PALEOARCHEAN ERA (3600-3200 Ma)

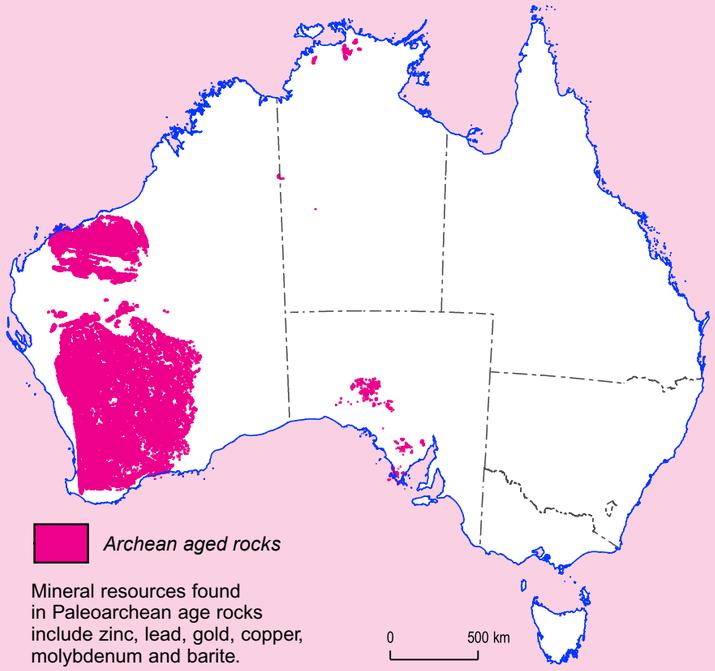
Geological TimeWalk

The **first substantial evidence of life** on Earth appears in rocks of this age. Fossil **stromatolites** found in Western Australia indicate that bacteria had started to form colonies in the ocean and that **cyanobacteria** may have existed.

Temperatures on Earth were higher than those of today. The Sun's radiation was dimmer, but high levels of greenhouse gases warmed the atmosphere. There was still no free oxygen in the atmosphere.

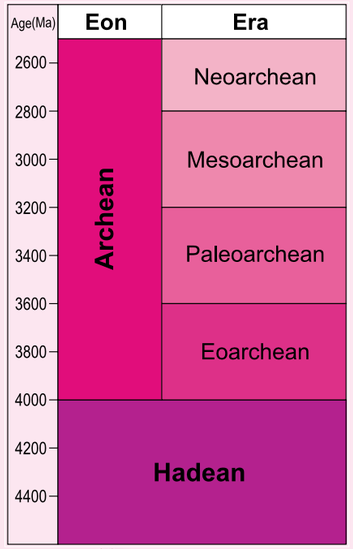
Continental blocks continued to form. Two areas in the Southern Hemisphere still contain crust from this era: the Pilbara Craton in Western Australia and the Kaapvaal Craton in southern Africa. Evidence suggests that these two cratons once formed part of a single supercontinent, Vaalbara.

Archean rocks and resources in Australia



Mineral resources found in Paleoarchean age rocks include zinc, lead, gold, copper, molybdenum and barite.

Paleoarchean Timescale



Stromatolites **found in the Pilbara Region, Western Australia, dated to be around 3 490 million years old, are considered to be the oldest macro-scale evidence of life on Earth.**

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Stromatolites are mound-like sedimentary structures which form over time by sediment grains being bound together by single-celled cyanobacteria.

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