Unit: Probability
Student Handout 5

Name _____

Date _____ Pd _____

INDEPENDENT EVENTS

Review the process for multiplying fractions. Simplify before multiplying.

$\frac{1}{2} \cdot \frac{3}{4} =$ $\frac{1}{8} \cdot \frac{4}{5} =$ $\frac{2}{9} \cdot \frac{3}{5} =$

Let's talk about replacement:

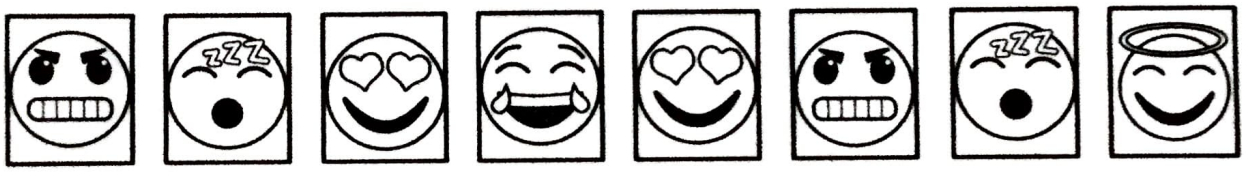
INDEPENDENT PROBABILITY

- When the outcome of one event _____ impact the outcome of the second event, the events are called _____.
- Independent probability can be determined by multiplying the probability of each event happening, or P(A and B) = _____ • _____

this means: _____

Use your understanding of probability and independent events to answer the questions below.

In a board game, students draw a card, replace it, and then draw a second card. Determine the probability of each event.



1. To earn 50 points, a student must draw a heart-eyed card and then an angel card.

_____ • _____ = _____ • _____
heart-eyed angel

2. To earn 20 points, a student must draw a sleeping card and then an angry card.

_____ • _____ = _____ • _____
sleeping angry

3. To earn 15 points, a student must draw an angry card or a laughing card and then an angel.

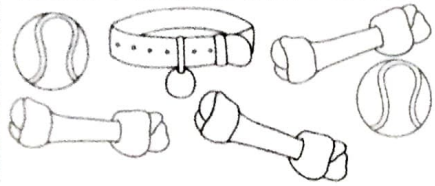
_____ • _____ = _____ • _____
angry or laughing angel

4. To earn 5 points, a student must draw a sleeping card or a heart-eyed card and then an angry card.

_____ • _____ = _____ • _____
sleeping or heart-eyed angry

Example:
QUARANTINE
The letters above are written on cards and put in a bag. What is the chance of choosing an R, replacing it, and then choosing an A?

Carefully read each problem and solve.

Kylee has a coin and a number cube. She flips the coin once and rolls the number cube once. What is the probability that the coin lands tails-up and the cube lands on a 4? 	There are six marbles in a bag. Three are green, and three are yellow. If you draw a marble, replace it, and then draw another, then what is the probability of choosing two yellow marbles?	One card from a deck of cards is selected, it is replaced, and another card is chosen. What is the probability that the first card is a red card and the second is a diamond? 
What is the probability of flipping three heads in a row?	Neil goes to the pet shop and selects a treat for his dog. He chooses one, returns it to the bunch, and then chooses another. What is the probability that Neil selects a bone and then a collar? 	Dexter has four different coins in his pocket. He randomly selects a coin from his pocket, replaces it, and selects another coin. What is the probability that both coins are dimes?
The letters of the alphabet are written on cards and placed in a brown paper bag. What is the probability of drawing a vowel, replacing it, and then drawing another vowel? Don't consider y a vowel.	Two number cubes are rolled sequentially. What is the probability that the first number cube shows a two or a three and the other number cube shows an even number?	Mackenzie chooses one candle, returns it to the bunch, and then chooses another candle. What is the probability that Mackenzie selects a polka dot candle both times?