

**Saving the world one number at a time!**

# **SUPER HERO MATH!**

## **STUDY GUIDE**

MAGICIAN JOE ROMANO COMBINES MAGIC, MATH AND SUPERHEROES IN THE DAZZLING PRODUCTION OF "SUPERHERO MATH!" MULTIPLY YOUR STUDENT'S EXCITEMENT FOR MATH IN A FRACTION OF THE TIME WITH THE ADDITION OF THIS EXCITING NEW MATH ASSEMBLY! MAGICIAN JOE ROMANO USES MAGIC, MUSIC, AUDIENCE PARTICIPATION AND MIND BLOWING ILLUSIONS TO GET YOUR STUDENTS EXCITED ABOUT MATH! THE UNITED STATES IS CURRENTLY RANKED #32 WHEN IT COMES TO OUR STUDENTS UNDERSTANDING OF BASIC MATH. KIDS ARE CAPTIVATED BY SUPERHEROES! WITH THAT IN MIND, ROMANO HAS CREATED AN ASSEMBLY THAT CREATES THAT SAME EXCITEMENT WHEN IT COMES TO MATH. JOE ROMANO CUTS HIS ARM IN 3 EQUAL PIECES TO TEACH THE CONCEPT OF THIRDS. STUDENTS HAVE TO GUESS HOW MANY PRIZES ARE IN THE MAGIC GUMBALL MACHINE, A GREAT LESSON IN ESTIMATION. OTHER SEGMENTS INCLUDE ORDERS OF OPERATION, MEASUREMENT, PROBABILITY AND MORE!

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# FRACTIONS:

FRACTIONS ARE TRICKY TO GRASP. HOW IS IT THAT  $\frac{1}{2}$  IS BIGGER THAN  $\frac{1}{3}$  WHEN A 3 IS BIGGER THAN A 2? ONCE YOU UNDERSTAND FRACTIONS, IT MAKES SENSE. UNTIL THEN? IT IS A BIG MYSTERY. HELP YOUR STUDENT SEE FRACTIONS AT WORK WITH PIZZA SLICES, BOWLING PINS,



# ESTIMATION:

ENCOURAGE YOUR STUDENT TO USE BENCHMARKING, AN ESTIMATION STRATEGY, WHEN THERE'S A KNOWN SAMPLE HE OR SHE CAN USE TO EXTRAPOLATE TO SOMETHING MUCH LARGER OR SMALLER. FOR EXAMPLE, FILL ONE OF EACH WITH COINS: QUART-SIZED, GALLON-SIZED, AND SNACK-SIZED ZIPLOCK BAGS.

1. ASK YOUR CHILD TO COUNT THE NUMBER OF COINS IN THE QUART-SIZED BAG.
2. USE THAT NUMBER AS THE BENCHMARK TO ESTIMATE HOW MANY COINS ARE IN A BIGGER (GALLON-SIZED) ZIPLOCK BAG
3. ESTIMATE HOW MANY ARE IN A SMALLER (SNACK-SIZED) ZIPLOCK BAG.
4. FOR AN EXTRA CHALLENGE, ASK YOUR LEARNER TO







# ADDITION & SUBTRACTION

HERE IS A GREAT GAME TO HELP TEACH ADDITION AND SUBTRACTION!

STEP 1: MAKE GIANT CARDS AND NUMBER 1 - 12.

STEP 2: FIND SOME GIANT DICE ONLINE, THE BIGGER THE BETTER!

HAVE STUDENTS LAY CARDS IN A ROW 1 - 12

FIRST STUDENT ROLLS THE DICE ---

ROLLS A 4 AND A 2

THAT STUDENT CAN TURN OVER ANY COMBINATION OF CARDS THAT EQUALS 6 (5 AND 1, 3 AND 2 AND 1, 2 AND 4, ...)

THE FIRST STUDENT PLAYS UNTIL THEY TURN OVER ALL THE LARGE CARDS. THE TURN ENDS IF THEY CAN NOT TURN OVER CARDS TO EQUAL THE ROLLED AMOUNT. THE NEXT STUDENT TAKES THEIR TURN. THE WINNER IS THE STUDENT WHO CAN TURN OVER ALL THE CARDS DURING THEIR TURN.

# ENJOY THESE FUN MATH TRICKS FOR YOUR STUDENTS...

# NO DICE!

**YOU WILL NEED:**

JUST 5 DICE!



THE TRICK: SOMEONE ROLLS 5 DICE ON THE TABLE. WITHIN SECONDS YOU ARE ABLE TO CALL OUT THE SUM OF THE BOTTOM NUMBERS ON THE DICE!

