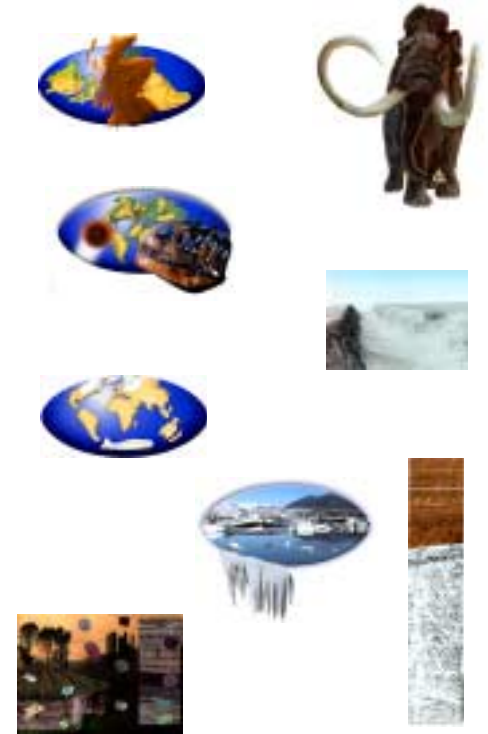


Back to the Future.....Time-travel Poster 1



What to do ?
See the next page !

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Section 9

Back to the Future-Part One

Loch Ness Time-travel....

What to do....

Use the information in Timeline 1. to help you make your Loch Ness Back to the Future Timeline Poster.

To do this you will need to work as a team of two or three - you will need scissors and a gluestick and a big sheet of poster paper.

Start by giving your sheet a title -
Back to the Future - Loch Ness Timeline Part One.

Print out the pictures as they are - or make them bigger using your computer - and then cut them out ready to match up with the Timeline Part One statements.

CUT OUT EACH OF THE TIME LINE STATEMENTS AND MATCH THEM TO THE RIGHT PICTURE.

Show these on your poster in the correct time order!
Start with the earliest first and finish with the most recent - HINT- read the dates carefully!

Decide on an attractive way to display the information you have and glue the pictures and statements to the poster paper. What shape will it be - which direction ?
Once your team has made the poster - get ready to tell the rest of the class all about "Back to the Future Part One".

ASK YOUR TEACHER IF YOU CAN GO ON TO PART TWO...

Section 9

10,000 years ago.

The melting continues again. The ice dams holding back the lakes in Glen Roy and Glen Spean give way in successive floods. As the lakes drain they leave traces of their old shorelines as the famous "parallel roads".

The final outpouring may have laid the gravel foundation of Fort Augustus before roaring on to carve into the gravel at the northern end of the loch to form the channel of the River Ness and indeed the foundations of Inverness itself. The water level in Loch Ness rose 8m. It is calculated that a third of the volume of the loch may have passed through in as little as 48hrs! The Ice Age is now truly over.

The bed of Loch Ness is covered with grey clay. Near the top is a layer of small stones, perhaps deposited by the last flood of meltwater from Glen Roy. For the next 10,000 years, dark brown organic sediments will accumulate, layer by layer. They contain tiny clues to the history of the loch and events much further afield. Pollen grains, tell us how the forests evolved and were cut down. Tiny glass shards from Icelandic eruptions suggest why Bronze Age settlements were suddenly abandoned. Diatoms reveal how we are changing the loch's waters by pollution. Carbon particles record the peak of industrialisation in the 1970's and finally, radioactive isotopes point to the dangers of nuclear accidents like Chernobyl.

500 million years ago

The world is very different. Scotland lies on the coast of the North American continent, far to the south of the equator. Plate tectonics are moving the continent steadily towards another called North Europe.

65-1.8 million years ago. The Tertiary Includes

65-55 million years ago. The Palaeocene

55-39 million years ago. The Eocene

39-22.5 million years ago. The Oligocene

22.5-5 million years ago. The Miocene

Write your own information box for this period!

