

# PLASTIC

FROM  
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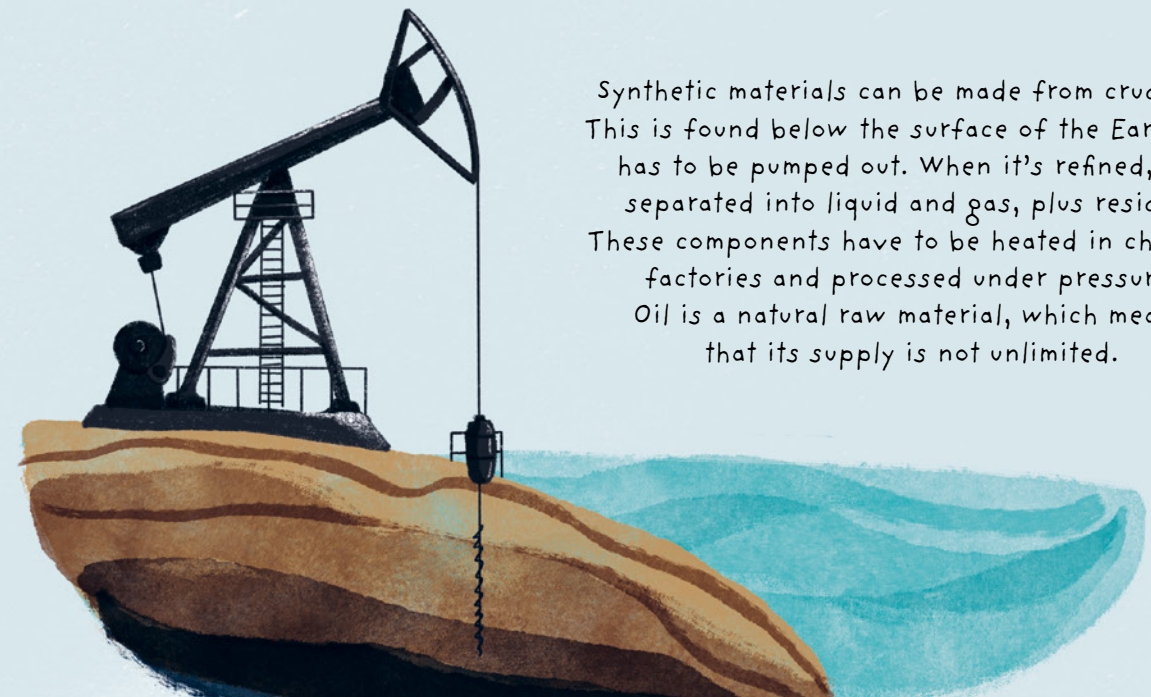
The word "plastic" is a colloquial term for any synthetic material. It is derived from the Greek *plastikós*, which means "malleable" (you can shape it to any form). Its special feature is that even a tiny change in the formula can have a major effect on the product.

Leo Hendrik  
Baekeland



The forerunner of plastic was casein. Wolfgang Seidel, a monk who lived in Augsburg, south Germany, discovered that he could make a material out of low-fat cheese. It could be shaped while it was warm, and when it cooled it remained extremely solid. For this to happen, it needed to be warmed and cooled several times, but he was able to make cups and even jewelry out of it.

According to how much heat and pressure is applied, and regardless of whether other materials are added or not, the product can be a plastic bottle, a toy, or even a piece of medical equipment used to save lives. The inventor of the first mass-produced and completely synthetic material was the Belgian chemist Leo Hendrik Baekeland. He called his invention Bakelite. In order to produce it, he mixed phenol and formaldehyde together and heated them in a pressure vessel to almost 392° Fahrenheit (200° Celsius). His invention set off a gigantic wave of development in synthetic materials.



Synthetic materials can be made from crude oil. This is found below the surface of the Earth and has to be pumped out. When it's refined, it's separated into liquid and gas, plus residue. These components have to be heated in chemical factories and processed under pressure. Oil is a natural raw material, which means that its supply is not unlimited.