THE SECRET: ADD THE TOP NUMBERS OF ALL 5 DICE AND SUBTRACT FROM 35. THIS WILL GIVE YOU SUM OF THE BOTTOM NUMBERS EVERY TIME!

**HOW  
?**

ON ANY DIE THE SUM OF THE TOP NUMBER AND BOTTOM NUMBER IS 7. FOR EXAMPLE, IF YOU TOSS ONE DIE AND THE TOP NUMBER OF THE DIE IS 3, THE NUMBER AT THE BOTTOM IS 4, SINCE  $4+3=7$ .

# COIN CONFUSION!

**YOU WILL NEED:**

A  
BUNCH OF  
PENNIES AND  
DIMES!



1. HAVE YOUR FRIEND SELECT SEVERAL PENNIES AND DIMES FROM AROUND THE HOUSE. THEY CAN TAKE AS MANY THEY WANT, BUT THEY HAVE TO AT LEAST PICK ONE DIME AND ONE PENNY.
2. ASK YOUR VOLUNTEER TO ADD THE TOTAL VALUE OF COINS THEY HAVE IN THEIR HAND. THEY NEED TO REMEMBER THIS TOTAL VALUE.
3. HAVE THEM COUNT HOW MANY COINS THEY HAVE IN THEIR HAND AND SUBTRACT THAT NUMBER FROM THE TOTAL VALUE THEY WERE TOLD TO REMEMBER. THEY NOW HAVE A NEW NUMBER. ASK THEM TO FOCUS ON THAT NUMBER.
4. ASK THEM IF THEY HAVE 2 OR 3 DIGIT NUMBER IN THEIR MIND. IF THEY DO, HAVE THEM ADD THE DIGITS TOGETHER.
5. THE NUMBER WILL ALWAYS BE NINE!
6. IF THEIR MAGIC NUMBER IS A ONE DIGIT NUMBER. THE NUMBER IS STILL NINE!

**HOW?**

WHEN YOU SUBTRACT THE NUMBER OF COINS FROM THE TOTAL VALUE, YOU ARE SUBTRACTING THE VALUE OF A PENNY AND TRANSFORMING THE VALUE OF A DIME TO NINE. THE SUM OF A NINE PRODUCT IS ALWAYS NINE! MATH IS ALL ABOUT PATTERNS!



# MINDREADING MATH!

1

TELL YOUR FRIENDS THAT YOU CAN READ MINDS! GIVE THEM A PIECE OF PAPER AND ASK THEM TO WRITE DOWN ANY 3 DIGIT NUMBER, MAKING SURE ALL THE NUMBERS ARE DIFFERENT.

FOR EXAMPLE...

467  
221

RIGHT

WRONG!

YOU WILL NEED:

- 1) PENCIL
- 2) PAPER
- 3) CALCULATOR

2

HAVE VOLUNTEER REVERSE THE NUMBER.

764

3

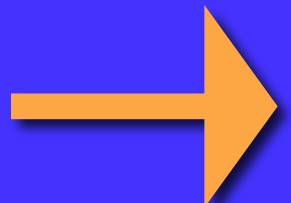
NOW SUBTRACT THE SMALLER NUMBER FROM THE LARGER ONE. THEY CAN USE A CALCULATOR.

$$764 - 467 = 297$$

4

ASK YOUR SPECTATOR TO ONLY GIVE YOU THE LAST DIGIT OF THE ANSWER.

7



5

EVEN THOUGH YOUR VOLUNTEER ONLY GAVE YOU ONE DIGIT IN THEIR FINAL NUMBER, YOU ARE ABLE TO PREDICT THEIR ANSWER!

297 !

HOW  
?

YOU ARE ABLE TO MAKE THIS AMAZING PREDICTION BASED ON A SIMPLE NUMBER PATTERN. WHEN YOU TAKE A 3 DIGIT NUMBER, REVERSE IT, AND THEN SUBTRACT THE SMALLER NUMBER, THE MIDDLE DIGIT IS ALWAYS 9. THE TWO OUTSIDE DIGITS ALWAYS ADD UP TO 9 AS WELL! WHEN YOU ASK YOUR VOLUNTEER FOR THE LAST NUMBER IN THE FINAL ANSWER, YOU AUTOMATICALLY KNOW THE FIRST DIGIT, IT'S THE DIFFERENCE BETWEEN 9 AND THAT NUMBER. YOU ALSO KNOW THE SECOND DIGIT WILL BE A 9 AND OF COURSE YOUR VOLUNTEER TOLD YOU THE THIRD DIGIT.

TRY THIS! IT WORKS  
EVERY TIME!  
JUST MAKE SURE YOUR  
VOLUNTEER STARTS OUT  
WITH 3 DIFFERENT DIGITS!