**Conceptual Progression in Earth Science**

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|  | **K-2** | **3-5** | **6-8** | **9-12** |
| ESS1.CThe history ofplanet Earth | Some events on Earth occur very quickly; others can occur very slowly. | Certain features on Earth can be used to order events that have occurred in a landscape. | Rock strata and the fossil record can be used as evidence to organize the relative occurrence of major historical events in Earth’s history. | The rock record resulting from tectonic and other geoscience processes as well as objects from the solar system can provide evidence of Earth’s early history and the relative ages of major geologic formations. |
| ESS2.AEarthmaterials andsystems | Wind and water change the shape of the land. | Four major Earth systems interact. Rainfall helps to shape the land and affects the types of living things found in a region. Water, ice, wind, organisms, and gravity break rocks, soils, and sediments into smaller pieces and move them around. | Energy flows and matter cycles within and among Earth’s systems, including the sun and Earth’s interior as primary energy sources. Plate tectonics is one result of these processes. | Feedback effects exist within and among Earth’s systems. |
| ESS2.BPlate tectonicsand large-scalesysteminteractions | Maps show where things are located. One can map the shapes and kinds of land and water in any area. | Earth’s physical features occur in patterns, as do earthquakes and volcanoes. Maps can be used to locate features and determine patterns in those events. | Plate tectonics is the unifying theory that explains movements of rocks atEarth’s surface and geological history. Maps are used to display evidence of plate movement. | Radioactive decay within Earth’s interior contributes to thermal convection in the mantle. |
| ESS2.C The roles ofwater inEarth’s surfaceprocesses | Water is found in many types of places and in different forms on Earth. | Most of Earth’s water is in the ocean and much of the Earth’s fresh water is in glaciers or underground. | Water cycles among land, ocean, and atmosphere, and is propelled by sunlight and gravity. Density variations of sea water drive interconnected ocean currents. Water movement causes weathering and erosion, changing landscape features. | The planet’s dynamics are greatly influenced by water’s unique chemical and physical properties. |
| ESS2.DWeather andclimate | Weather is the combination of sunlight, wind, snow or rain, and temperature in a particular region and time. People record weather patterns over time. | Climate describes patterns of typical weather conditions over different scales and variations. Historical weather patterns can be analyzed. | Complex interactions determine local weather patterns and influence climate, including the role of the ocean. | The role of radiation from the sun and its interactions with the atmosphere, ocean, and land are the foundation for the global climate system. Global climate models are used to predict future changes, including changes influenced by human behavior and natural factors. |