



SHS LEARNING ACTIVITY

CHEM1-02-02

Name: _____ Score/Mark: _____

Grade and Section: _____ Date: _____

Strand: STEM ABM HUMSS ICT (*TVL Track*)

Type of Activity : Concept Notes Skills: Exercise/Drill Illustration

Laboratory Report Essay/Task Report Other: _____

Activity Title: 02-02.Substances are made of atoms, which are very small v03

Learning Target: To familiarize with how small and how many atoms are

Authors/References: Victor Sojo

All chemical substances, such as water, gold, air, salt and sugar, are made of **atoms**.

Atoms are extremely small, much smaller than we can normally imagine.

In just one teaspoon of common table salt (sodium chloride), which weighs about 5 g ("five grams"), there are approximately:

5,152,413,464,900,000,000,000

sodium atoms! And that's only half: there's the same number of chlorine atoms!

Combined, that's over **ten sextillion atoms!** Almost nothing we see in our daily life comes in such huge numbers. All the money in the world, even all the hair of all people and animals combined, all the leaves of all trees, all the rocks... none of them come anywhere near those numbers.

And this is only in a teaspoon... imagine how many atoms of sodium there are in all the salty water of the sea!

Questions

1. Let's leave the calculation of the number of sodium atoms in the sea for later. For now, let's tackle a simpler problem: how many atoms of sodium are there in a 1 kg packet of table salt?
2. There is actually at least one visible thing that might come relatively close to the gigantic number above. **Hint:** it is very very small but you can still see it, and it can also be found near the sea or at the bottom of it.

