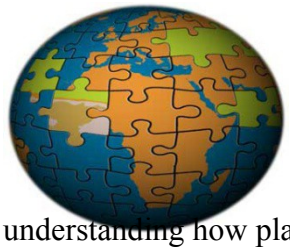
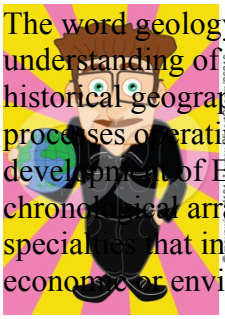
What is Physical Geography?



Earth is a very small part of a vast universe, but it is our home. Like Goldilocks, on Earth we enjoy just the right combination of conditions and ingredients necessary to maintain life and support our activities. The science of geology is particularly important in our quest for understanding how planet Earth works. To understand Earth is challenging because our planet is a dynamic body with many interacting parts and a complex history. Over the last four centuries humankind has worked to better understand the Earth, where it came from, and the evolution that has occurred.



The word geology comes from the Greek *geo* "Earth" and *logos* "discourse". It is the science that pursues an understanding of planet Earth. Geology is traditionally divided into two broad areas: physical geography and historical geography. Physical geography is the study of Earth materials (minerals and rocks) as well as the processes operating within Earth and on its surface. Historical geology examines the origin and development of Earth, its contents, oceans, atmosphere and life through time by establishing an orderly chronological arrangement of occurrences. Among these two areas there are many different fields or specialties that investigate different aspects of geology; however nearly every aspect of geology has some economic or environmental relevance.

Many people are surprised at the extent to which we depend on geology in our everyday lives. We can trace many connections between geology and various aspects of our lives. Natural events or disasters, by their sheer magnitude, provide perhaps the most obvious connection. Less apparent, but equally significant, are the connections between geology and economic, social and political issues.
We rely on media reports to keep us aware of how geology affects us every day. News stories graphically portray the violent force of a volcanic eruption as well as the economic cost to rebound from them, they portray the increase in the demands for food and water by looking at the increasing world famine, as well geological politics are investigated through foreign policies and treaties which are developed to acquire and maintain adequate supplies of resources. To comprehend such events requires an awareness of how science is done and the scientific principles that influence the study of our planet, its rocks, landforms, atmosphere and oceans.
The nature of our Earth has been a focus of study that dates back to the early Greeks, more than 2 300 years ago when Aristotle's explanations about the natural world were not based on keen observations and experiments, but instead were more pronouncements. It was not until the 1700's that modern Geology was born when James Hutton coined the idea of uniformitarianism where he believed that the physical, chemical and biological laws that operate today have also operated in the geological past. With this he believed that we must first understand present-day processes and their results before we can understand what has happened in the past. Over the years of Geological study, it has been realized that Earth is a giant multidimensional system that consists of many distinct but interacting parts where change has occurred and will continue to occur over vast periods of time.
Throughout this course you will begin to understand how the Earth functions as a major interacting system that has changed continuously since its origin 4.6 billion years ago. Unlike geologists, we will begin at the start, from the origin of Earth and its contents where we will see that historical geology is an ever changing science that still is quite young with many advances to be made yet. As the physical geology of the Earth is investigated a greater appreciation and understanding of just how dynamic the Earth is with all of its interacting systems and the many disciplines used to investigate them.