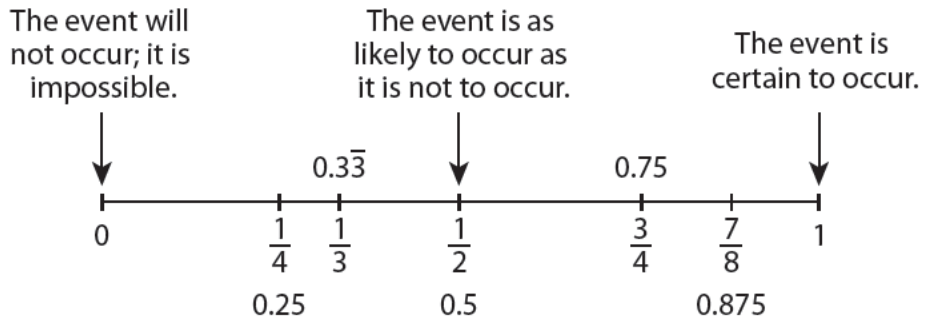
Topic: Simple Probability **Date**: _____

Learning Objective(s):

_____

_____

Main Ideas/ Questions	**Notes**
Probability Characteristics	**Probability** – The CHANCE or 'how likely' an **event** will occur • We normally write them in _____ form first • The number should be between 0 to 1 • The percentage should be from 0% to 100% 
Experiments/Events and Outcomes Examples	**Number of Possibilities** – The number of ALL possible outcomes from each separate event MULTIPLIED together 1. How many possibilities are there when you roll a die? 2. How many possible outcomes are there when you flip a coin? 3. How many possible outcomes are there when you flip two coins? 4. Find the number of possible outcomes when an ice cream stand offers waffle-cones or bowls in three different flavors: strawberry, chocolate, and vanilla 5. Find the number of possible outcomes when you choose a shirt and a pair of pants when you have 10 different shirts and 5 pairs of pants?
Sample Space Examples	**Sample Space** – The set/list of **ALL** possible outcomes of an event/experiment (write with brackets { }) 1. What is the sample space of flipping a coin? 2. What is the sample space of rolling a die?

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Examples

Notes

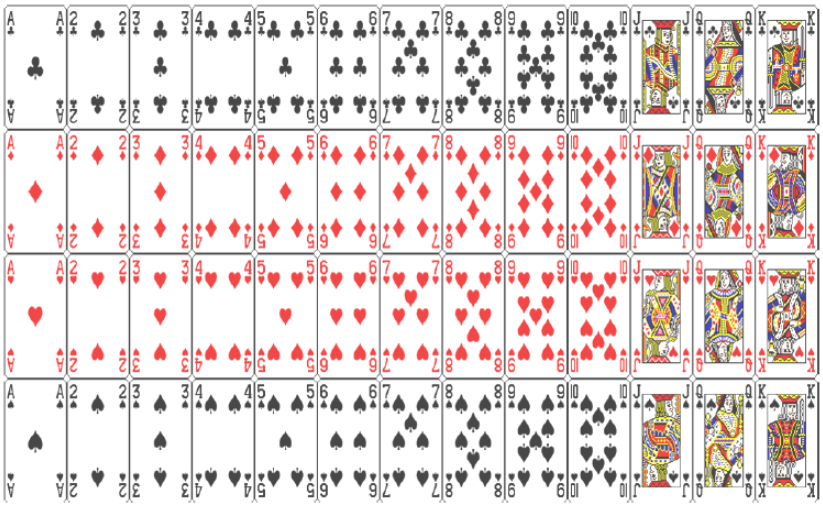
3. What is the sample space of a jewelry store selling rings with either a ruby, sapphire, emerald, or diamond gemstone?

4. What is the sample space of flipping TWO coins?

5. What is the sample space of going to a sandwich shop and they have ham, turkey, and veggies with either white bread or wheat bread?

Most Popular Event

Deck of Cards (No Jokers)



- 52 total cards
- 2 **colors** (red and black)
- 4 **suits** (Hearts, Diamonds, Spades, and Clubs)
- 13 **types** (A, 2, 3, 4, 5, 6, 7, 8, 9, 10, Jack, Queen, King)
- **Face Cards** - Jack, Queen, King
- **Lettered Cards** - Ace, Jack, Queen, King

Calculating Probability

Examples

Calculating Probability

$$probability = \frac{\#\ of\ wanted\ outcomes}{\#\ of\ ALL\ possible\ outcomes}$$

1. What is the probability of flipping a head on a coin?

2. What is the probability of rolling a 3 on a die?

3. What is the **percentage** of flipping a coin TWICE and landing on heads at least 2 times?

4. Cards numbered 1-30 placed in a bag. What is the probability of choosing a card that is less than 9?

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Remember:

$$probability = \frac{\#\ of\ wanted\ outcomes}{\#\ of\ ALL\ outcomes}$$

1. P(rolling a number less than 4)

2. P(Choosing a Queen)

3. P(Choosing the Queen of Hearts)

4. P(Heart)

5. Each of the letters in the word IPHONE are on separate cards, face down on the table. If you pick a card at random, what is the probability that its letter will be a vowel?

6. P(rolling a number greater than 2)

7. In a bag there are 2 red marbles, 4 blue marbles, and 7 purple marbles. What is the probability of choosing a blue marble?

8. In a bag, there are 2 blue marbles, 7 red marbles, and 1 green marble. What is the probability of choosing a purple marble?

9. P(choosing a 7 from a deck)′

10. What is the probability of not rolling a 2 or 6 on a die?