

1. What is the volume of the earth in cubic centimeters?
2. Under favorable conditions, a new strain of the bacterium **E. Coli** will reproduce in 5 minutes. Assuming that they don't die, how many **E. Coli** can claim the same ancestor after 1 day?
3. What will be the ratio of the earth's volume to the volume of the **E. Coli** (of problem 2.) after 1 day?
4. Assuming that there are no rests, how many notes will a violinist play in the course of a typical symphony?
5. What is the pressure, in atmospheres, at the bottom of the Mindinao trench in the Pacific Ocean?
6. What fraction of the earth's volume is occupied by the oceans?
7. Harvey "Non-Stop" Pierson, a former Olympic miler, has been training to run without food or sleep. How many minutes will it take Non-Stop to run a distance equivalent to the perimeter of Delaware?
8. How many years will it take Non-Stop (see problem 7.) to run the equivalent of the distance from the earth to the sun?
9. For the interval of time between a typical human's heartbeats, how far, in kilometers, will light have travelled in vacuum?
10. In the typical 1 pound container of table salt, how many salt crystals are there?
11. Write down the ratio of the amount of water in the earth's atmosphere compared to the amount in the oceans.
12. According to scientists, how many years ago were the first fossils formed?
13. How many gallons of gasoline are consumed each day by commuters going to work?

14. How many water molecules are there in a typical adult male?
15. Assume that Adam was the first man and that the amount of water on the earth has not changed since Adam's time. How many water molecules does the typical male of today have that were part of Adam?
16. The phone company has an experimental phone that has a button for each letter of the alphabet. How many different 7 digit phone numbers can be made using this new phone?
17. How many air molecules are there in a typical passenger car tire?
18. How many paper clips would be needed to make a chain equivalent to the distance from the earth to the moon?
19. What is the mass, in grams, of the paper clips of problem 18?
20. How many times does a person's heartbeat during a non-stop flight from Philadelphia to San Francisco?
21. How many centimeters is the thickness of a page in a textbook?
22. George Washington Finster tried to throw a silver dollar across the Grand Canyon? After he threw the dollar, how many seconds elapsed before he heard it splash in the river?
23. How fast, in km/hr, does the earth travel around the sun?
24. An astronomer says his telescope is accurate to within 1 second of a degree. How many km is that equivalent to in the vicinity of alpha-Centauri?
25. A car is moving at 10mph. How fast, in meters per second, would a man have to run to have the same momentum as the car?
26. How many molecules of air would be needed to fill a thimble in a sewing room?
27. On a summer's eve, how many crickets chirp inside Delaware?

28. How many swimming pools can be filled by a rainstorm that dumps "1 inch" of rain all over Delaware?
29. During "Rush Hour" in New York City, how many cars cross the George Washington Bridge?
30. How many baseballs would the Phillies need to buy to have an adequate supply for their 1989 home games?