

Understanding Earth history through ecotourism brochures

Purpose and Justification:

As a summary activity to their investigations of the history of life on Earth and the environments that have shaped it, students design an ecotourism brochure for time-travelers visiting a specific periods in Earth's history. In the brochure students will highlight species and habitats the traveler is likely to see, which environments the traveler will encounter and natural hazards for which they should be prepared. Students are encouraged to focus on the events that shaped that period, including the evolution of new species, mass extinctions, continent formation and drift, mountain building, volcanism etc.

Students will:

Review environments and species associated with a specific period in Earth's past
Summarize and present the information in a brochure format

Connections to unit and other disciplines:

Besides biology and paleontology, the students will indirectly be exposed to geologic history. This is also an opportunity for students to consider what makes modern ecotourism a rapidly expanding segment of industry.

Prior knowledge :

Familiarity with the general trends and events of Earth history; a general understanding of the evolutionary timeline of life on Earth

Introduction:

Review the timelines the students produced and why geologic history is divided the way it is (largely based on the fossil record). Describe how the students will combine what they've learned with additional information they will research about a specific period in Earth's past to create an interesting ecotourism brochure for future time travelers. Discuss the what, why, where aspects of ecotourism and have some local examples that the students would be familiar with (e.g. Kartchner Caverns and bird watching in southern Arizona).

Making the Brochure:

With the students in small groups, assign a geologic era to each group (e.g. Permian, Cretaceous, Hadean). Students will need to combine their prior knowledge about the time period with research done in the library.

Give the students a short list of items you'll be looking for in their brochures. This list could include:

How long ago is the period?

What is the ecotourism attraction during this period in Earth's history?

Are there hazards the time traveler should be aware of?

What environments exist and what kinds of life inhabit these environments?

What lifeforms are just evolving? What sorts of life are endangered (oncoming mass extinctions)?

Text from an example brochure:

San Pedro Safari

Visit the San Pedro valley of what will become Arizona, just a short 18,000 years away from the present! As you hike through the savannas, you'll witness endangered, majestic Columbian mammoths browsing in oak groves while camels graze warily under the watchful eyes of North American lions! See cultural demonstrations of early Native American peoples creating their beautiful and deadly Clovis spear points.

You'll want to dress in layers; Holocene climate in southern Arizona is cooler and more comfortable than the present day. Expect midsummer temperatures in the 80's and much cooler at night.

The Holocene in southern Arizona is an exciting place to visit! During this period, Asiatic invaders such as deer, elk and humans are expanding their range in North America while native species, such as mammoths, are becoming extinct. The retreat of continental glaciers to the north is causing rapid climate change in the region. Oak and juniper savannas on valley floors are warming and drying. As savannas retreat up mountainsides, the Sonoran and Chihuahuan deserts are expanding from the south to fill their place. These expanding deserts bring with them new species of animals and plants. Who knows, you may witness the arrival of Arizona's first saguaro cactus!

The fine print:

Traveler agrees to absolve Time Tour Inc. and its parent company, Timex Corporation. from any and all liability resulting from natural hazards present in the Holocene. Hazards include, but are not limited to: Dire Wolves, North American Lions, Cave Bears, Short -Faced Bears, Giant Condors, Sabre-Toothed Cats, tar pits, hostile natives, heat exhaustion, hypothermia and flash flood.