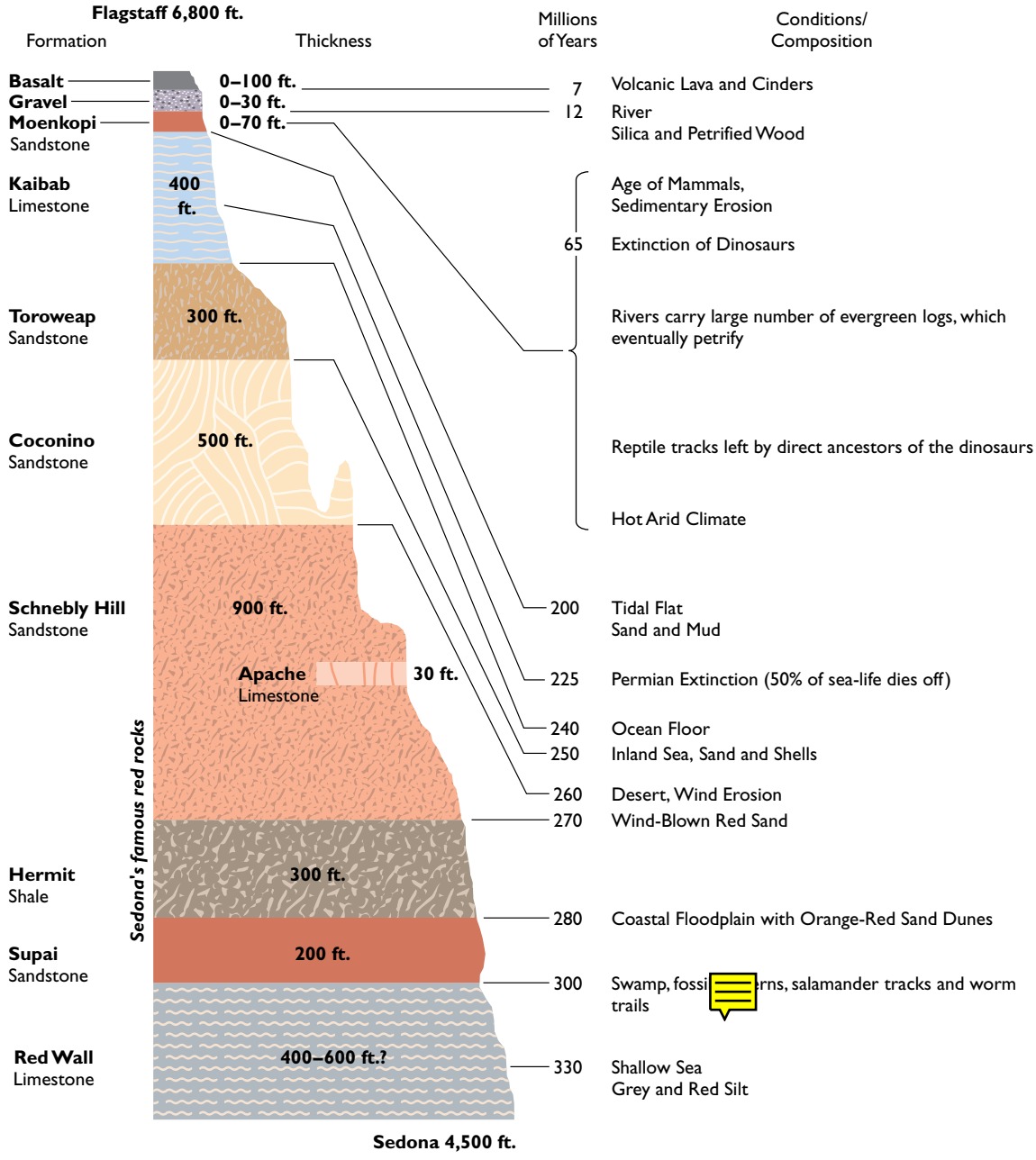
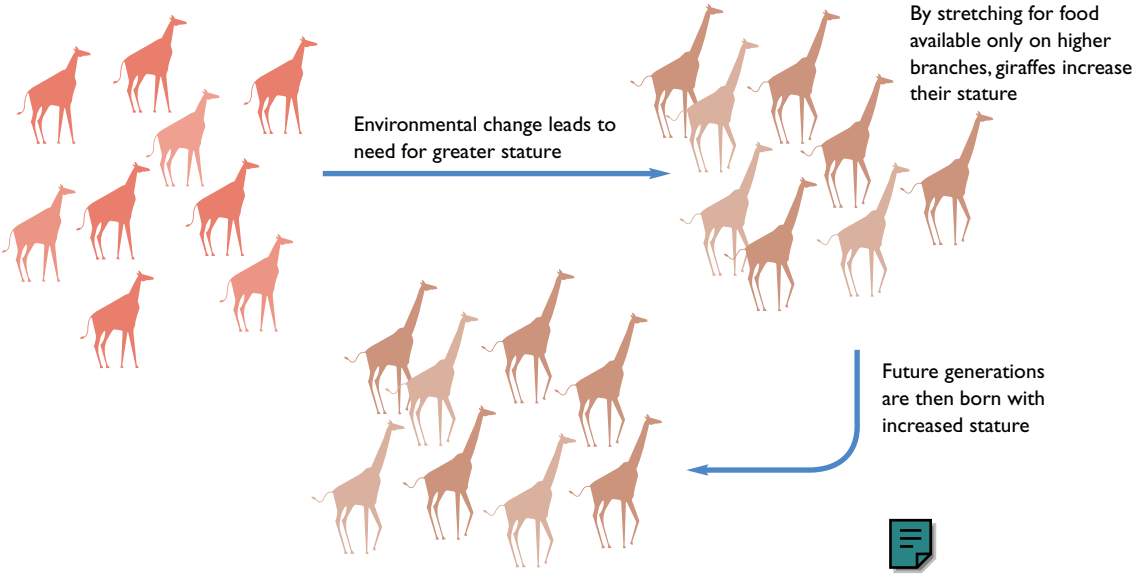

