



**Ronald McDonald House
Charities® of West Georgia, Inc.**

Pop Tab Facts and Math Fun Teachers Activity Guide



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Measuring and Weighing

Skills Needed: Counting and Reading

Separate students into learning groups, teams or partners. Give each group a quantity of pop tabs.

1. How many tabs measure one inch? One foot? One Meter?
2. How many pop tabs does it take to cover a piece of paper, a desk top or other identified item in the classroom or school?
3. Using a scale, how many pop tabs equal one ounce? One pound?
4. Schools could count tabs as they are collected. Tabs could be bundled in amounts of 100. Schools could celebrate 100 days or the 100th day of how many 100th days it took to collect your goal of sets of 100 pop tabs. Students can begin to visualize ONE MILLION at the end of the project. Some common measurement equivalents (if pop tabs are laid end-to-end.)

- 1 pop tab = 1 inch = 2.5 centimeters
- 12 pop tabs = 1 foot
- 40 pop tabs = 1 meter
- 80 pop tabs = 1 ounce
- Approximately 1,267 pop tabs = 1 pound
- Approximately 40,000 pop tabs = 1 kilometer
- Approximately 4,000 pop tabs = 1 mile



What is the Most Popular Soda?

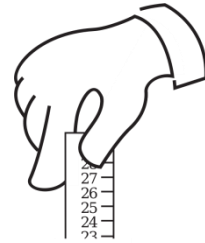
Skills Needed: Counting, Measuring

Pick a period of time...a week, a month, a grading period. Ask students to keep the tabs from the sodas they drink. Make a large graph and glue the tabs on to make “bars.” Have students read the final graph and answer questions about it.



Tabs by the Yard!

Skills Needed: Counting, Measuring and Critical Thinking



Divide the class into 4,5 or 6 equal groups. Give each group a different colored length of yarn or ribbon (at least 39" long) with a large button knotted on one end. Challenge each group to collect enough tabs to equal one yard when slid onto the yarn. Reward the winning group (or everyone) with a treat.

Have each group count the number of tabs necessary to equal one yard. Are all the numbers the same? Why or why not? What factors might affect the number of tabs necessary?

How Many Do We Need?

Skills Needed: Finding the least common multiple

Divide class into groups. Have each group choose a number between 2 and 20. Post the numbers at the front of the room and challenge students to do 2 things:

1. Find the LCM of the posted numbers, and
2. Collect enough tabs to equal the LCM

Once the tabs have been collected, have each group take turns dividing the tabs into groups equal in size to their original number to check that no extras are left over.



First Down

Skills Needed: Multiplication and Division of Whole Numbers and Unit Conversions (Dimensional Analysis)

In a football game, a first down occurs when the offense has moved forward 10 yards from where they first got possession of the ball.

Divide into groups, classes or teams to see who can get the first “First Down.”

Option 1:

It takes approximately 16 tabs stacked one on top of the other to equal an inch. Using “football math,” find out how many tabs a team must collect for a first down.

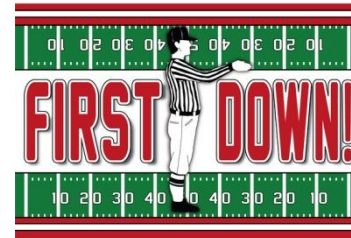
A first down = 10 yards

1 yard = 3 feet

1 foot = 12 inches

1 inch = 16 tabs

10 yards x 3 feet x 12 inches x 16 tabs = 5,760 tabs



Option 2:

String the tabs on twine, yarn or ribbon. Take a walk out on the football field and measure the string tabs against the yard marks on the field.

Note: You may extend this over a period of time by “moving” down the field to score six points! A field is 100 yards long, so it will take about 57,600 tabs to score.*

*If you choose, you may use the length of a tab as 1 inch, so it would only take 360 tabs for a first down and 36,000 tabs to score a touchdown

How long is it?

Skills Needed: Multiplication, Division, Conversion of Units

1. The track for the Indy 500 is 2.5 miles long. How many tabs would you have to lay end-to-end to go around once?
2. Look up the world records, Olympic records or your own school records for:
 - A. The 100m run: men's and women's – how many tabs equal 100m?
 - B. High Jump: men's and women's – how many tabs equal those heights?
 - C. Pole Vault: how many stacked tabs equal that height?
 - D. Discuss: how many end-to-end tabs equal that distance?
 - E. Shot Put: how many end-to-end tabs equal that distance? How many tabs equal the weight of the shot?

