Name __Answers__

Date _____ Pd____

SAMPLE SPACE

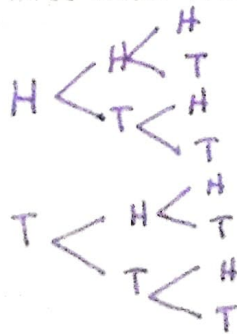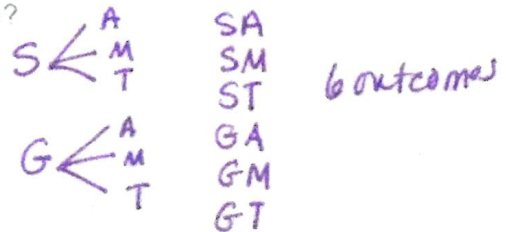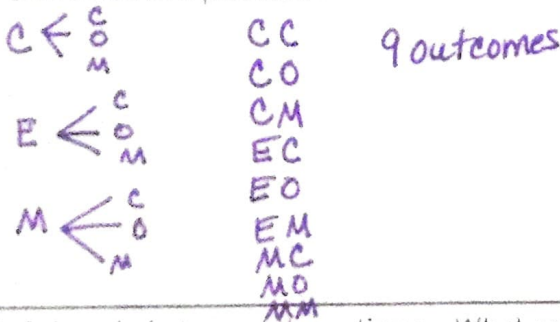| SAMPLE SPACE	• The sample space describes all of the possible __outcomes__ of an event. • Sample space can be __displayed__ with lists, tables, or tree diagrams to determine the probability of __simple__ or __compound__ events.

1. The New England Patriots and the Dallas Cowboys are playing. What are the possible outcomes of the game? Patriots Win or Cowboys Win.

2. A number cube is rolled. What are the possible outcomes?
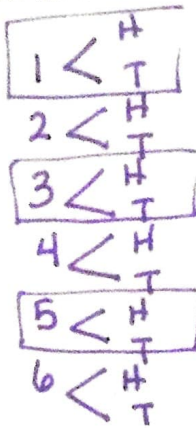
    1, 2, 3, 4, 5, 6

LIST OR TABLE

3. For breakfast Jamie can choose from cereal, eggs, or a muffin. She also can drink coffee, orange juice, or milk. What are all the possible outcomes? How many total outcomes are possible?

C < C O M
E < C O M
M < C O M

CC
CO
CM
EC
EO
EM
MC
MO
MM

9 outcomes

4. At registration a student can select from Spanish or German class, as well as Art, Music, or Theater. What are all the possible outcomes? How many total outcomes are possible?

S < A M T
G < A M T

SA
SM
ST
GA
GM
GT

6 outcomes

TREE DIAGRAM

5. A fair coin is tossed three times. What are all the possible outcomes? How many total outcomes are possible?

H < H < H T   T < H T
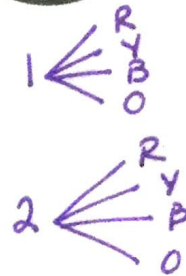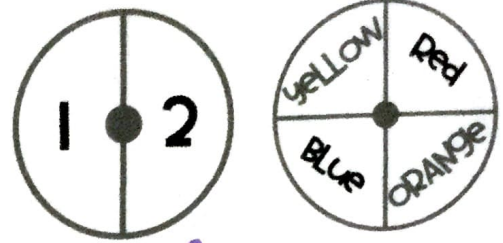T < H < H T   T < H T

8 possible outcomes

Create a list. Then, use the information to answer the question.

