

## EARTH HISTORY PROJECT 'DOX ROX TIME TRAVEL'

You can now travel back through Time to study any period or event in the history of the Earth through the miracle engineering pioneered by "Dox Rox, Inc.!" It's perfectly safe, and non-fattening, too. Even more amazing, it only costs \$1 for each million years of round-trip time travel.

You've won a research grant of \$15,000 to travel through Time using this unbelievable "Dox Rox" technology. Now your tasks are:

- Select at least six events from the list below to visit. **Write a plan that explains why** you want to see these events. (12 pt, 2 pt. ea.)
- In your plan, **describe what you will 'bring back' to prove you've been there.** Examples include rocks or photographs of living organisms known only from their fossils. (6 pt., 1 pt. ea.)
- Give your **itinerary—tell the order** in which you will visit them, and why in this order. (6 pt., 1 pt. ea.)
- Present your **budget—how much it will cost.** (6 pt, 1 pt ea., plus 1 bonus pt if you can get within \$500 of the allowed \$15,000.)
- **Present your plan and supporting information** to your classmates. (5 pt.)

The list of events you can study is on the next page.

## Dox Rox, Time Travel through Earth History

Here is the list of events you can travel back to in Time:

- 1 mya (million years ago): Last great Ice Age begins, modern humans develop (Pleistocene epoch of the Quaternary Period of the Cenozoic Era)
- 3 mya: Earliest human-like beings (*Australopithecus*) (Pliocene epoch of the Neogene period))
- 30 mya: Earliest grasses (Oligocene epoch of the Paleogene period)
- 50 mya: Many modern mammals begin to evolve (Eocene epoch of the Paleogene period )
- 55 mya: PETM (Paleocene-Eocene Thermal Maximum)—rapid heating of Earth and mass extinction
- 65 mya: K-T (Cretaceous-Tertiary) Event—extinction of dinosaurs, ammonoids, and many other groups (end of Mesozoic Era/beginning of Cenozoic Era)
- 130 mya: Earliest flowering plants (Cretaceous period)
- 160 mya: Dinosaurs abundant, first birds (Jurassic period)
- 225 mya: Earliest dinosaurs, flying reptiles, first mammals (Triassic period)
- 250 mya: Mass extinction of trilobites and other marine animals (Permian period, end of Paleozoic Era/beginning of Mesozoic Era)
- 300 mya: Coal-forming forests, first reptiles (Carboniferous period)
- 400 mya: “Age of Fishes,” earliest amphibians (Devonian period)
- 425 mya: Earliest terrestrial plants and animals (Silurian period)
- 500 mya: Invertebrates dominant, first coral reefs (Ordovician period)
- 540 mya: Trilobites and other marine animals with shells, earliest fish (Cambrian period, beginning of the Paleozoic Era)
- 580 mya: “Ediacara fauna”—first multi-cellular, soft-bodies animals
- 1500 mya: First sexually-reproducing organisms
- 2000 mya: Oxygen begins to enter the atmosphere
- 3400 mya: Oldest known microfossils
- 4200 mya: Oldest known rocks
- 4500 mya: Estimated age of the origin of the Earth and Solar System