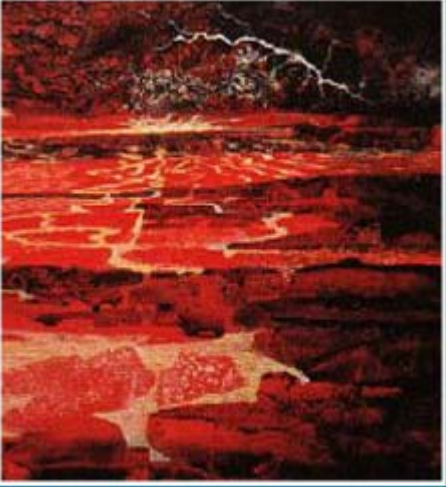







Timeline: Tour of Geologic Time

Directions: Read the information about each time period below.

Time	Text	Audio	Image
Hadean Eon 4.6 to 3.8 billion years ago	<p>The Hadean Eon began with Earth's ancient formation and ended 3.8 billion years ago when life first emerged on the planet.</p>	<p>The Hadean Eon is named for Hades, the Greek god of the underworld, and this name is indicative of conditions on Earth at this time. The eon began 4.65 billion years ago when the Earth was newly formed and may have first been little more than a magma ocean of molten rock material. For the first several hundred million years, the Earth was quite hot. Earth's atmosphere was still primitive too and lacked the oxygen concentration it has today. Slowly, the planet-wide magma ocean cooled and solidified and by about 4 billion years ago, primitive life may have begun, but we have no definitive fossils from this eon. Because there is very little indication of any life during this time, the Hadean is not divided into eras, periods, or other divisions.</p>	
Archean Eon 3.8 to 2.5 billion years ago	<p>The Archean Eon began with the emergence of life on Earth but was dominated by simple bacteria for more than a billion years.</p>	<p>The Archean Eon began about 3.8 billion years ago and was characterized as a time of high volcanic activity. Also, there were no large continents on Earth at this time, only small continental fragments dispersed around the globe. These small protocontinents were the "seeds" of larger continents that would form later. During the Archean there was no free oxygen in Earth's atmosphere. Instead the atmosphere was dominated by the toxic gases methane and ammonia, which were byproducts of volcanic</p>	

		<p>activity. The beginning of the Archean, about 3.8 billion years ago, is believed to be the beginning of living things on Earth. These early life forms were microscopic bacteria that did not require oxygen to live.</p>	
<p>Proterozoic Eon 2.5 billion to 542 mya</p>	<p>The Proterozoic Eon saw the development of a large supercontinent of land and new life forms.</p>	<p>It was during the Proterozoic that continents first began to form. They did not look at all like they do today. This map shows what was called the supercontinent Rodinia, a giant landmass that included almost all of Earth's land at the time. It formed about 1.2 billion years ago. Plate tectonic action led to the eventual breakup of Rodinia about 850 million years ago. The red stars on this map indicate areas where glacier deposits from the time have been found, leading some scientists to hypothesize that the Earth during this time was a "snowball Earth", or completely covered with ice. Research is still being done on this hypothesis. Fossils are still rare from the Proterozoic, and life during this eon was dominated by bacteria still. About 1 billion years ago, trace fossils of simple multi-celled eukaryotes appear. Eukaryotes are organisms whose cells contain complex structures, including a cell nucleus. Near the end of the Proterozoic, about 630 million years ago, good fossils appear of the first multi-celled animals. These include soft-jellied creatures, sponges, and worm-like animals.</p>	

<p>Paleozoic Era 542 to 251 mya</p>	<p>The Paleozoic was a time of rapid increases in biodiversity. Life rapidly expanded in the seas and emerged on land for the first time.</p>	<p>The Paleozoic Era is the earliest era of the last and most recent eon, the Phanerozoic Eon. It began with a rapid increase in biodiversity, as many new life forms emerged on Earth for the first time during the early Paleozoic. Strange creatures like the one shown here were common in warm shallow seas that covered much of the Earth during this time. It was also during the Paleozoic that many of the sediments that would later become coal were originally deposited, so rocks from this age are important economically. The Paleozoic ended 251 million years ago with a mass extinction that wiped out nearly 96% of all marine organisms and nearly 70% of all land organisms.</p>	
<p>Mesozoic Era 251 to 65 mya</p>	<p>The Mesozoic was the age of the dinosaurs.</p>	<p>The Mesozoic Era is the middle era of the Phanerozoic Eon. It was the age of dinosaurs, and it ended 65 million years ago with the extinction of the dinosaurs. It is during this era that the supercontinent Pangaea formed and later broke apart.</p>	

<p>Cenozoic Era 65 mya to present</p>	<p>We now live in the Cenozoic Era.</p>	<p>The Cenozoic Era is the most recent era of the Phanerozoic Eon. It is the era we now live in. It began 65 million years ago with the extinction of the dinosaurs and has involved the rise of mammals and the rise of human civilization. By the latter part of this era, the continents had moved to their present day locations after breaking off of Pangaea.</p>	
---	---	---	--