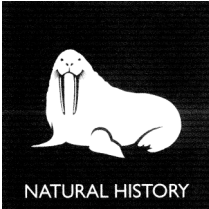


HORNIMAN MUSEUM

Living Dinosaurs Trail

Since the Earth was created around 4600 million years ago, natural **environments** or surroundings have changed and continue to do so. To survive, many plants and animals change over a long time. They create new types known as **species**. This is called **evolution**.



Come and discover some creatures that lived before and during the time of the dinosaurs. Some still have relatives on Earth today.

Some of the animals we will meet evolved after the dinosaurs died out (became extinct). This includes us humans!

Go to the Natural History Gallery.

Start upstairs on the balcony on the 1st floor.

There are stairs or a lift before the gallery entrance that goes up to the 1st floor.

Stand with your back to the big clock and look for the corals in cases 10 and 11 on the left hand side.

Life on Earth began in the oceans and seas.

The first animals had no backbones.

Animals without a backbone are called **invertebrates**.

Corals are **invertebrates** and were around millions of years before the dinosaurs.

1. Can you find a coral that is named after:

a) A part of an animal's body? _____

b) A salad food? _____

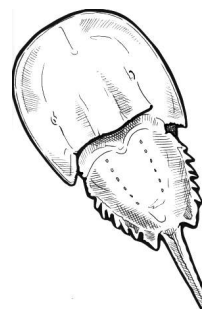
c) A hedgehog-like South American animal? _____

Coral is still found in mostly warm waters around the world.

It is often found in groups called **reefs**.

They are now under threat of **extinction** from pollution and other human activity.

If you want to find out more, visit the **Environment Room** on the floor below.



Move to case number 26 to find another marine (saltwater) invertebrate.

2. a) The king crab has another name. What is it? _____

It has a hard outer shell called an **exoskeleton** and legs with bending joints.

2. b) Which part of its body does this other name describe? _____

This animal appeared on Earth over 200 million years before the dinosaurs and still swims in shallow waters along the Atlantic coast of North America and in the Gulf of Mexico today.

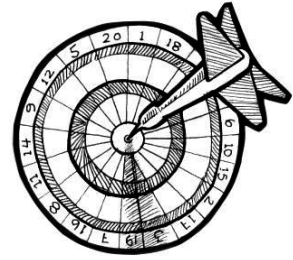
Follow the balcony around the corner until you reach the case with the octopus, cuttlefish and squid.

During the time of the dinosaurs, octopus-like animals with long arm-like **tentacles** and a rubbery **internal** (inside) shell swam the seas.

They were called **belemnites**.

They are now **extinct** (no longer living) but **fossils** of their shells can be found.

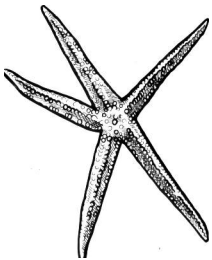
An animal fossil is sometimes left when the animal dies and the soft parts of their body rot away. The rest is pressed down by soil and rock over many years and hardens into a fossil.



Look for a fossilised belemnite shell in the case.

3. The word belemnite comes from the Greek for dart. Why do you think this is?

Move along to the end case on this wall and look for the sea urchins.



starfish



sea urchin

Some of the sea urchins here are known by names ending in -aster.

This is Greek for 'star'.

Sea urchins also belong to the same group of animals as starfish – some examples can be seen in the case to the left!

4. How many starred points do these sea urchins (and starfish) have? _____

The first animals with backbones, called **vertebrates**, to live on Earth were fish.

Look in case 42 for the fossilised tooth of a shark (a fish) called a Carcharodon megalodon.

Once thought to be extinct, scientists think it may still live deep down in the ocean!

5. How many feet long do scientists think this shark might have been/is? _____

That's about 24 metres or nearly 3 buses long!

Land plants began to appear around 300 million years ago and **land animals** soon followed.

Look for the spectacled caiman, a reptile from Central and South America in case 48.

