



Questions and Answers

Introduction

Dinosaurs were types of animals with scaly skin, called **reptiles**. They lived millions of years ago but died out long ago. Of course no one has ever seen a dinosaur because humans appeared on Earth more than 60 million years after the dinosaurs died out. But have you ever wondered what they were like? In this slide show you can learn lots of facts about dinosaurs and find out lots of answers to questions that are asked about them.



How many kinds of dinosaurs were there?

Dinosaurs were on Earth for millions of years and over time, all kinds of different dinosaurs developed. Scientists have named about 800 different types of dinosaurs but there were probably even more!



When did dinosaurs first appear on Earth?

Scientists believe that the first kinds of dinosaurs appeared on Earth about 225 million years ago. One of the very first dinosaurs was *Terrerasaurus*. It was a meat eater that lived in an area we now call Argentina.



Dinosaurs were large reptiles that lived on Earth a long time ago. Reptiles that are still living include turtles, snakes, crocodiles, tortoises and lizards but, dinosaurs were a bit different from the reptiles we see nowadays. Dinosaurs had their legs straight under their bodies unlike other reptiles whose legs sprawl out to the side.

What kind of animals were dinosaurs?



No one knows exactly what dinosaurs were like because, about 65 million years ago, they became extinct. Extinct means that they all suddenly died out. However, scientists have some idea of what dinosaurs were like. Scientists are a bit like detectives, they gather lots of bits of information to find out about things. Their main clues about dinosaurs are fossils - the stony remains of living things that died long ago.

How do we know what dinosaurs were like?



Anyone can find fossils if they look carefully in the right places. Dinosaur fossils have been found all over the world. Some of the most exciting fossils are being found in China, Australia, Africa and South America. Every year more fossils are found.

Can anyone find fossils?

In 1880, Mary Anning was only twelve years old when she made her first big dinosaur fossil find. She was one of the very first fossil-hunters.



How were fossils made?

Sometimes a dead animal could sink to the bottom of a river, lake or sea. Once it had sunk, it would be covered by sand or mud. Then, over millions of years, the sand and mud became rock, and the animal's bones turned into fossils.



What kind of dinosaur fossils do scientists find?

The most common dinosaur fossils formed from the dinosaur's hard body parts such as bones and teeth. Sometimes, scientists find fossils of dinosaur droppings, or rocks that show the pattern of their skin or footprints.



What can scientists find out from looking at dinosaur droppings?

Scientists study fossilised dinosaur droppings to find out about the kind of things dinosaurs liked to eat. Of course, fossils don't smell so it's not an unpleasant job.



What did dinosaurs eat?

Scientists have discovered that most dinosaurs ate plants. There were however, lots of fierce meat-eating dinosaurs that ate anything they could catch, including other dinosaurs.



Did dinosaurs eat grass?

Not even plant-eating dinosaurs ate grass because there were no grasses until long after the dinosaurs became extinct. Plant-eating dinosaurs mainly ate ferns and trees such as the cycad and pine trees. There weren't any different kinds of trees in dinosaur days either.



Did dinosaurs eat fish?

The Baryonyx was a big dinosaur. It was about ten and a half metres long and had jaws like a crocodile. Scientists think that it ate fish. They think it would have snapped them up in its mouth or hooked them up out of the water with its thumb claws, like a grizzly bear does today. Such a fish was even longer than the baryonyx and scientists think it would have eaten the most fish.



Why did some dinosaurs eat plants?

Long necked dinosaurs couldn't chew their tough plant food. To get at the goodness from the plants, the swallowed stones. The stones would rub together inside their stomachs and mash the plants together until they were just a mush of food. The long necked dinosaurs had to spend nearly all their time eating because they were so big.



Which was the fiercest dinosaur?

Rex means 'king' and Tyrannosaurus means 'tyrant lizard'. A tyrant is a cruel and powerful ruler. When scientists found the fossils of a huge dinosaur they named it Tyrannosaurus rex because they thought it was big, tough and mean enough to walk over all the other animals, killing anything and eating everything that stood in its way.



What did Tyrannosaurus rex look like?

Scientists put together all the fossils that belonged to Tyrannosaurus rex and discovered that it was about the size of a truck! It had a huge head and a mouth big enough to swallow you whole.



What colour was Tyrannosaurus?

No one has ever found a fossil that shows what colour any of the dinosaurs were. Scientists think that some dinosaurs were brightly coloured and some were patterned (camouflaged) to match their surroundings, but nobody knows for sure what colour they were.



Was Tyrannosaurus rex the biggest dinosaur?

Giganotosaurus means 'giant southern lizard'. Scientists think that the meat-eating Giganotosaurus was even bigger than Tyrannosaurus rex!



Which dinosaur had a sail on its back?

Spinosaurus had a sail on its back but no one really knows what it was for. It might have been used like a flag to wave at other dinosaurs as some kind of signal, or it might have been there to help Spinosaurus warm up or cool down – a bit like a solar panel works.



Which dinosaur had a long tail?

Velociraptor didn't just have sharp teeth and viciously clawed hands, it also had a huge curved claw on each foot. When Velociraptor attacked, it could swing these curved claws forwards to slash at its prey.



What was special about duckbills?

Dinosaurs that ate plants didn't just have long necks, some of them also had very long tails. Scientists think Apatosaurus, Barosaurus and Diplodocus may have flicked their extra long tails like a whip. The noise that would make would be incredibly loud and would scare away their enemies.



