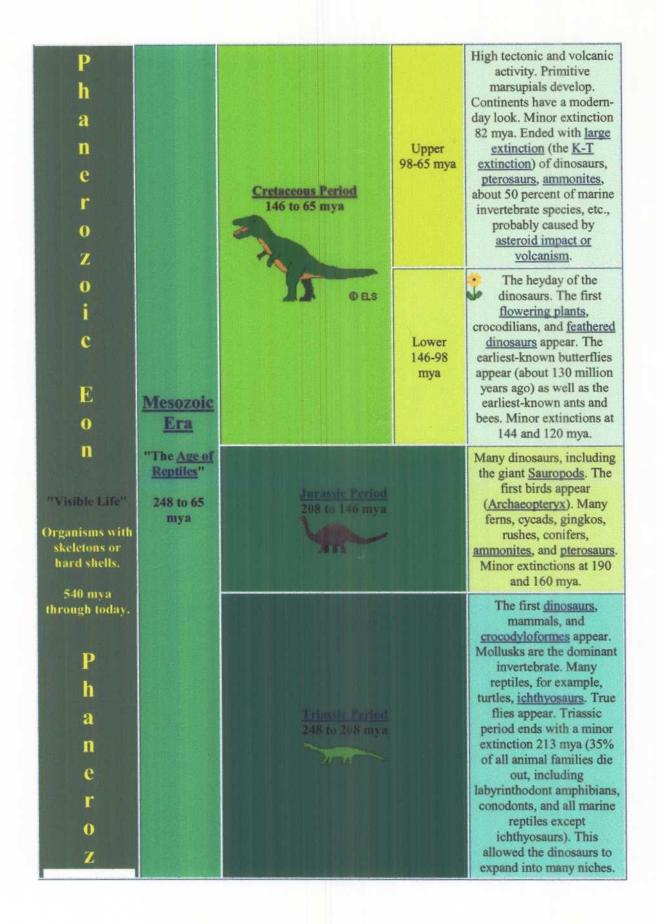
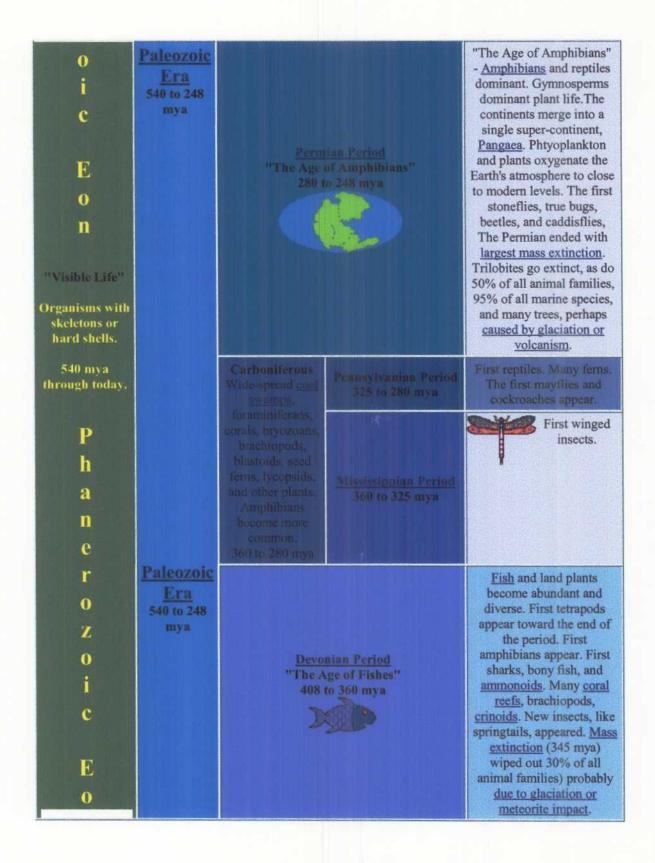
The Earth

