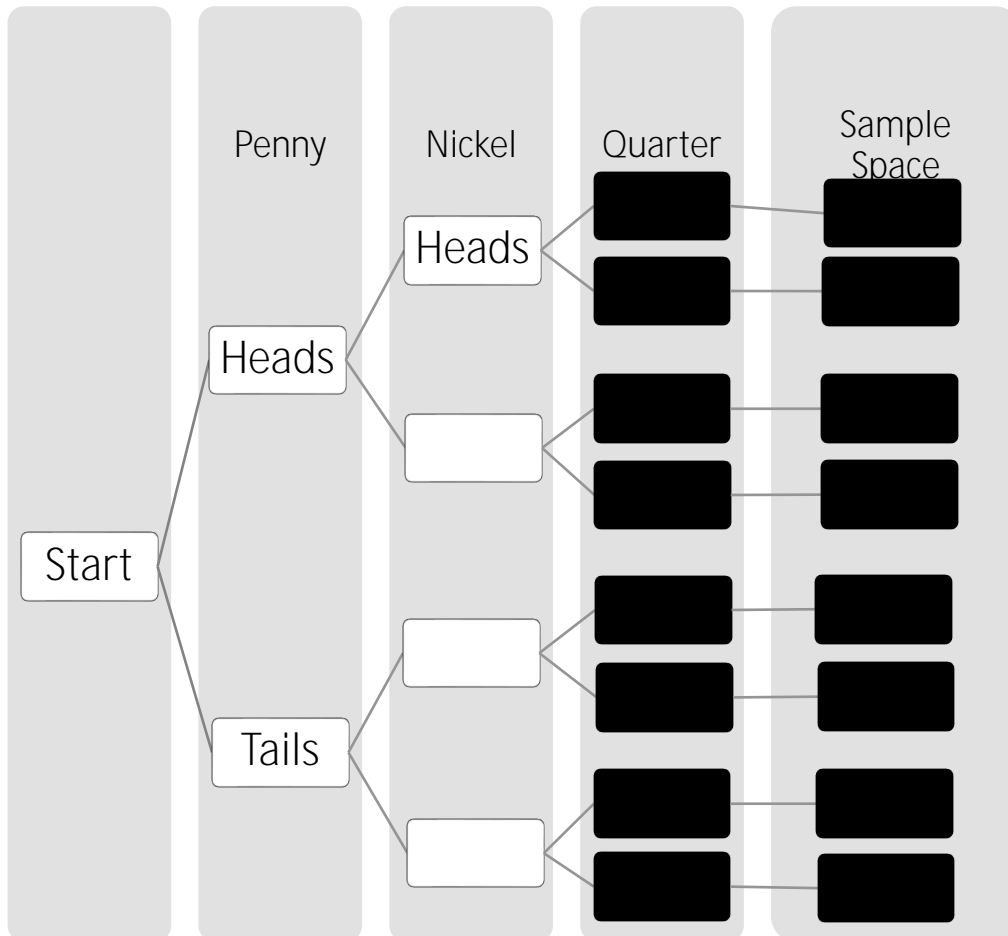
# Probability: Tree Diagrams

## Objectives:

- Using tree diagrams
- Finding possible outcomes and probability

## Exercises:

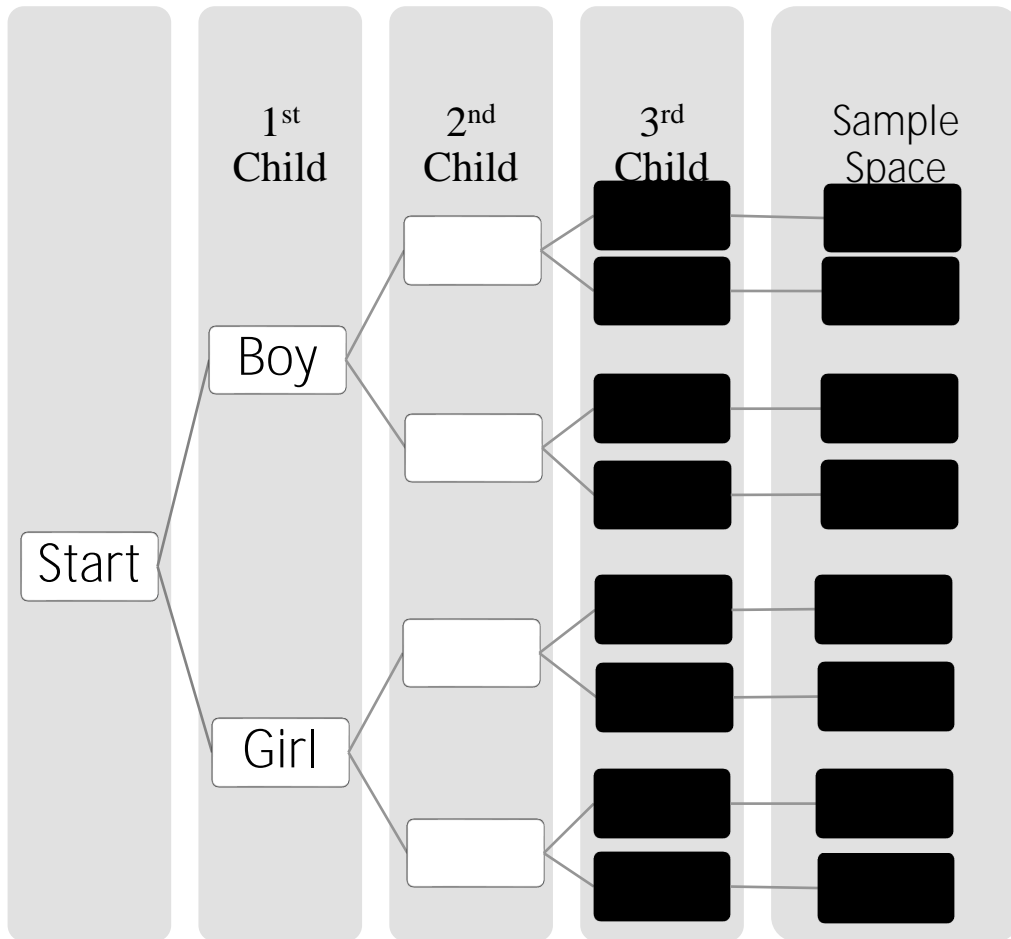
1. What is the sample space of flipping a penny?
2. Finish filling in the tree diagram to show all the possible outcomes in an experiment when we flip three coins: a penny, a nickel, and a quarter.



- a. How many outcomes are possible? List all the outcomes.
- b. What is the probability you get 3 tails?
- c. What is the probability you get 2 tails?

- d. What is the probability you get at least 2 tails?
- e. What is the probability you get at most 1 head?
- f. What is the probability you get 4 heads?

3. Finish filling in the tree diagram that represents the birth of three children.



- a. How many outcomes are possible? List all the outcomes.
- b. What is the probability you get at most 2 girls?
- c. What is the probability you get all boys?
- d. What is the probability you get at least 1 boy?
- e. What is the probability you get 4 girls?

**Answers:**

1.  $S = \{H,T\}$

2a. HHH, HHT, HTH, HTT, THH, THT, TTH, TTT

2b. -