

## **Data Analysis and Probability**

**Goal: The learner will understand and determine probabilities.**

**Objective:**

**4.02 Use a sample space to determine the probability of an event.**

To achieve this objective, students should:

- Understand that probabilities are useful for predicting what will happen over the long run
- Understand the concepts of equally likely and not equally likely outcomes.
- Understand the idea that probability,  $p$ , is always  $0 \leq p \leq 1$ . Probability,  $p$ , can be written as a common fraction, decimal, or (benchmark) percent.
- Understand that the sum of the probabilities of all possible outcomes is always 1.
- Understand that an event is a subset of all possible outcomes in the sample space.
- Use counting strategies in contexts involving counting discrete events (e.g., tosses of coins or number cubes; drawing objects from bag), area models (e.g., 10x10 grids), and measuring angles (e.g., using spinners) to determine the probability of an event.