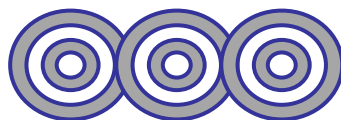




Chemistry, Raymond Chang
10th edition, 2010
McGraw-Hill



Preface

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What is Chemistry?

Chemistry is the study of the **properties** and **behavior** of **matter**.

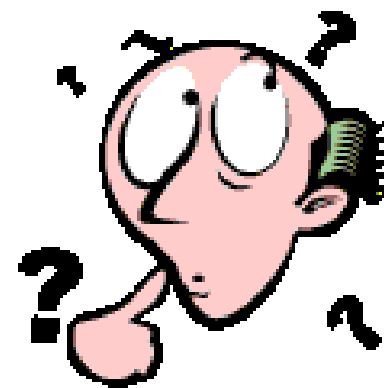


Why Study Chemistry?

Realms

Macroscopic
ordinary sized objects

Sub-microscopic
atoms and molecules

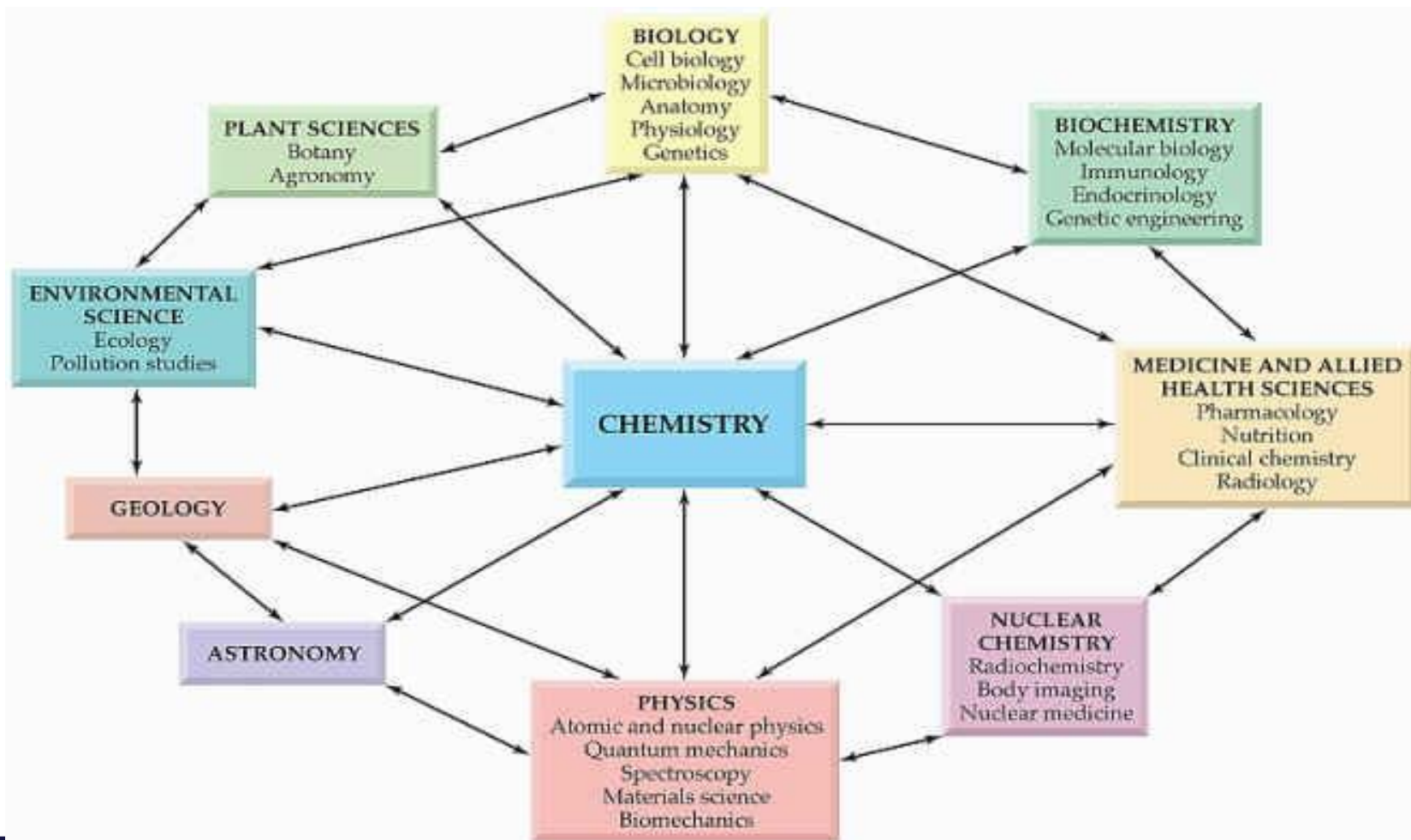


Chemistry is the science that seeks to understand the properties and behavior of matter by studying the properties of atoms and molecules.