6. What 2 other animals from the same family does it look like?

c _____ and a _____

River crocodiles lived before the first dinosaurs and are still found today!

Dinosaurs were **reptile-like** with scaly skin, just like crocodiles and lizards.

Like reptiles, the females laid eggs and most were cold blooded.

Unlike lizards, dinosaurs' legs walked **under** their bodies rather than out to the **side**.

Most dinosaurs were huge (the largest was the length of nearly 3 buses) but some were the size of a chicken!

Go to the text panel at the entrance to the gallery.

Look for the picture of the Victorian Iguanodon (say: ig-wan-no-don) sculptures at Crystal Palace Park.

The Iguanodon had a spike on each 'thumb' to protect itself.

Victorian scientists first thought that this spike lived somewhere else on the body.

7. On which part of the Iguanodon's face have the Victorian sculptors wrongly put the spike?



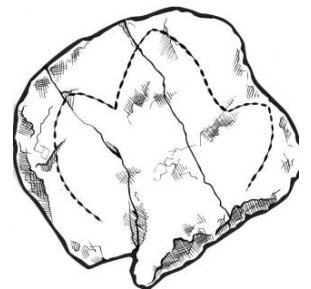
The name **Iguanodon** means 'Iguana-toothed' and was one of the first dinosaurs to be named by scientists called **palaeontologists** (say: pay-lee-on-to-lo-jists). It was called an Iguanodon as the teeth of this dinosaur were like an Iguana's (a reptile that lives in Central and South America) except larger!

Find an Iguana in case 38.

8. How many claws does it have on its front and back feet?

An Iguanodon had the same number of claws on its front feet.

**Go back to the balcony and look under cases 54/55 (on the right with your back to the big clock).
Look for the fossilised back footprints of some Iguanodon.**



9. How many claws did Iguanodon have on their back feet?

Other reptile-like creatures that are also **extinct** lived at the same time as the dinosaurs – ones that swam and those that flew.

Look at the fossilised jaw of the Ichthyosaurus (say ick-th-ee-oh-saw-rus), an extinct swimming reptile. Its name means 'fish reptile'.

It had cone-shaped teeth for catching and eating fish.

10. Draw one of its teeth here:

Look for a similar jaw in case 65.

11. What living swimming animal (a warm-blooded mammal rather than a reptile) does it belong to?

Flying reptiles appeared on Earth before the first birds.

Look for the fossil cast of a Pterodactyl (say ter-ee-dac-til) and a picture of what it probably looked like in case 49.

Pterodactyl means 'winged finger'.

Now look in cases 75 and 76.

12. a) What flying animal (a mammal rather than a reptile) in this case has wings of stretched skin, similar to those the Pterodactyl would have had?

12. b) Draw one of its wings here:

Look for the fossil cast of an Archaeopteryx (say ar-key-op-ter-icks) in case 54. Look for the outline of feathers on this early bird.

This fossil showed **palaeontologists** that birds **evolved** from flying reptiles. Early birds had bony tails and beaks with teeth.

Mammals came after the first birds. Mammals have hair and feed their young on milk. Some of the first mammals to live on earth also laid eggs like reptiles and birds.

Look in case 58/59 for an egg-laying mammal from Australia. It has a furry body, a duck-like beak and webbed feet for swimming.

13. What is it called? _____

Look in case 99 for a skeleton of a large mammal that roams the Earth today!

14. What animal skeleton is it? _____

Congratulations, you have now finished the Living Dinosaurs Trail!

HORNIMANMUSEUM

Living Dinosaurs Trail

Answer Sheet

1. a) Brain coral
b) Lettuce coral
c) Porcupine coral
2. a) Horseshoe crab
b) Its shell (the shape is like a horseshoe)
3. Its body is dart-shaped
4. 5
5. 80
6. Crocodile and alligator
7. Its nose
8. 5
9. 3
10. Drawing of Ichthyosaurus tooth
11. Dolphin
12. a) A bat
b) Drawing of Pterodactyl wing
13. Duck-billed platypus
14. Human