

MASS EXTINCTIONS

When large numbers of plant and animal species die out (become extinct) over a geologically short space of time.

The K-T mass extinction happened between the Cretaceous and Tertiary periods 65 million years ago. This marked the end of the Mesozoic era and the beginning of the Cenozoic (Cainozoic) era.

The P-T mass extinction happened around 250 million years ago. This was between the Permian and Triassic periods and marked the end of the Palaeozoic era and the beginning of the Mesozoic era.

A

96 % of all marine species became extinct, and 70% of terrestrial vertebrates.

Trilobites and graptolites disappeared completely.

Tabulate and rugose corals became extinct.

Microfossils, radiolaria and foraminifera showed significant declines.

Significant reductions in brachiopods (96%) and bivalves (59%).

Terrestrial vertebrates and amphibians declined and some woodland plants died out.

B

Approximately 85% of all marine and terrestrial species became extinct

In the seas ammonites and belemnites became extinct, but deeper, benthonic creatures such as Nautiloids and brachiopods did better.

Scleractinian corals declined but survived.

On land, the dinosaurs died out completely.

Mammals and birds declined, but survived the extinction event.

Many plants became extinct and a so called fern spike occurred after the event as those species took over.

Link A and B to each of the extinction events and label them as P-T or K-T

THEORIES

METEORITE/ASTEROID/COMET IMPACT

GLOBAL DARKNESS AND GLOBAL COOLING

SOLAR RADIATION CUT OUT, NO PHOTOSYNTHESIS, WHOLE FOOD CHAIN AFFECTED.

RELEASE OF CO₂ , GLOBAL WARMING

FLOOD BASALTS SUPER ERUPTION (DECCAN TRAPS)

ASSEMBLY OF THE SUPERCONTINENT PANGAEA

LOSS OF SHALLOW CONTINENTAL SHELF HABITATS

MASS GLACIATION AND FALLING SEA LEVELS

INCREASED SALINITY OF SEA WATER

GAS (methane) HYDRATE EMISSIONS AND GLOBAL WARMING

DESERTIFICATION OF CONTINENTAL INTERIORS

FLOOD BASALTS (SIBERIAN TRAPS)

WHICH CAUSES FIT WHICH EVENT?

List the sequence of events that may have caused the extinction after a meteorite impact

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List the sequence of events that may have caused an extinction after a flood basalt super eruption

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EVIDENCE FOR THE IMPACT EVENT (add detailed notes to explain the evidence)

Chicxulub crater

Shocked quartz

Tecktites

Tsunamites

Iridium clay layer

Soot deposits