Chemistry provides important understanding of our world and how it works.

Chemistry = the central science

Chemistry is often called **the central science** because of its role in connecting the other sciences, with the life and applied sciences.

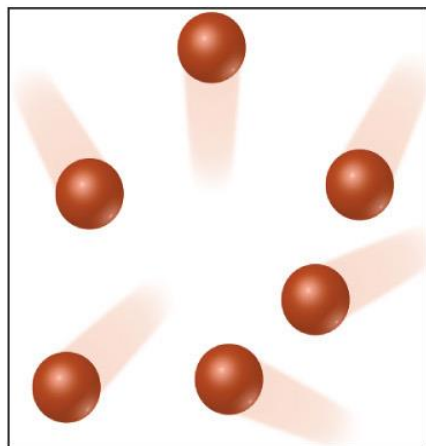


Matter

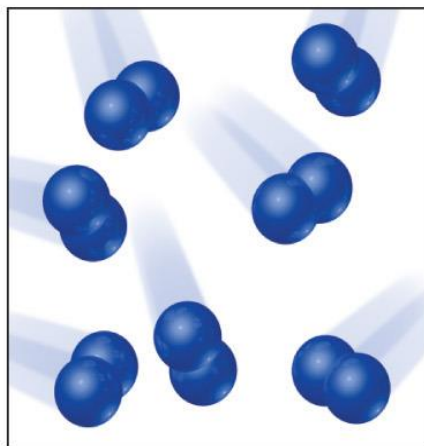
Is the physical material of the universe

We define matter as anything that has mass
and takes up space.

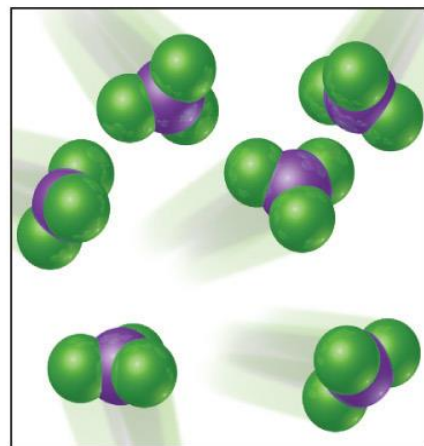
Classification of matter according to its composition



