Minerals as the most fundamental level of observation in the Earth Sciences

Earth scientists make observations at many different spatial scales, and with many different foci of interest. However, regardless of the focus of interest, the smallest and most fundamental scale of observation in the Earth Sciences is almost always that of minerals. That is true whether we're thinking of minerals in the igneous and metamorphic rocks that dominate the crust and mantle, minerals in sediments and sedimentary rocks near the Earth surface, or the minerals of which almost all fossils consist.

\bigwedge	Planets		Basins	Biotas
	Planetary layers Tectonic Plates Geologic provinces		Facies	Communities
			Layers	Fossil assemblages
Larger spatial scale	Structures		Sediments 4	Fossils
	Rocks		Grains	Biomineralized layers
			Minerale	Minerals
	of	Minerals mostly abiotic origin	Minerals of diverse origin	mostly from biomineralization
	of			