Which dinosaurs had a bumpy crest?

Parasaurolophus, Corythosaurus and Lambeosaurus were plant-eating dinosaurs that were given a special name. Together, they were called duckbills. They got their name because their mouths ended in a toothless beak, or bill. When predators threatened them, they probably ran away on two legs and may have rushed into the water to escape.



Did any other dinosaurs have strange noises?

Parasaurolophus had a very strange, hollow crest bone which it may have been able to blow through, like a trumpet. Scientists made a model of the bone and when they tried blowing through it, it made a low booming sound.



Did any other dinosaurs have strange noises?

Corythosaurus also had a crest on its head. Corythosaurus means 'helmet lizard' but this dinosaur's crest looked more like a dinner plate than a helmet! Scientists think that the crests of duckbilled dinosaurs were used to show off when the dinosaurs were trying to attract a mate.



How big were their heads?

Triceratops's head was about 2 metres long but Pentaceratops's head was even bigger. It was about 3 metres long, big enough for your car to have parked on it.



How did dinosaurs protect themselves?

Dinosaurs like the Velociraptor and Coelophysis used to hunt in packs. It helped them to kill dinosaur prey that were a lot bigger than themselves.



How did they protect themselves?

Some plant-eating dinosaurs were huge and had extra tough skin covered in bony spikes and bumps. Sauropelta had skin like this, it's skin was like armour-plating and it helped to protect it against meat-eaters.



How did they protect themselves?

Stegosaurus protected itself by thrashing its tail at its enemies. Its tail had vicious spikes at the end which were just as dangerous as a Triceratops's horns. Triceratops was like a giant rhinoceros. It was as heavy as an elephant and as long as a truck. It looked very fierce but it was a plant-eater and probably used its horns to 'corner' meat-eating enemies, such as Tyrannosaurus rex and Velociraptor.



How did they protect themselves?

When Euoplocephalus swung its tail, the bumps on the end were like a club battering its enemies!

Dinosaurs' tails helped them to balance. When they ran after their enemies or away from their enemies, they would hold their tails out behind them so that they could keep their balance.



How fast could a dinosaur run?

Scientists think that dinosaurs such as Gallimimus and Struthiomimus were the fastest and that they could run as fast as ostriches can run today. Ostriches can't fly, but they are the largest birds alive today. They have very strong legs that can run across the ground at up to 65 kilometres per hour.



Could any dinosaurs fly?

Dinosaurs couldn't fly. They were land animals but other creatures flew or lived in the sea.

Archaeopteryx was a feathered creature that lived more than 145 million years ago. Scientists think that Archaeopteryx was a bird and part dinosaur – a dinosaur. Archaeopteryx is the only dinosaur that scientists have found. The fossil of another dinosaur, Caudipteryx, were found and named in 1998.



Could any dinosaurs fly?

Archaeopteryx had feathers, long legs, a bony tail and a beak with teeth. It had a wing span of about 50 centimetres and was probably not a very strong flyer.

It probably spent most of its time flapping from tree to tree to feed on fruit and insects.



Dinosaurs had babies and their babies came from eggs. The first dinosaur eggs were found in the 1920s, more than 80 years ago. They belonged to a Protoceratops.

Some of the biggest eggs found belonged to a long-necked dinosaur called Titanosaurus. They were about 30 centimetres long – the same length as your school ruler.

Did dinosaurs have babies?



Maiasaura means 'good mother lizard'. Scientists gave this dinosaur its 'good mother lizard' name because they found it beside a nest full of its babies.

They think that other dinosaurs may have also stayed with their young to feed and protect them when they hatched from their eggs.

Did dinosaurs look after their babies?



Not all dinosaurs looked after baby dinosaurs very well.

Scientists discovered a fossilised Coelophysis that had eaten its own babies!

Did dinosaurs look after their babies?



Oviraptor means 'egg robber'. This dinosaur got its name because it was discovered near a nest. For a time, scientists thought it was about to steal the dinosaur eggs when for some reason, it died. Much later, scientists found a fossilised Oviraptor that had died protecting its own nest so that proved to the scientists that it was a good mother after all.

Were dinosaur eggs from mother dinosaurs?



All dinosaurs had brains and could think for themselves. The long-necked dinosaur had tiny brains and large bodies. Scientists think they were probably the least intelligent of all the dinosaurs.

Did dinosaurs have brains?



Many scientists think that 65 million years ago, a huge piece of rock from space smashed into the Earth. The force of the rock falling to Earth was so big that when it hit Earth it was like a big explosion. The explosion threw up huge clouds of dust that blocked the Sun and the Earth became dark and cold. Without sunlight plants couldn't grow so the plant-eating dinosaurs died of cold and hunger. When the meat-eating dinosaurs had nothing left to eat so they starved to death.

What happened to the dinosaurs?



Scientists think that the space rock that fell to Earth was at least 10 kilometres across. They think that because it made a huge crater (hole) in the sea bed when it landed in the sea just off Mexico. Scientists think that the crater was made about 65 million years ago.

Do scientists know anything about the rock that fell to Earth?



No dinosaurs survived the disaster. They all died out and became extinct. Now we can only see their fossils.

Are there any dinosaurs alive now?



Dinosaurs weren't the biggest animals that have ever lived. The blue whale is the biggest animal ever. It weighs 130 tonnes!

Were dinosaurs the biggest animals ever?



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