

What is chemistry?

Task: In your own words describe what *you* consider chemistry to be, plus make a list of what *you* think the job of a chemist is:

What is chemistry?

“Official” definition of what chemistry is:

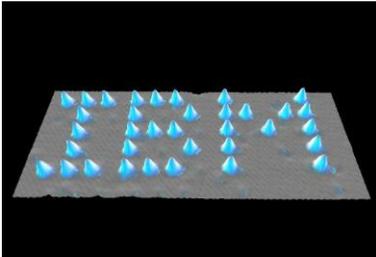
Key words:

Matter: “Stuff” – **anything with mass and volume**. Can you think of anything without mass or volume?

What are the three STATES of matter? Are there any more?

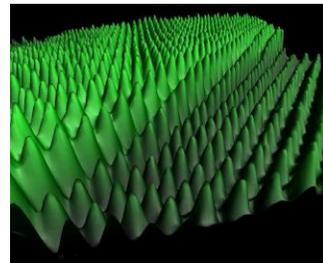
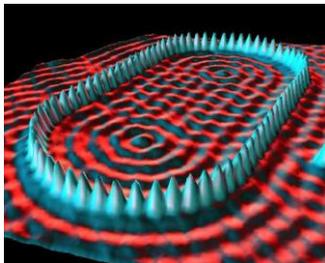
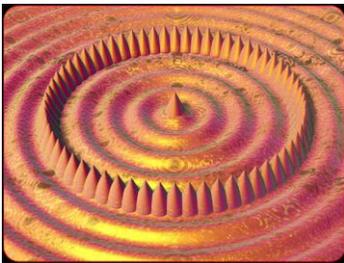
What are the basic building blocks of all matter, be it a diamond, a tree or the air around us? List as many types of matter as you can:

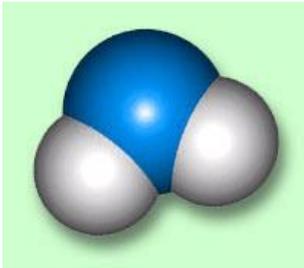
Matter Flow Chart



'High Tech' science (STM or AFM, top left) is often based on simple ideas (gramophone, top right).
Click logo for 'flyby'.

More recent atomic (STM) images





Example: What is water made up from? How do you know?



Summary:

Atoms and molecules are MICROSCOPIC particles (they are very small)

A drop of water is a MACROSCOPIC particle (because you can see it, hold it in your hand etc.)

“Official” definition of what chemists do:



Chemistry in action: Explaining what happens on your BBQ grill.

The burning of a charcoal brick on your backyard grill (MACRO) explained in terms of a *balanced chemical equation* (MICRO)



ANY large (MACRO) scale chemical process can be described using a MICRO scale chemical equation featuring individual atoms and/or molecules

Cartoon representation of the reaction of the pertinent atoms and molecules

The Chemists' description – a balanced chemical equation. This process is repeated many billions of times (MICRO) for the burning of a charcoal briquette (MACRO)