1 tab length = 2.54 cm 1 pound = 1,267 tabs

100 cm = 1 m 16 ounces = 1 pound



How Many Will it Hold?

Skills Needed: Calculate the volume of a tab (1 inch long x ½ inch wide x 1/16 inch thick), calculation of volume and critical thinking skills.

1. Calculate the volume of a tab (1 inch long x ½ inch wide x 1 1/16 inch thick)
2. Calculate the volume of any container (volume = area of base x height)
3. Calculate how many tabs it would take to “fill” the container
4. Actually collect the tabs to fill the container. Was your answer in #3 close to the actual amount? What might cause the numbers to be different?
5. Possible containers: Baseball cap, soda can, milk carton, gallon jug, coffee can, waste basket



“Tabbing” the Area

Skills Needed: Measure the length and width in standard units and unit conversion

1. Take any area: top of desk or table, dry erase board, etc.
2. Calculate the area by measuring the dimensions and using the appropriate formula (Rectangle: $A = l \times w$, Square = s^2 ; Circle = πr^2)
3. Each tab is approximately 1" (l) x 0.5" (w) x 1/16" (thick). If tabs are put together in the pattern shown below, calculate how many tabs must be collected to cover the area.
4. *The 3-second lane should be 12' x 19' including the 2" foul line (This should take about 65, 665 tabs.)



Meet Me in the Middle

Challenge a neighboring school to meet you halfway between your school and theirs by collecting enough tabs to cover the distance.

1. Measure the distance between the two schools.
2. Use one of the following conversions to determine how many tabs are needed to cover the distance between the schools.
 - A. 1 tab = 1 inch (length)
 - B. 16 tabs = 1 foot / 3 feet = 1 yard
 - C. 5280 feet = 1 mile / 1760 yards = 1 mile
 - D. Collect the tabs necessary to go half the distance. If you “string the tabs,” you might actually stretch the strings to cover the distance!



How Much Are They Worth?

Skills Needed: Finding Averages and Comparing Costs

1. Have students check the local stores to find the average cost of (choose one brand)
 - A. Individual can of soda
 - B. Six-pack of soda
 - C. 12 pack of soda
2. Have students calculate the value of the tabs if:
 - A. They were from individual cans
 - B. They were part of a six-pack
 - C. They were part of a twelve-pack
3. Have students compare the cost per can of B and C with A.



Collect the Average Weight or Height of Your Group

Skills Needed: Multiplication, Division and How to Calculate Averages

Have groups find their average weights or heights for all members. See which group can be the first to collect enough tabs to equal the average weight or height (or both) for the group.

What Can You Make with Pop Tabs?

Have a contest to see who can make the most unique items out of pop tabs. Instructions for many pop tab crafts can be found online. The possibilities are endless. Make necklaces, bracelets, belts, purses or your very own creations. Instructions for making a Pop Tab Bracelet are on the next page.



Instructions for making a Pop Tab Bracelet

Collect the pop tops from soda cans.
Clean the pop tops with soap & water.
Dry completely.

File away any rough edges on the
pop tops.

Choose a ribbon to use for your
bracelet.

Measure your wrist or the wrist of the
person for whom you are making the
bracelet. Determine the number of pop
tops you will need based on the size
bracelet you are making.

Arrange the pop tops in desired pattern.
You can arrange the tops so that they
are horizontal or vertical, and in one
layer or more.

Feed the ribbon through the holes in
the pop tops so that you weave the pop
tops together. Tie off the end of the stringing material so that it is secure. Make sure
you leave enough ribbon or string at the end to tie into a bow to secure your bracelet.



