Probability Of An Event

$$P(A) = \frac{\text{The Number Of Ways Event A Can Occur}}{\text{The total number Of Possible Outcomes}}$$

Experiment:

Spin a spinner.
Determine each probability for where the spinner lands.

P(blue) $\frac{1}{4}$ P(yellow or red) $\frac{2}{4} = \frac{1}{2}$

P(not green) $\frac{3}{4}$ P(purple) 0

Experiment:
Roll a die.

Determine the probability for the number that is "up" when the die lands.

P(2 or 4) $\frac{2}{6} = \frac{1}{3}$ P(2 and 4) 0

P(number less than 7) 1

Experiment: Choose a card from a standard 52-card deck.

Standard Deck of 52 Playing Cards:

face cards

Diamonds (Red):	2♦	3♦	4♦	5♦	6♦	7♦	8♦	9♦	10♦	J♦	Q♦	K♦	A♦
Hearts (Red):	2♥	3♥	4♥	5♥	6♥	7♥	8♥	9♥	10♥	J♥	Q♥	K♥	A♥
Clubs (Black):	2♣	3♣	4♣	5♣	6♣	7♣	8♣	9♣	10♣	J♣	Q♣	K♣	A♣
Spades (Black):	2♠	3♠	4♠	5♠	6♠	7♠	8♠	9♠	10♠	J♠	Q♠	K♠	A♠

P(not an ace) $\frac{48}{52} = \frac{12}{13}$ P(red card) $\frac{1}{2}$

P(red face card) $\frac{6}{52} = \frac{3}{26}$ P(black 2) $\frac{2}{52} = \frac{1}{26}$