

Under the Earth's topsoil, at various levels, sometimes under a layer of rock, there are deposits of clay.

Look at cuts where highways have been built to see exposed clay beds; or look at a construction site, where pockets of clay may be exposed.

Rivers also reveal clay along their banks, and erosion on a hillside may make clay easily accessible.

What is clay made of? The Earth's surface is basically rock, and it is this rock that gradually decomposes into clay.

Rain, streams, alternating freezing and thawing, roots of trees and plants forcing their way into cracks, earthquakes, volcanic action, and glaciers--all of these forces slowly break down the Earth's exposed rocky crust into smaller and smaller pieces that eventually become clay.

Rocks are composed of elements and compounds of elements.

Feldspar, which is the most abundant mineral on the Earth's surface, is basically made up of the oxides silica and alumina combined with alkalies like potassium and some so-called impurities such as iron.

Feldspar is an essential component of granite rocks, and as such it is the basis of clay.

When it is wet, clay can be easily shaped to make a variety of useful objects, which can then be fired to varying degrees of hardness and covered with impermeable decorative coatings of glasslike material called glaze.

Just as volcanic action, with its intense heat, fuses the elements in certain rocks into a glasslike rock called obsidian, so can we apply heat to earthen materials and change them into a hard, dense material.

Different clays need different heat levels to fuse, and some, the low-fire clays, never become nonporous and watertight like highly fired stoneware.

Each clay can stand only a certain amount of heat without losing its shape through sagging or melting.

Variations of clay composition and the temperatures at which they are fired account for the differences in texture and appearance between a china teacup and an earthenware flowerpot.