

Chemistry



What is Chemistry?

Chemistry is the study of the composition of **matter** and the changes that **matter** undergoes.

So then.... what is matter?



Matter is anything that (1) has mass and (2) occupies space.



Because living and nonliving things are made of matter, chemistry affects all aspects of life and most natural events.

There are 5 traditional areas of study for chemistry:

- **organic** - study of all chemicals containing carbon
- **inorganic** - study of all chemicals that do not contain carbon
- **biochemistry** - study of processes that take place in organisms
- **analytical** - focuses on the composition of matter
- **physical** - area that deals with the mechanism, the rate, and the energy transfer

What is Chemistry

Human body: What do bones contain mainly organic or inorganic chemicals?

Physical Chemistry
A physical chemist might study factors that affect breathing rates during exercise.

Organic Chemistry
Athletes inhale chemicals developed by organic chemists to control symptoms of asthma.

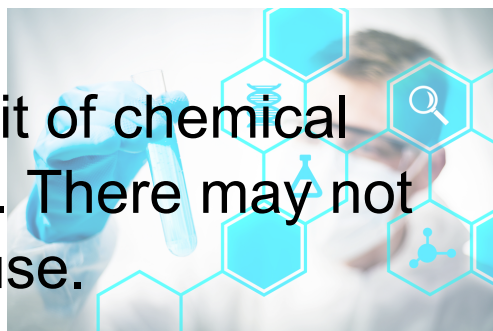
Analytical Chemistry
Analytical chemists develop tests to detect chemicals in the blood. The tests help to show if organs in the body are working properly.

Inorganic Chemistry
An inorganic chemist might explain how a lack of calcium can affect the growth and repair of bones.

Biochemistry
A biochemist might study how the energy used for the contraction of muscles is produced and stored.

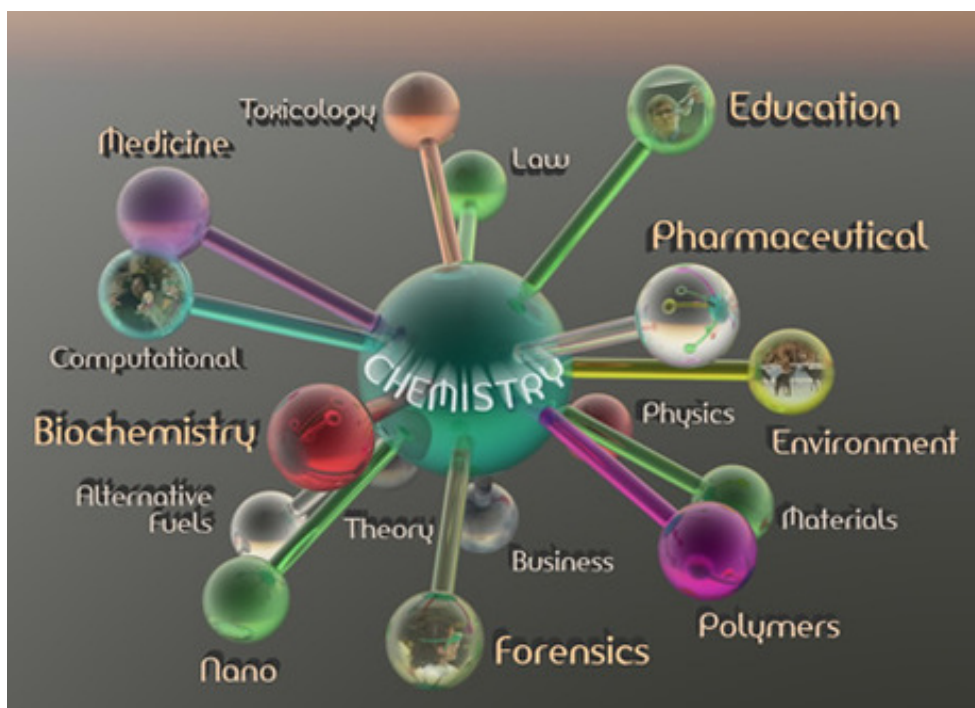
Pure vs Applied Chemistry

Pure chemistry is the pursuit of chemical knowledge for its own sake. There may not be an immediate practical use.



Applied chemistry has a practical goal or application in mind.





Why study Chemistry?

Chemistry can be useful in explaining the world around us and preparing people for a variety of career opportunities

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