



TEACHER ACTIVITY GUIDE

When students have fun with math, it can suddenly become a lot more interesting. We encourage you to use this Activity Guide to extend classroom learning. It is intended to be used in conjunction with the live performance of **The Math Maniac Show with Max Millions** and **The Math Maniac Study Guide** found at www.GreatShowsForKids.com. The activities on the following pages have different levels of difficulty for grades K - 6. We recommend that you save these for after the show when the kids are "psyched" about the possibilities of math.

HOW MUCH IS A MILLION?

QUESTION: There are about 31 million seconds in a year; so how long would it take to count to a million, if you counted one number per second, 24 hours per day?

ANSWER: About 12 days! WOW!

How Long is a Million Minutes?

- 16,666.6 Hours
- 694.4 Days
- 99.2 Weeks
- 22.8 Months
- 1.9 Years *(That's a long time!)*



What Could You Do in a Million Minutes?

- Brush your teeth 333,333 times
- Take 125,000 showers
- Listen to your favorite song about 264,312 times
- Recycle over 113 billion aluminum cans
- Watch your favorite 90 minute movie over 10,526 times
- Fly round trip from New York to Los Angeles 1,626 times

Is There Anything Bigger Than a Million?

Million = 1,000,000

Billion = 1,000,000,000

Trillion = 1,000,000,000,000

Quadrillion = 1,000,000,000,000,000

Nonillion = 1,000,000,000,000,000,000,000,000,000

AIRPLANE PILOT:

"I have to quickly calculate various levels of math problems to determine flight paths and fuel requirements for a safe flight."

NURSE:

"I use math every day to evaluate a safe dosage of medication for each of my patients."

SPORTSCASTER:

"I love sports! To be a good sportscaster you must calculate batting averages, earned run averages and other statistics on the fly."

MAGICIAN:

"Magicians use lots of math. Many tricks involve probability and counting cards. The better I am at math the more magical my tricks become."

MATH MANIAC:

"Did you think that only accountants, analysts and mathematicians use math? Can you name other jobs that use math every day?"

WHO NEEDS MATH?

In the box below, make a list of all the jobs you can think of that use math:



ROLL AN EVEN NUMBER!



- Toss a pair of dice and find the sum. Is the sum ODD or EVEN?
- If the sum is an EVEN number, mark a box in the column above the EVEN number.
- If the sum is an ODD number, roll again.

2	4	6	8	10	12

Grades
K-2

DO YOU KNOW YOUR 9's?

- Two teams with two players on a team.
- Teams toss a die. Higher number goes first.
- Each team chooses a different color marker.

- Toss 2 dice. Find the sum.
- Multiply the sum of the two dice by **9**.
- Circle the product with your team's color.
- First team to circle 4 numbers in a row, vertically, horizontally, or diagonally, wins.



81	63	54	27	99	18	45
108	45	90	72	81	54	36
54	63	45	36	72	90	108
18	72	36	63	54	99	81
63	81	63	27	90	72	99
90	36	45	54	81	108	63
27	18	63	90	36	72	45

Grades
3-4

WHAT ARE THE CHANCES?



1



2



3



4

**Locked away in one of these safes is a million dollar bill.
Circle the correct probability:**

- | | | | | |
|--|------------|--------------|------------|-------------|
| • What is the probability that you will guess correctly on your first try? | 25% | 33.3% | 50% | 100% |
| • If you didn't guess right, what is the probability you will guess correctly on your second try? | 25% | 33.3% | 50% | 100% |
| • Oops . . . you still didn't get it. What is the probability that you will get it right on your third try? | 25% | 33.3% | 50% | 100% |
| • If you are still guessing, you only have one safe left. What is the probability that you will guess correctly this time? | 25% | 33.3% | 50% | 100% |

A real million dollar bill would look great, but they do not exist. The United States has never issued a million dollar bill. Think about it, what if you bought a candy bar for \$1.25 with your million dollar bill? How much change you would get back? That's a lot of pocket change!



ANSWER: The million dollar bill is locked away in safe #3.

