HADEAN EON (4600-4000 Ma)

Geological TimeWalk

The journey begins approximately 4600 million years ago when our **Solar System formed** from a cloud of interstellar gas and dust. Initially the Earth was a ball of molten rock and iron.

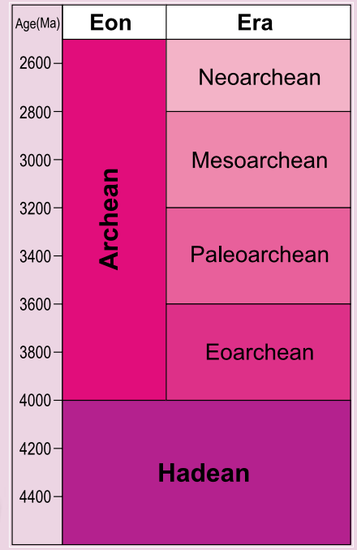
As the Earth cooled, the dense iron sank to form the Earth's core and the **surface solidified to form a hard rocky crust.** Water condensed and created an ocean that covered the entire surface of the Earth.

The atmosphere contained high levels of greenhouse gases, including carbon dioxide, methane and water vapour, but no free oxygen.

An **intense meteorite bombardment** began towards the end of this eon, and continued for 300 million years.

Zircon **grains are found in very small quantities in most rocks. Zircon is highly resistive to weathering and therefore is the most commonly used mineral to date rocks.**

Hadean Timescale



The oldest zircons on Earth, dated to be 4 404 million years old, are found in younger conglomerates in the Jack Hills, Western Australia.

Australia has no known rocks from this eon. The oldest rocks on Earth are from Canada, dated at 4 030 million years old.

Australian Government
Geoscience Australia