RECYCLING WORD SEARCH

Y	F	J	H	J	R	Y	T	R	N	A	E	Y	X	T	C	G	M	H	B
S	R	J	L	C	H	F	Y	I	Q	O	W	L	L	Q	O	W	Y	I	T
N	I	P	I	O	S	Y	S	J	W	R	H	T	C	B	Y	J	L	H	F
E	E	V	R	L	R	G	J	W	D	W	K	J	T	Y	I	L	S	D	B
O	N	P	X	L	O	I	E	T	N	J	N	O	U	N	C	E	G	M	G
I	D	R	E	E	T	N	U	L	O	V	E	B	C	E	P	E	V	J	U
N	R	H	A	C	B	K	T	G	W	R	R	H	G	J	W	P	R	A	W
L	Y	L	J	T	Z	S	P	F	B	O	P	D	E	Z	F	O	P	N	Q
G	Z	S	C	H	O	O	L	B	S	N	I	E	J	V	R	U	D	I	L
A	G	G	T	L	I	O	T	D	B	A	C	O	Y	F	Y	N	V	D	D
K	U	Q	N	N	J	R	D	N	L	L	K	P	R	X	B	D	G	J	K
C	F	Y	P	S	E	M	S	S	B	D	S	Y	V	U	U	R	L	D	Q
X	I	A	B	C	P	D	U	I	U	M	G	N	O	N	M	U	E	E	V
A	W	A	R	B	A	A	U	N	O	G	B	G	M	Z	R	M	D	P	P
J	T	N	O	E	U	H	R	T	L	Y	M	A	J	O	Q	Q	L	G	O
Z	D	S	E	Y	W	P	O	K	S	A	H	O	Z	G	T	E	S	O	N
B	T	U	Q	L	K	A	V	U	E	V	O	S	R	E	H	C	A	E	T
L	K	O	X	R	E	X	O	G	S	E	G	V	K	V	O	G	X	T	B
R	Q	D	Z	V	I	A	K	D	L	E	R	E	Y	P	T	U	T	P	X
O	Y	L	U	W	C	A	U	Z	D	M	U	N	I	M	U	L	A	R	Q

ALUMINUM
COLLECT
FRIEND
HELP
HOUSE
INCH
OUNCE
POUND
RECYCLE
RONALD
SCHOOL
STUDENTS
TABS
TEACHERS
VOLUNTEER

ANSWER KEY

Y	F	J	H	J	R	Y	T	R	N	A	E	Y	X	T	C	G	M	H	B
S	R	J	L	C	H	F	Y	I	Q	O	W	L	L	Q	O	W	Y	I	T
N	I	P	I	O	S	Y	S	J	W	R	H	T	C	B	Y	J	L	H	F
E	E	V	R	L	R	G	J	W	D	W	K	J	T	Y	I	L	S	D	B
O	N	P	X	L	O	I	E	T	N	J	N	O	U	N	C	E	G	M	G
I	D	R	E	E	T	N	U	L	O	V	E	B	C	E	P	E	V	J	U
N	R	H	A	C	B	K	T	G	W	R	R	H	G	J	W	P	R	A	W
L	Y	L	J	T	Z	S	P	F	B	O	P	D	E	Z	F	O	P	N	Q
G	Z	S	C	H	O	O	L	B	S	N	I	E	J	V	R	U	D	I	L
A	G	G	T	L	I	O	T	D	B	A	C	O	Y	F	Y	N	V	D	D
K	U	Q	N	N	J	R	D	N	L	L	K	P	R	X	B	D	G	J	K
C	F	Y	P	S	E	M	S	S	B	D	S	Y	V	U	U	R	L	D	Q
X	I	A	B	C	P	D	U	I	U	M	G	N	O	N	M	U	E	E	V
A	W	A	R	B	A	A	U	N	O	G	B	G	M	Z	R	M	D	P	P
J	T	N	O	E	U	H	R	T	L	Y	M	A	J	O	Q	Q	L	G	O
Z	D	S	E	Y	W	P	O	K	S	A	H	O	Z	G	T	E	S	O	N
B	T	U	Q	L	K	A	V	U	E	V	O	S	R	E	H	C	A	E	T
L	K	O	X	R	E	X	O	G	S	E	G	V	K	V	O	G	X	T	B
R	Q	D	Z	V	I	A	K	D	L	E	R	E	Y	P	T	U	T	P	X
O	Y	L	U	W	C	A	U	Z	D	M	U	N	I	M	U	L	A	R	Q