





postvisit activities

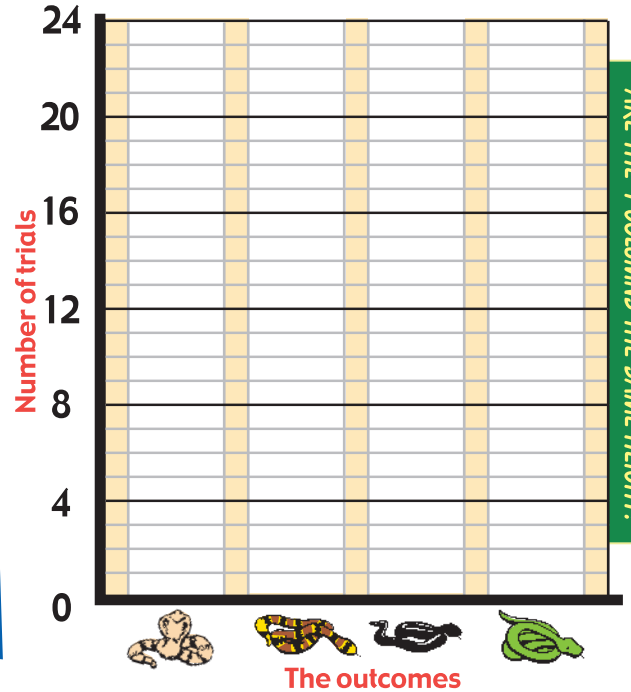
Name _____

Myth #3

Find out the truth! Turn this sheet over.
Wearing your lucky shoes while buying a lottery ticket will make the numbers you choose to be more likely drawn.

| Me |  |  |  |  |
|--------------|---|---|---|---|
| #1 | | | | |
| #2 | | | | |
| #3 | | | | |
| #4 | | | | |
| #5 | | | | |
| TOTAL | | | | |

Colour in the columns using the data you've collected above.



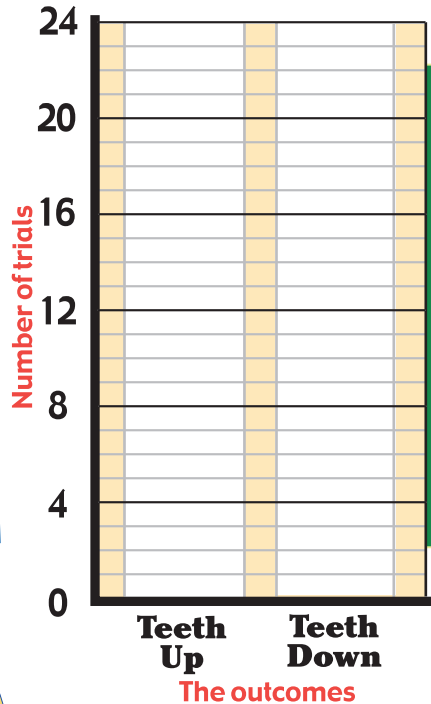
Medusi-Os



Randomly pick **5 other people** in your class and copy their Exhibit Activity totals into the blanks below. (Don't forget to write your own totals in the 'Me' slots!)

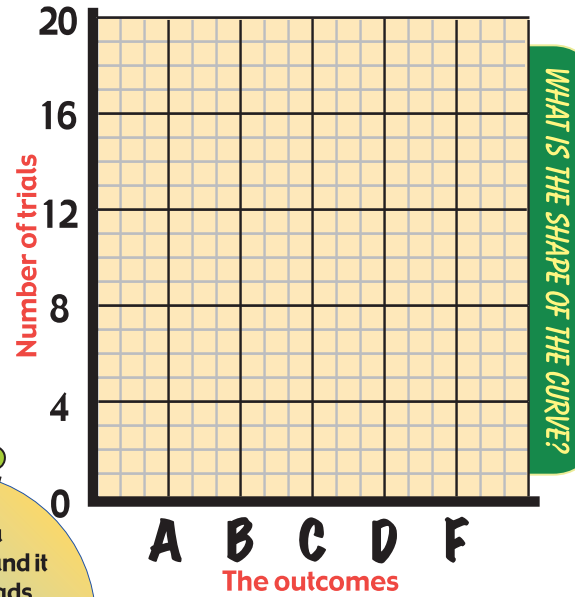
| | Teeth Up | Teeth Down |
|--------------|----------|------------|
| Me | | |
| #1 | | |
| #2 | | |
| #3 | | |
| #4 | | |
| #5 | | |
| TOTAL | | |

Colour in the columns using the data you've collected above.



| | A | B | C | D | F |
|--------------|---|---|---|---|---|
| Me | | | | | |
| #1 | | | | | |
| #2 | | | | | |
| #3 | | | | | |
| #4 | | | | | |
| #5 | | | | | |
| TOTAL | | | | | |

Using the data collected above, plot the total number of A, B, C, D, and Fs. Join the points together to form a curve.