Flagstaff 6,800 ft.
Formation
Thickness
Millions of Years
Conditions/ Composition
Basalt
0–100 ft.
7
Volcanic Lava and Cinders
Gravel
0–30 ft.
12
River
Moenkopi Sandstone
0–70 ft.
Silica and Petrified Wood
Kaibab Limestone
400 ft.
Age of Mammals, Sedimentary Erosion
65
Extinction of Dinosaurs
Toroweap Sandstone
300 ft.
Rivers carry large number of evergreen logs, which eventually petrify
Coconino Sandstone
500 ft.
Reptile tracks left by direct ancestors of the dinosaurs
Hot Arid Climate
Schnebly Hill Sandstone
900 ft.
200
Tidal Flat
Sand and Mud
Apache Limestone
30 ft.
225
Permian Extinction (50% of sea-life dies off)
240
Ocean Floor
250
Inland Sea, Sand and Shells
260
Desert, Wind Erosion
270
Wind-Blown Red Sand
Sedona's famous red rocks
Hermit Shale
300 ft.
280
Coastal Floodplain with Orange-Red Sand Dunes
Supai Sandstone
200 ft.
300
Swamp, fossi
rns, salamander tracks and worm trails
Red Wall Limestone
400–600 ft.?
330
Shallow Sea
Grey and Red Silt
Sedona 4,500 ft.


Environmental change leads to need for greater stature
By stretching for food available only on higher branches, giraffes increase their stature
Future generations are then born with increased stature

1640 1650 1660 1670 1680 1690 1700 1710 1720 1730 1740 1750 1760 1770 1780 1790 1800 1810 1820 1830 1840 1850 1860 1870 1880

GEOLOGY

James Ussher determines that creation took place in 4004 B.C., 1650

The Wisdom of God by John Ray is published, 1691

William Whiston proposes that a collision between earth and a comet caused Noah's flood, 1696

Georges Buffon Uniformitarianism; longer timeframe for earth history, 1749

Theory of the Earth by James Hutton published, 1788

William Smith's stratigraphic tables first circulated, 1799

William Smith's stratigraphic tables published, 1815

Principles of Geology by Charles Lyell published, 1830

BIOLOGY

Robert Hooke suggests fossils are evidence of change; notes importance of environmental change in accounting for biological change, 1660s–1690s

Linnaeus publishes his taxonomy of living things, 1758

Philosophie Zoologique by Jean-Baptiste de Lamarck published, 1809

Darwin begins his voyage on the *Beagle*, 1831

Darwin writes a synopsis of his theory of evolution, 1844

The Origin of Species by Charles Darwin published, 1859

Alfred Russel Wallace proposed idea of natural selection, 1859

The Descent of Man by Charles Darwin published, 1872

Gregor Mendel discovered basic laws of inheritance, 1860s

ARCHAEOLOGY

John Frere finds flint tools in soil layer deep in quarry in Hoxne, England, 1797

Flint tools and bones of extinct animals found in Kent's Cavern, England, 1824

Human bones found with bones of extinct animals in French cave, 1828

Jacques Boucher de Perthes finds ancient flint axes, 1837

C. J. Thomsen publishes museum guide and introduces three-age system, 1836

Primitive skull found in Neander Valley, Germany, 1856

Geological Evidences of the Antiquity of Man by Charles Lyell published, 1863

Researches in the Early History of Mankind by Edward Tyler published, 1865

Ancient Society by Lewis Henry Morgan published, 1877