7th Grade
May 24, 2021

Today we will:

-Do some examples of probability trees

-Take in class notes on compound probability and independent/ dependent events

-Begin Skills WS (finish as HW)

HOMEWORK:

Skills WS
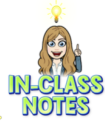
Candy survey for Wednesday's packet:

Which one do you like best of these 3?

7L:

Milky Way Bar: __1____
Sour Patch Kids: __5____
Tootsie Roll Pop: __0____

7R:

Milky Way Bar: __1____
Sour Patch Kids: __3____
Tootsie Roll Pop: __3____

**Name** _____

**IN-CLASS NOTES**

Unit _____ Lesson _____ Due Date _____

*(handwritten: want possible)*

# Quick Check

A number cube is tossed 24 times and lands on the number 1 three times and on the number 2 four times.

*(handwritten: # times you get what you want / # times you did exp.)*

1. Find the experimental probability of landing on 1. *(handwritten: $\frac{3}{24} = \frac{1}{8} = 12.5\%$)*

2. Find the theoretical probability of *not* landing on 1. *(handwritten: $\frac{5}{6} = 83\%$)*

3. Find the theoretical probability of landing on 2. *(handwritten: $\frac{1}{6} \approx 17\%$)*

4. Find the experimental probability of *not* landing on 2. *(handwritten: $\frac{20}{24} = \frac{5}{6} = 83\%$)*

5. State the difference between theoretical and experimental probabilities.

6. **TEST PRACTICE** Natalie has a bag with green, red, purple, and yellow marbles. She randomly picks a marble from the bag, records the color in a table, and replaces the marble. Based on the results in the table, what is the experimental probability of Natalie picking a purple marble?

| Color | green | red | purple | yellow |
|-------|-------|-----|--------|--------|
| Frequency | ||||  ||| | ||| | |||| | ||||  ||| |

*(handwritten: total = 25)*

*(handwritten: $\frac{4}{25} = 16\%$)*

---

A greeting card maker offers three birthday greetings in four possible colors, as shown below. How many different cards can be made from three greeting choices and four color choices.
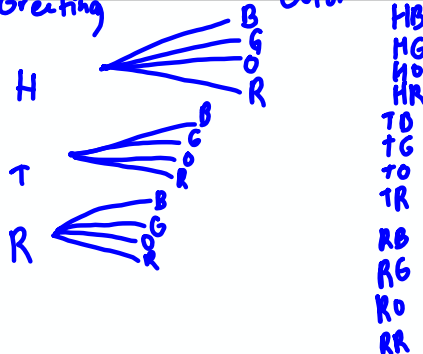
| Greeting | Color |
|----------|-------|
| humorous **H** | blue |
| traditional **T** | green |
| romantic **R** | orange |
| | red |

*(handwritten: 3 Outcomes × 4 Outcomes = 12 Choices)*

*(handwritten: Fundamental Counting Principle: multiply all possible outcomes)*

*(handwritten)*

**Event 1** Greeting   **Event 2** Color

H → B, G, O, R → HB, HG, HO, HR

T → B, G, O, R → TB, TG, TO, TR

R → B, G, O, R → RB, RG, RO, RR
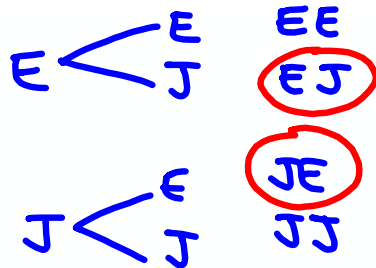
Find the probability of each, then make a
tree diagram to find all possible outcomes.