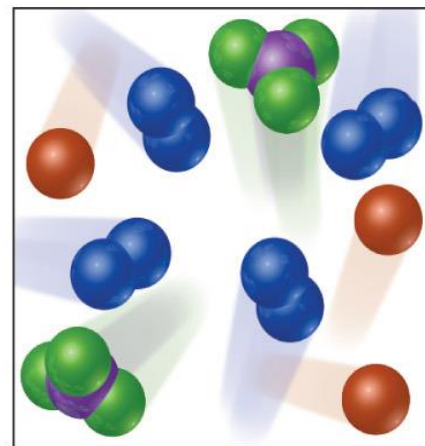
(a) Atoms of an element



(b) Molecules of an element



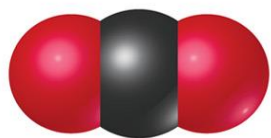
(c) Molecules of a compound



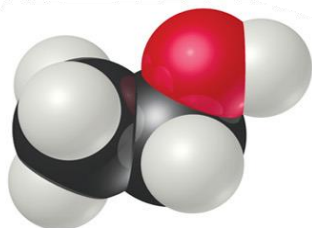
(d) Mixture of elements and a compound



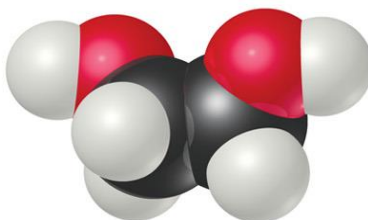
(b) Water



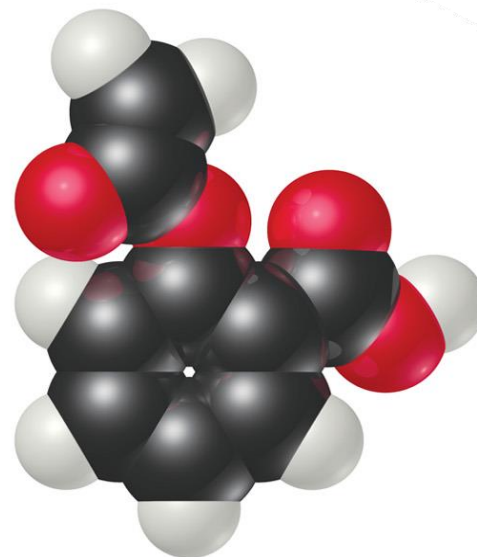
(c) Carbon dioxide



(d) Ethanol



(e) Ethylene glycol



(f) Aspirin

Atoms are the building blocks of matter.

Each **element** is made of the same kind of atom.

A **compound** is made of two or more different kinds of elements.

Classification of matter according to its physical state

Gas

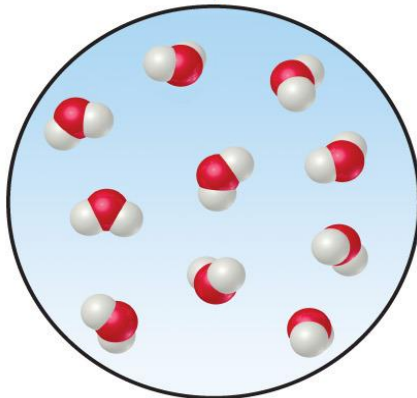
has no fixed volume or shape, it conforms to the volume and shape of its containers, It can be compressed or expand

Liquid

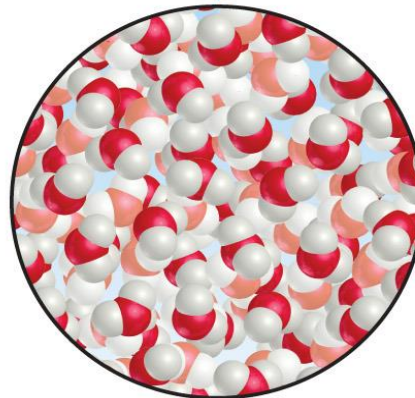
has distinct volume but has no specific shape

