



PERMIAN MONSTERS

Life Before the Dinosaurs

Visitor Adventure Guide

Palaeontologists study fossils of plants and animals that lived long ago. These fossils are clues to the past.

Be a prehistoric detective!

Use this adventure guide to explore Permian Monsters. Search for your answers within the exhibition and become a palaeontologist.

Life in the Permian

How long before the dinosaurs did Permian Monsters live?

Hundreds of years
Thousands of years
Millions of years

How were insects able to grow to enormous sizes during the Permian?

Cross the animal groups that didn't exist during the Permian

Fish
Birds
Amphibians
Insects
Mammals
Reptiles

Circle the group of reptiles that gave rise to mammals

Anapsids
Synapsids
Diapsids

Circle the group of reptiles that gave rise to dinosaurs and birds

Anapsids
Synapsids
Diapsids

The Permian Sea

During the Permian the Earth had just one super continent and one large ocean. What were their names?

Find the shark Helicoprion and draw its teeth. How do you think they worked?

Draw the following sea creatures:

Ammonite

Trilobite

Crinoid

These were all invertebrate life forms that lived in the sea during the Permian. Do you know what invertebrates are?

Which out of the 3 died with the extinction?

Permian Amphibians

Find the skeleton and the illustration of Sclerocephalus.
How big did Sclerocephalus grow?

How did large amphibians adapt to life on land?

Can you tell which of the following facts about amphibians are true or false?

Amphibians are warm blooded **True** **False**

Amphibians change from water-breathing juveniles to air-breathing adults **True** **False**

Amphibians buried their eggs on land **True** **False**

Permian amphibians were a lot bigger than today's and achieved monstrous sizes **True** **False**

Can you name the animal in the exhibition that has a boomerang shaped head?

Why do you think it had this strange shaped head?

Permian reptiles

Now that you have visited the exhibition, here is a way to test your new knowledge on Permian reptiles

Match with a line the Permian reptile names with the illustrations

Dinocephalia



Dicynodont



Pelycosaur



Pareiasaur



Cynodont



Gorgonopsid



Animals that eat meat are called **carnivores**.

Animals that eat plants are called **herbivores**.

Animals that eat plants and meat are called **omnivores**.

Circle the illustrations above the reptiles that were **carnivores**, put a square around the **herbivores** and a triangle around the **omnivores**.

The Extinction

The Permian ended with the largest extinction in the history of Earth. Do you know what percentage of species were wiped out?

Can you draw a line to link the sequence of events that led to the extinction?



Volcanic eruption



temperature increase
+5 degrees



methane gas release
from ocean



2nd temperature
increase +5 degrees



extinction of over
90% species

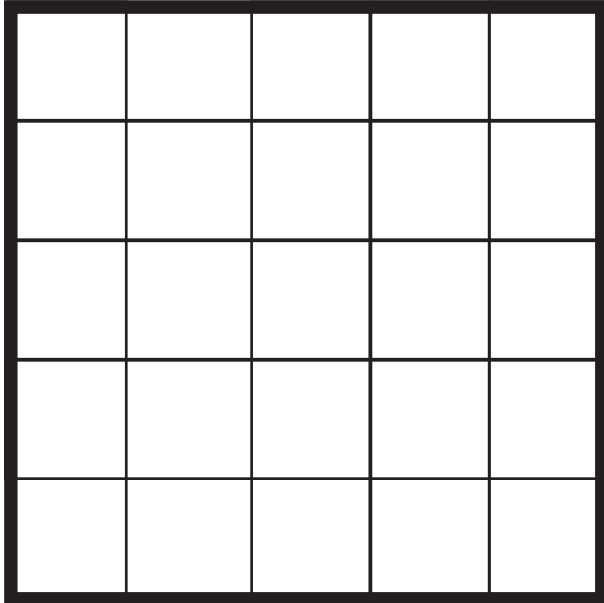
Circle the animals that survived the extinction



Dipping Up fossils

Go to a dig pit where you can brush away the sand to uncover some fossils

Draw a picture of the fossils you uncover in the grid below



Identify the fossils you found by finding them on display in the exhibition.

Congratulations!

This certificate states that

_____ became a self-taught palaeontologist at Permian Monsters: Life before the Dinosaurs

Signed: _____

Date: _____