Exam Cram

Myth #2
If you flip a coin 10 times and it comes up heads every time, it's more likely to come up tails the next time you flip it.

Find out the truth! Turn this sheet over.

What are the Odds?



Up or down?

Record the names of the 5 people below.

- #1
- #2
- #3
- #4
- #5

Myth #1
If you've been playing a game of chance for a long time and haven't won, you're more likely to win the next time you play.

Find out the truth! Turn this sheet over.



Saskatchewan Health

Problem Gambling Help Line
1-800-306-6789

You know all about probability and you've played "The Probability Quiz" so let's begin...

The Probability Quiz

Round #1: Warm-up

- 1 A deck of 52 cards is shuffled and the top 2 cards are put on a table, face down. You win \$1 if the second card is the queen of hearts. What is the probability of winning the dollar?
a) $1/52$ b) $2/52$ c) $1/51$ d) $1/2$
- 2 You turn over the first card and it is the 7 of clubs. Now what is your chance of winning the dollar?
a) $1/52$ b) $2/52$ c) $1/51$ d) $1/2$
- 3 There are two boxes.
 - Box A contains 3 red marbles and 2 blue marbles.
 - Box B contains 30 red marbles and 20 blue marbles.One marble is drawn at random from one of the boxes. If it is red, you win. Choosing between the two boxes, which box gives you a better chance of winning?
a) Box A b) Box B c) It doesn't matter which box you choose.



Truth #1

Previous results do not indicate what will happen in the future.

Just because probability says that there is a 1 in 2 chance that a coin will land heads up, it might not.

Round #2: Psychic guess

- 4 The probability of rolling a 7 with two 6-sided dice is $1/6$. The probability of rolling a 2 with two 6-sided dice is $1/36$. If you roll two 6-sided dice, what number are you going to see?
a) 7 b) 2 c) neither d) I don't know
- 5 You see a fellow fly his kite into a thunderstorm and receive quite a shock when lightning strikes the kite and travels down the metal wire he uses in place of a string. You ask him what he is doing. He replies, "The probability of winning the Lotto 6/49 jackpot is 1 in 14,000,000. The probability of getting struck by lightning is 1 in 600,000. You are 23 times more likely to get struck by lightning than win the Lotto 6/49 jackpot." Continuing his explanation he says, "So, if I get hit by lightning 23 times, I'll be a shoo-in to win the lottery." This fellow's reasoning is
a) correct. In fact, if you get hit by lightning 46 times you win the lottery twice.
b) incorrect. Lotto 6/49 is a game of chance independent of all actions.
c) flawed. Lightning and the Lotto 6/49 draws do not occur at the same rate.
You have to get hit by lightning more than 23 times before you will win the lottery.

Truth #2

Chance has no memory. In a game of chance, the probability of winning is the same each time you play, no matter what happened in the last game.

Round #3: Oops, amnesia

- 6 Your friend plays on the best basketball team in the city, and they are playing the worst basketball team in the city. It's safe to bet on the game
a) all the money you can get your hands on.
b) all the money you have since you will get it all back anyway.
c) only the amount of money you'd be comfortable losing, nothing is a sure thing.

Truth #3

You can't influence chance. Lucky charms, rituals and positive thinking all have the same effect on a game of chance: zilch!

Round #4: Sorry, try again

- 7 When you gamble at a casino, the odds are carefully calculated to be
a) stacked in your favor.
b) stacked against you.
c) it depends how many people you are playing.
d) if it is a fair game you have equal chances of winning and losing.
- 8 You are reading the National Post-It newspaper. They have a non-scientific survey that states 9 out of 10 residents in Canada prefer granola to candy. This means
a) if you were to randomly ask 10 Canadians, 9 of them would prefer granola.
b) the majority of Canadians prefer granola.
c) nothing, for all you know this survey is based on 10 guinea pigs that are pets of the editor.
- 9 The safest way to increase your savings is to
a) deposit it into a guaranteed investment.
b) bury it in the backyard.
c) use probability and make bets.



▶ How many did you get right?

Think you did better on the second session? Check over your answers with your teacher.

Just Remember

People who don't understand probability think that the longer they play a game of chance, the more likely they are to win. But it's the other way around. You can lose a lot of money trying to reach the 'big win', without ever getting there.