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## NCERT Class 10 Geography Chapter 5: Minerals & Energy Resources Completes Notes Part 1

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### **Why we need minerals?**

- Everything from pin to ship
- Toothpaste - silica, limestone, aluminum oxide and various phosphate
- Fluoride – reduce cavities
- Toothpaste are white – titanium oxide (from rutile, ilmenite & anatase)
- Toothpaste sparkle – mica
- Tube – made of plastics from petroleum
- Body requires 0.3% minerals of total nutrients
- Homogenous, naturally occurring substance with a definable internal structure
- Hard as diamond & soft as talc (Mohs scale – measure hardness)

Now let's first understand, what are Minerals and why do we need minerals? Let it be any small thing to any huge thing all of them in one way or another require minerals so let's say a small pen would require a minerals, a watch would require a minerals or if we move on to say huge ships, cargoes all of those would require minerals in one form or the other now what are or why do we need minerals and do we need minerals in our human bodies? Yes definitely we need minerals in human body and 0.3% of the total nutrients that we consume constitute minerals in our body.

So therefore minerals are essential even for human body now let's take an example of paste here, now you have toothpaste compose of silica, limestone, aluminum oxide and various phosphates all of this are minerals. Then some toothpaste are fluoridated which are aim to reduce cavities, other toothpaste are white, this white colors comes from titanium oxide which is obtain from rutile, ilmenite.

Then you have some toothpaste which are sparkling and that sparkle comes from mica the tube of toothpaste comes from plastics which are made from petroleum so all these in one way or other way require minerals.

Now what would be the definition of understanding a minerals, homogeneous compound which has a homogeneous substance which has similar properties and a definite shape or a structure, so let's say a structure of silica would be a kind of similar and then you have structure of titanium and

titanium oxide that would differ, so each mineral would have kind of specific and internal structure that you would have and that is what makes each mineral unique.

Now all the minerals are obtained from ores and these ores come from the rocks, however for now it is important to understand the range of minerals can vary in terms of hardness, it can be as soft as talc that the talcum powder and as hard as diamond and this softness or hardness or the measure of the hardness would be done on a scale which is known as Mohs scale.