

MINERALS & THE BODY



When nutritionists refer to **minerals**, they are referring to **elements** found in our food. While these elements may come from plants, or animals which ate those plants, their original source is Earth's rocks and minerals. These elements are called essential minerals, because we need to ingest them in order to maintain optimal health and important bodily

functions. They're divided up into macrominerals and trace minerals. While equally important, we need smaller amounts of the latter. A balanced diet will provide ample quantities of **sodium, potassium, magnesium, iron, zinc, and selenium**, to name but a few. Without these elements, the potential for serious health risks increase.

Some minerals can also be detrimental to our health. The most **hazardous minerals** found in nature include **orpiment** and **arsenopyrite** (arsenic), **cinnabar** (mercury), **stibnite** (antimony), and **galena** (lead). These minerals are toxic, and prolonged exposure to them may cause anything from organ failure, seizures, coma, and death. Many forms of **asbestos**, a silicate mineral, were used in construction until it was discovered that its fibres have the capacity to cause lung damage, and even cancer. Other minerals are **radioactive**, meaning that they emit harmful wavelengths that can destroy human tissue. Not all radiation is harmful to humans, but the alpha particles and gamma radiation emitted by minerals such as uranium have documented ill-effects.

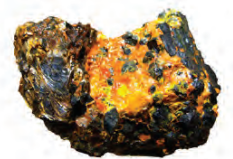
Cinnabar



Galena



Uranium Ore



When it comes to any of the minerals mentioned above, it's important to take precautions—**making sure to wear protective gear during handling, and always store them in appropriate containers.**



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Essential minerals cannot be produced by our bodies, but they are crucial to our health and functioning. Thus, they must be ingested in the foods we eat. Minerals make up about 4% of our body and some of the most crucial ones are listed below.

Minerals	Role
Calcium	Strong bones and teeth
Potassium	Regulates heartbeat
Iron	Aids blood cells in carrying oxygen
Flourine	Helps teeth resist acid and decay
Iodine	Thyroid hormones for metabolism
Phosphorous	Strong bones and teeth
Sodium	Maintains cellular water balance
Zinc	Liver function, digestion, bone maintenance
Copper	Breathing, energy release, blood cell production

Record your mineral intake for one week below, by looking at the nutritional values of the food you eat. What minerals do you eat a lot? What minerals do you eat less of? What foods could you eat more of to fix that?

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Create a poster advertising an essential mineral in the space below or on a separate sheet of paper. Make sure to include its functions, the foods that its found in, as well as the consequences of any long-term deficiencies. You'll have to do some research!