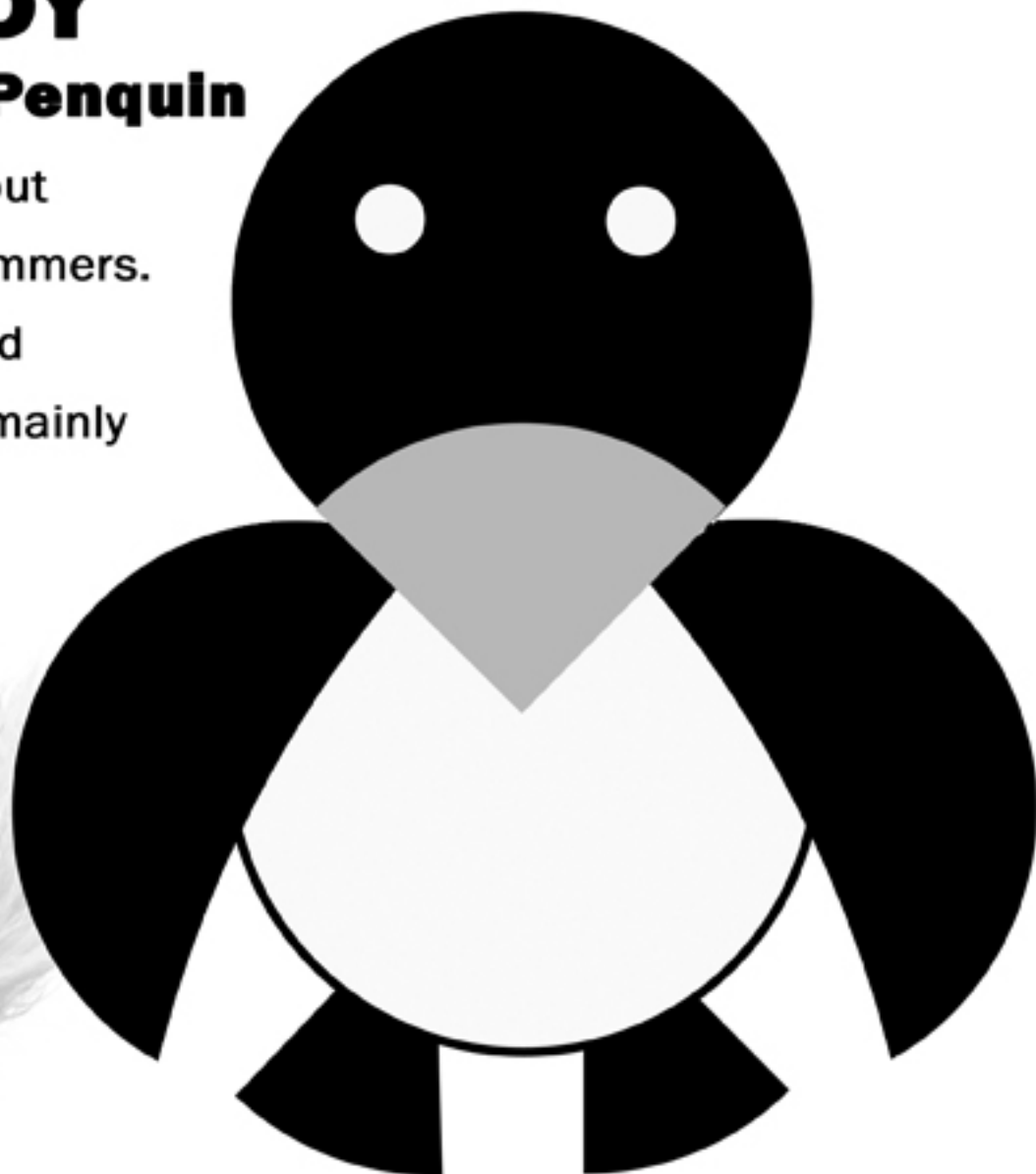
You can play this game with a friend: Turn 4 cups upside down on the table. Tell your friend to close their eyes. Hide a coin under one of the cups. Before your friend guesses which cup you have hidden the coin. Guess the percentage that they will guess correctly on their first try and so on.

Grade 5-6

FREDDY

The Fraction Penguin

Penquins can't fly but they are expert swimmers. They live in very cold climates. They eat mainly fish or seafood.