Solid

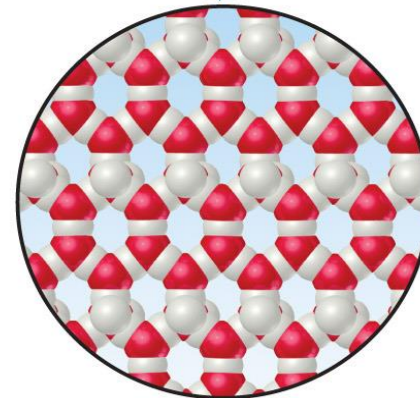
has both definite shape and volume



Gas

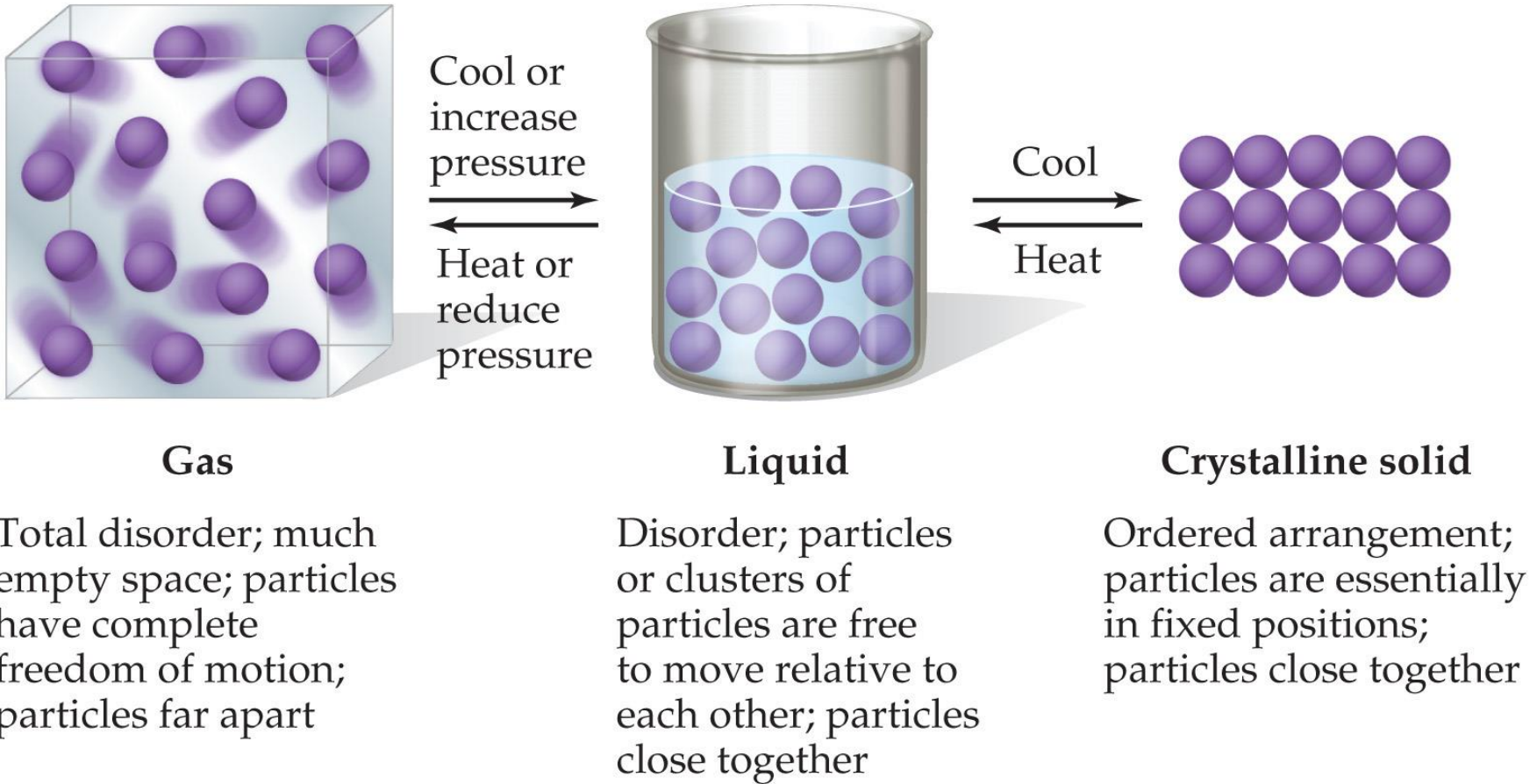


Liquid



Solid

States of Matter



Scientific Method

The scientific method is simply a systematic approach to solving problems.