6. Amanda will roll a number cube and flip a coin. If Amanda rolls the number cube once and flips the coin once, then what are the possible outcomes in which the number cube lands on an odd number?
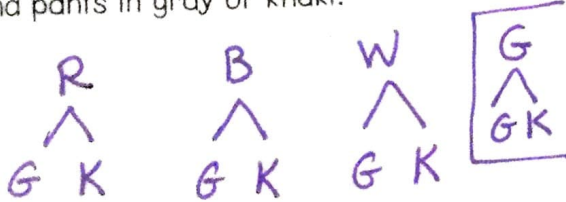
1 < H / T
2 < H / T
3 < H / T
4 < H / T
5 < H / T
6 < H / T

1 H
1 T
3 H
3 T
5 H
5 T

7. The two spinners below are spun at the same time. What are all the possible outcomes of the two spins?

1 < R / Y / B / O
2 < R / Y / B / O

Create a tree diagram. Then, use the information to answer the questions.

8. A clothing line has shirts in red, blue, or white and pants in gray or khaki.
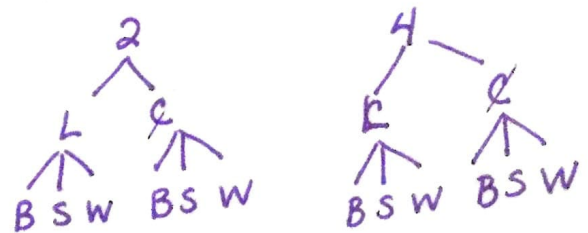
R / B / W / G
G K   G K   G K   G K

a. How many different combinations can be made with the clothing line?

6

b. How would adding a green shirt to the clothing line change the tree diagram above? How would that change the number of possible outcomes? Justify your thinking.

it would add 2 more possibilities

9. When buying a car, Esther can choose a 2-door or 4-door car with leather or cloth interiors in black, silver, or white.

2 < L / C
L < B S W   C < B S W
4 < L / C
L < B S W   C < B S W

a. How many different combinations can be made with the car options?

12

b. The car dealership discontinues the cloth interiors on that model. How would that change the tree diagram above and the number of possible outcomes? Justify your thinking.

it would remove 6 options.

Summarize today's lesson:

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Name **Answers**

Date _____ Pd _____

SAMPLE SPACE

The number cube is rolled and a coin is tossed. Answer the questions below.

1. Sketch a tree diagram to represent the sample space.

1   2   3   4   5
/\   /\   /\   /\   /\
H T   H T   H T   H T   H   T

2. How many different combinations are possible?

10 combinations

3. Which list contains only the outcomes in which the number cube lands on a number less than 4?

~~1, heads~~   ~~4, heads~~   ~~1, tails~~
~~1, tails~~   ~~2, heads~~   ~~2, tails~~
~~2, heads~~   ~~5, heads~~   ~~3, tails~~
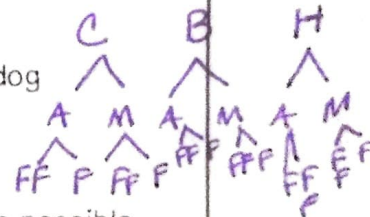~~2, tails~~   4, heads
~~3, heads~~
~~3, tails~~

Answer the questions below.

4. Sketch a tree diagram to represent the sample space of flipping each of the following coins once.

H < H < H/T , T < H/T
      T < H/T
T < H < H/T
      T < H/T

6. Tyra will flip a red and yellow counter and spin a spinner labeled A-E. If Tyra flips the counter and spins the spinner, then list only the outcomes in which a red counter and a vowel are spun.

5. Jason is ordering a kids meal. He can choose from the following:

- Chicken nuggets, burger, hot dog
- Apple juice or milk
- French fries or fruit

The list below shows some of the possible outcomes. List the missing possible outcomes below.

Chicken nuggets, apple juice, French fries
Chicken nuggets, apple juice, fruit
Chicken nuggets, milk, French fries
Chicken nuggets, milk, fruit
Burger, apple juice, French fries
Burger, milk, French fries
Burger, apple juice, fruit
Hot dog, apple juice, French fries
Hot dog, milk, French fries
Hot dog, milk, fruit

~~B, A, F~~ B, M, F
        H, A, F