

A tale of two planets: the history of Earth and Mars compared

	Earth	Mars
4.54 billion years ago	Forms in Sun's proto-planetary disc	Forms in Sun's proto-planetary disc
4.527 billion years ago	Collision with other planet; Formation of the Moon	
4.5-4 billion years ago	Mainly carbon dioxide atmosphere, surface water, molten core and magnetic field	Mainly carbon dioxide atmosphere, surface water, molten core and magnetic field
4 billion years ago		Core cooling, magnetic field failing.
3.8 billion years ago	Earliest life in oceans?	Giant impact in northern hemisphere?
3.5 billion years ago		Atmosphere thinning, planet becoming drier and colder
3 billion years ago	First photosynthetic life?	
2.4 billion years ago	Atmosphere becoming rich in oxygen	
670 million years ago		Some liquid water still present on Mars
470 million years ago	First plant and animal life on land?	
16 million years ago		Meteorite ALH84001 ejected from Mars into solar orbit
13 000 years ago	Meteorite ALH84001 falls on Antarctica	
Now	Thick, mainly nitrogen and oxygen atmosphere, extensive liquid water, molten core generating magnetic field	Thin, mainly carbon dioxide atmosphere, some water ice at poles and under surface, cool core, slight magnetic field
10 million years from now?		Phobos destroyed by tidal stresses
1.2 billion years from now?	Sun heating, Earth's oceans boil	Mars warming
6.4 billion years from now?	Hot and airless	As warm as Earth today
7 billion years from now?	Destroyed by expanding Sun	Hot and airless cinder