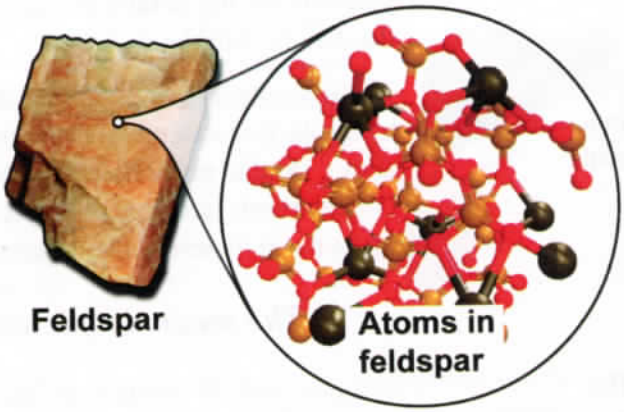
Atoms and elements

Atoms

All the matter around you is made of atoms. Atoms make up everything that we see, hear, feel, smell and touch. We don't experience atoms directly because they are so incredibly small. A single grain of sand contains 200 million *million* atoms! A single atom is about 10^{-10} meters in diameter. That means you can lay ten billion, or 10,000,000,000 (10^{10}) atoms side by side in a one meter length.

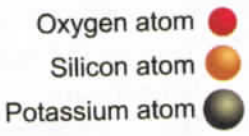
Elements are the building blocks of matter

A mineral called *feldspar* is common in sand. Feldspar is a *substance*, because it is the same throughout. However, on the microscopic scale we see that feldspar contains *three kinds* of atoms. Feldspar contains oxygen atoms, silicon atoms and potassium atoms. Oxygen, silicon and potassium are **elements**. Elements are the fundamental "pure substances" from which all other matter is made.



Each element is a unique type of atom

Think of an element as a unique type of atom. Oxygen atoms are different from silicon atoms, which are different from potassium atoms. All atoms of a given element are similar to each other and different from atoms of any other element.



Each element is a unique type of atom

Atoms of the same element are all similar to each other and different from atoms of any other element

Chemistry terms

element - a unique type of atom. All atoms of the same element are similar to each other and different from atoms of other elements.