## HOW BIG IS A MOLE?

Your job is to choose and solve the problem from the list below or come up with a more entertaining one. Additional research will be necessary. You must not only show all work, but also explain each step in a neat, clear, and logical manner. Be prepared to SHARE your findings in class.

## NOTE: FOR CREDIT all calculations must be completed using the "given/find/picket fence" method, must include ALL units and a CITATION of any resource utilized to complete this project.

1. A mole of Big Macs stacked up would reach from the earth to the moon and back how many times?
2. A mole of marbles would cover the continental U.S. to a depth of how much?
3. A mole of dollar bills joined end to end would encircle the earth how many times?
4. A mole of moles (the mammal) would have a mass how many times greater than the mass of the earth?
5. A mole of pennies stacked end to end would reach from here to the sun and back how many times?
6. A mole of M\&M's would fill how many holes the size of Lake Erie?
7. A mole of pop cans stacked on top of one another would reach from here to the sun and back how many times?
8. A mole of bowling balls would have a mass how many times greater than the mass of the moon?
9. A mole of moles (the mammal) placed from nose to tail would reach from here to Pluto and back how many times?
10. A mole of basketballs would cover the surface of the earth to a depth of how much?
11. A mole of Mars candy bars placed end to end would reach from here to Mars and back how many times?
12. A mole of Saturn automobiles placed end to end would encircle the planet Saturn how many times?
13. A mole of B.B.s would cover the state of Ohio to what depth?
14. A mole of cooked spaghetti noodles would fill how many holes the size of the Atlantic Ocean?
15. A mole of Twinkees placed end to end would encircle the planet Jupiter how many times?
16. A mole of cans of Spam would weigh how much more than all the gold in the U.S. Treasury?
17. A mole of jellybeans would fill up how many buildings the size of the Empire State Building?
18. A mole of 2-Liter bottles stacked end to end would encircle the sun how many times? (They are made of heat resistant plastic.)
19. A mole of elephants would weigh how much more than the moon?
20. A mole of 1 gallon cans of paint could cover every square inch of the surface of how many planets the size of the earth?
21. How many years would it take a mole of moles (the mammal) to produce enough moles to equal the mass of the known universe if their population doubled each month?
22. A mole of YOU stacked from end to end would reach to the sun and back how many times?
23. A mole of elephants would fill how many hollow spheres the size of the moon?
24. How long would it take the population of the earth to consume a mole of brussel sprouts if each person consumed 3 lbs. of brussel sprouts per day?
25. YOUR IDEAS ARE BETTER THAN MINE!!!
