

How Much Space Does Earth Take Up?

Show your work to get credit!

1. The Earth weighs about 5.97×10^{22} lbs.
2. How much does Earth weigh in grams? (1 lb = 454 g) _____g
3. Given that $1 \text{ g} = 5.02 \times 10^{22}$ atoms, calculate approximately how many atoms make up the Earth:
_____atoms
4. Given that the volume of 1 atom = 2.07×10^{-23} ml, how much space does the Earth take up?
_____mL
5. If the volume of the nucleus of an atom is about 1×10^{15} smaller than that of the volume of the electron cloud surrounding it, calculate how much space, just the nuclei in the Earth would occupy after the electron clouds were stripped away. (Divide answer from step 4 by 1×10^{15}) _____mL
6. How many Liters would this be? _____L
7. How many gallons would this be? (3.785 L = 1 gallon) _____gal.
8. Would all of the nuclei that make up our Earth fit into Lake Bracken? (You will have to find the volume of Lake Bracken on line.)
9. If the volume of Lake Bracken is bigger than the volume of all of Earth's nuclei put together, how many times would it fit into Lake Bracken?