EON	ERA	PERIOD		EPOCH	PIVOTAL EVENTS
P h	Cenozoic Era "The Age of Mammals" 65 mya through today	Quaternary Period "The Age of Man" 1.8 mya to today		Holocene 11,000 ya to today	Human civilization
a n e r o z				Pleistocene The Last Ice Age 1.8011 mya	The first humans (<u>Homo</u> <u>sapiens</u>) evolve. Mammoths, mastodons, <u>saber-toothed cats</u> , giant ground sloths, and other <u>Pleistocene megafauna</u> A mass extinction of large mammals and many birds happened about 10,000 years ago, probably caused by <u>ice ages</u> .
0 i c		Tertiary Period 65 to 1.8 mya	Neogene 24-1.8 mya	<u>Pliocene</u> 5-1.8 mya	First hominids (australopithecin es). Modern forms of whales. <u>Megalodon</u> swam the seas
E o n				<u>Miocene</u> 24-5 mya	More mammals, including the horses, dogs and bears. Modern birds. South American monkeys, apes in southern Europe, Ramapithecus.
"Visible Life" Organisms with skeletons or hard shells.			Paleogene 65-24 mya	Oligocene 37-24 mya	Starts with a minor extinction (36 mya). Many new mammals (pigs, <u>cats</u> , rhinos, tapirs appear). <u>Grasses</u> common.
540 mya through today.				Eocene 58-37 mya	Mammals abound. Rodents appear. Primitive whales appear.
Р				Paleocene 65-58 mya	First large mammals and primitive primates, plesiadapiforms.

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The first jawed fishes and n uniramians (like insects, centipedes and millipedes) appeared during the "Visible Life" Silurian (over 400 million years ago). First vascular Organisms with plants (plants with water-**Silurian Period** skeletons or conducting tissue as 438 to 408 mya hard shells. compared with nonvascular plants like 540 mya mosses) appear on land through today. (Cooksonia is the first known). High seas worldwide. Brachiopods, crinoids, corals. Plants appear on land. First corals. Primitive fishes, seaweed and fungi. Graptolites, bryozoans, gastropods, bivalves, and echinoids. High sea levels **Ordovician** Period 505 to 438 mya at first, global cooling and glaciation, and much volcanism. North America under shallow seas. Ends in huge extinction, due to glaciation. "Age of Trilobites" - The Cambrian Explosion of life occurs; all existent phyla develop. Many marine invertebrates (marine animals with mineralized shells: shell-fish. echinoderms, trilobites, brachiopods, mollusks, **Cambrian** Period primitive graptolites). First "The Age of Trilobites" vertebrates. Earliest 540 to 500 mya primitive fish. Mild climate. The supercontinent Rodinia began to break into smaller continents (no correspondence to modernday land masses). Mass extinction of trilobites and nautiloids at end of Cambrian (50% of all animal families went extinct), probably due to glaciation.

Proterozoic Eom 2.5 billion years ago to 540 mya		600 to 540 Million Years Ago	Figure 2 and
			First multicel utar life: colonial algae and soft- badied invertebrates appear. Oxygen build-up in the Mid-Proterozoic.
Archeozoic Eon (Archean) 3.9 to 2.5 billion years ago			"Ancient Life" - The first life forms evolve - one celled organisms. Blue- green algae, <u>archaeans</u> , and <u>bacteria</u> appear in the sea. This begins to free oxygen into the atmosphere.
Hadean Eon			" <u>Rockless Eon</u> " - The solidifying of the Earth's continental and oceanic crusts.

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Geologic Time Scale

Era	Period		Epoch	Dates	Age of	Events	
ANG STREET	Quaternay		Holocene	11,000-today	1,000-today	Modern human civilization	
1 States			Pleistocene	.011-1.8		Last ice age, Homo sapiens, mammoths, saber-toothed cats	
			Pliocene	2-5		First hominids (australopithecines), modern whales	
		Neogene	Miocene	5-24		Modern birds, horse, dogs, bears	
The second is			Oligocene	24-37		New mammals, pigs, rhinos, grasslands	
			Eocene	37-58		First rodents, primitive whales, Himalayas form	
Cenozoic	Tertiary	Paleogene	Paleocene	58-66	Mammals	Extinction of dinosaurs, first primitive primates	
	Cretaceous			66-144		Flowering plants, butterflies, ants, modern continents, Rocky Mountains form	
	Jurassic		7	144-208		Dinosaurs dominant, first birds, mammals	
Mesozoic	Triassic		7	208-245	Reptiles	First dinosaurs, turtles, crocodiles, flies	
	Permian			245-286		End of trilobites, Pangaea forms, modern levels of oxygen	
		Pennsylvanian		286-320]	First reptiles, cockroaches, ferns abundant	
	Carboniferous	Mississippian		320-360	Amphibians	Large primitive trees, winged insects	
	Devonian			360-408		First amphibians, bony fish	
	Silurian			408-438	Fishes	First jawed fish, vascular plants, insects	
	Ordivician]	438-505		First fish, land plants, coral, seaweed, fungi	
	Cambrian			505-570	Invertebrates	First shells, trilobites dominant	
				570-2,500		First multi-celled organisms, sponges	
				2,500-3,800		First one-celled organisms, algae, bacteria	
				3,800-4,600		Oldest rocks	