Death of the Dinosaurs....

65 Million Years Ago

The dinosaur's world was fragmenting as the Atlantic Ocean opened up, leaving Scotland behind, as part of Europe. Then followed chaos, as huge quantities of lava flowed across the land, especially in India. Volcanic gasses probably caused violent climate changes. Suddenly, 65 million years ago, a huge asteroid or comet fragment seared through the atmosphere and impacted near the Yucatan Peninsula in Mexico. A huge extinction followed, including the death of all the dinosaurs. The land would now belong to the mammals and birds.

280-230 million years ago. The Permian Period

The reptiles needed no water to lay their eggs in and began to march inland. Just as well, because almost all the world's landmasses had clustered together into a super continent called Pangaea with Scotland near the centre, so the climate was getting drier. The Reptiles ruled the land.

20,000 years ago.

The Ice Age is at its peak. Parts of Scotland lie buried by up to 1700m of ice.

345- 280 million years ago.

The Carboniferous period saw Scotland starting its journey north to the equator. Tropical swamps cover much of the country and will one day become coal seams. Some of the fish have evolved into amphibians and are crawling ashore into the humidity to feed on the insects and plants that have already colonised the land. However, the amphibians had to lay their eggs in water and still do. Towards the end of the period they were evolving again. Millions of years later, in the 1980's a fossil was found near Edinburgh and christened "Lizzie". This was because it had almost evolved into a reptile.

11,000 years ago.

The glacier has now retreated from Loch Ness but the cold is returning. On the high ground, the ice is on the move again and Copyright A.J.Shine Loch Ness Project 1999 reaches the southern end of Loch Ness. The ice holds back lakes in Glen Roy and Glen Spean.

Section 9

2.5 Million Years Ago

Since about 2.5 million years ago the ice sheets of Europe and North America have advanced at least four times; maybe twenty times. The rocks along Loch Ness, because the movements of the Great Glen faultline had shattered them, yielded easily to the ice. The massive erosive forces smoothed and deepened the valley that would one day become Loch Ness.

**Back to
the Future
Part 1**

18,000 years ago.

The ice begins to retreat. A glacier is still carving its way down Loch Ness. Meltwaters running beneath it are depositing sand and gravel to form ridges called “eskers” at Tomnahurich and Torvean.

400 million years ago

The continents crash into each other and throw up the Caledonian mountain chain as high as today’s Himalayas.

Section 9

LIFE AS WE KNOW IT ?

5-1.8 million years ago. The Pliocene

The mammals and birds now spread out into all the vacant niches left by the reptiles. Some took to the sea, to become the whales and dolphins, replacing the great sea reptiles like the plesiosaurs. The continents were still drifting generally northwards. India collided with Asia, forcing up the Himalayas. The Atlantic Ocean was still widening. Scotland’s climate became increasingly seasonal. Finally, the landmasses converged on the North Pole blocking the ocean circulation. Now, there was land for snow to settle on, reflecting away the sun’s heat. The Ice Ages set the stage for the rise of mankind.

230-195 million years ago. The Triassic
195-140 million years ago. The Jurassic
140-65 million years ago. The Cretaceous

DINOSAURS RULE O K !

Throughout these periods Scotland was drifting north of the equator. It saw the rise of the mighty dinosaurs. The newly evolved mammals were kept in hiding underground but their warm blood probably allowed them to be more effective at lower temperatures, at night for example and during the winters which were becoming more noticeable. This was because the majority of the world’s land was now entering temperate latitudes.

1.8 million years- Present. The Quaternary Includes
1.8 million- 10,000 years ago. The Pleistocene
10,000 years ago- Present. The Holocene

380 million years ago

The Great Glen fault cracks across the Highlands. This is during the Devonian period and the only vertebrates are primitive fish. Earth tremors still occur.

120,000 years ago.

The last Ice Age begins

**CLICK TO SEE
NEXT SECTION**

Back to the Future.....Time-travel Poster 1