**Emilio has 2 counters. Each counter has one side marked with an E and the other side marked with a J, for Jacob. Both counters are tossed. If one counter lands with E up and the other lands with J up, Emilio wins. Otherwise, Jacob wins. What is the probability that Emilio will win?**

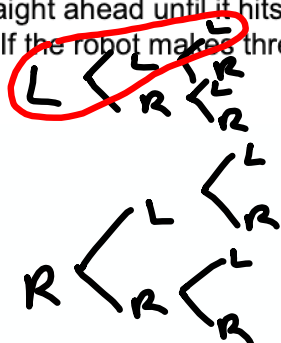E ⟨ E / J — EE, EJ

J ⟨ E / J — JE, JJ

$$\frac{2}{4} = \frac{1}{2} = 50\%$$

The student government consists of a president, vice president, and treasurer. The candidates for president are Jackson, Juan, and Megan; the candidates for vice president are Jaque and Carlos; and the candidates for treasurer are Li, Jacob, and Carl. How many ways are there to choose a president, vice president, and treasurer?

FCP: $3 \times 2 \times 3 = 18$

A toy robot moves straight ahead until it hits an obstacle. Then it turns, with equal chances of turning left or right. If the robot makes three turns, what is the probability that all three will be left turns?

L ⟨ L ⟨ L / R, R ⟨ L / R

R ⟨ L ⟨ L / R, R ⟨ L / R

$$\frac{1}{8} = 12.5\%$$

Henry rolls a number cube and tosses a coin. What is the probability that he will roll a 3 and toss heads?

$$\frac{1}{6} \cdot \frac{1}{2} = \frac{1}{12}$$

# Independent vs Dependent Events:

In **probability**, two **events** are **independent** if the incidence of one **event** does not affect the **probability** of the other **event**. If the incidence of one **event** does affect the **probability** of the other **event**, then the **events** are dependent.

.

# Lesson 8 Skills Practice

## *Probability of Compound Events*

Draw a tree diagram to find the number of outcomes for each situation.

1. Three coins are tossed.

2. A number cube is rolled and a coin is tossed.

Find the total number of outcomes in each situation. **FCP**

3. One card is drawn from a standard deck of cards. **52**

4. Three six-sided number cubes are rolled.

5. One coin is flipped three consecutive times. **$2 \times 2 \times 2 = 8$**

6. One coin is flipped and one eight-sided die is rolled.

7. A sweater comes in 3 sizes and 6 colors. **$3 \times 6 = 18$**

8. A restaurant offers dinners with a choice each of two salads, six entrees, and five desserts.

Find each probability.

9. Draw the ace of spades from a standard deck of cards. **$\frac{1}{52}$**

10. A coin is tossed twice. What is the probability of getting two tails?

11. Draw the six of clubs from a standard deck of cards.

12. Roll a 4 or higher on a six-sided number cube.

13. Roll a 7 or an 8 on an eight-sided die.

14. Roll an even number on an eight-sided die.

15. Draw a club from a standard deck of cards.

16. Roll an odd number on a six-sided number cube.

17. A coin is tossed and an eight-sided die is rolled. What is the probability that the coin lands on tails, and the die lands on a 2?

$$\frac{1}{2} \times \frac{1}{8} = \frac{1}{16}$$

18. A coin is tossed and a card is drawn from a standard deck of cards. What is the probability of landing on tails and choosing a red card?

# TITLE: Statistics

**Math Chapter 10**

| Date | Lesson | Topic/Assignment |
|------|--------|------------------|
| 4/29 | 1 | Measures of Center Packet |
| 4/30 | 2 | Measures of Variability Packet |
| 5/3 | 1-2 | HW Practice WS |
| 5/4 | 3 | MAD Video Notes |
| 5/6 | 3 | #2 and #5 Practice WS |
| 5/6 | 3 | In-Class Question |
| 5/6 | 3 | Reteach WS |
| | | |
| 5/17 | 6 | Probability of Simple Events Notes |
| 5/17 | 6 | Skills WS |
| 5/19 | 6 | Task Cards Activity |
| 5/20 | 7 | Theoretical vs Experimental Probability VN |
| 5/20 | 7 | In-Class Notes |
| 5/24 | 8 | In-Class Notes |
| 5/24 | 8 | Skills WS |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

Welcome to our class

IN THIS CLASSROOM
WE DON'T
give up,
BUT WE DO
give our
best effort

HARD
WORK
PAYS
OFF

WELCOME

7th Grade
Homework

Skills WS