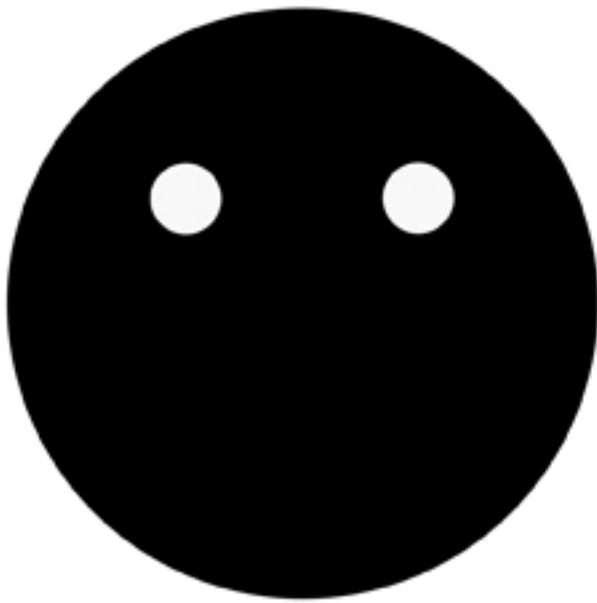


Freddy the Penguin is no ordinary bird. He is extra special because he is made out of fractions from a circle. Cut out the PATTERN on the following page. Put Freddy the Penguin together and make him feel whole again.

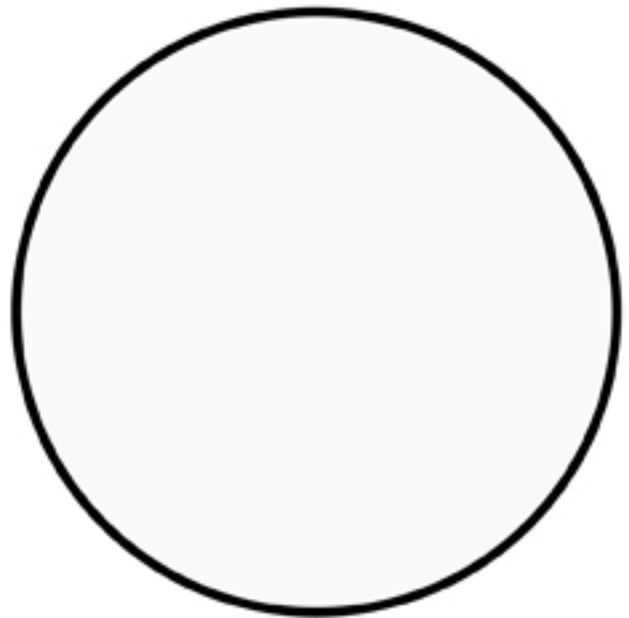


Freddy the Fraction Penguin

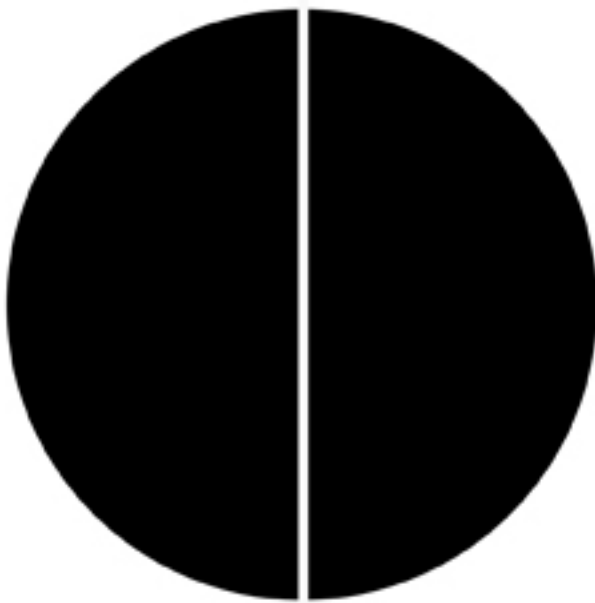
PATTERN



HEAD



BODY



WINGS



BEAK



FEET

MAGIC SQUARES

A magic square is an NxN matrix in which every row, column, and diagonal add up to the same number. Create the following magic square by filling in the blank squares with the following numbers:



What is the sum of each column? _____

What is the sum of each row? _____

What is the sum of each diagonal? _____

Add the four corner numbers. What is the sum? _____

Add the numbers in the four center squares. What is the sum? _____

That's Amazing!

	7	12	13
16		6	3
5	4		10
11	14	1	

ANSWER: All rows equal the number 34.

MATH WEBSITES:

TEACHERS:

www.proteacher.com
www.education.com
<http://edhelper.com>
www.aaamath.com
www.math-lessons.ca
www.apples4teacher.com
www.theteacherscafe.com

STUDENTS:

www.mathcats.com
www.funbrain.com
www.coolmath.com
www.brainpop.com

Q: Why did the math book look so sad?
A: Because it had so many problems!

Q: What do mathematicians eat on Halloween?
Z: Pumpkin Pi!

