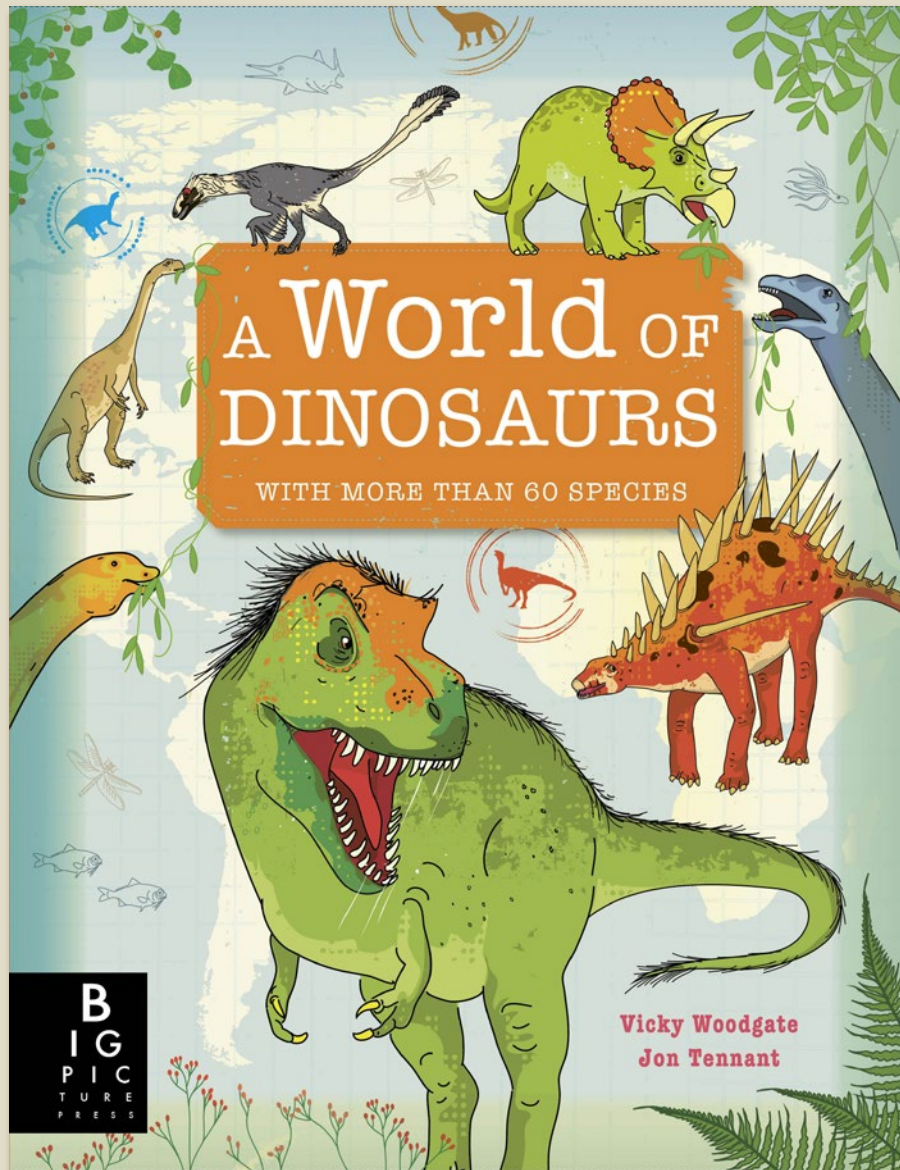


# A World of Dinosaurs



Explore a world of dinosaurs in this fact-packed compendium, illustrated by Vicky Woodgate.

- Sample contents: NORTH AMERICA - Tyrannosaurus; Brachiosaurus; SOUTH AMERICA - Herrerasaurus; Gigantosaurus; AFRICA - Spinosaurus; Anglosaurus; ASIA - Velociraptor; Protoceratops; EUROPE - Iguanodon; Plesiosaurus; OCEANIA & ANTARCTICA - Minmi; Kronosaurus
- Features more than 60 species from across the world
- Informative and surprising text from palaeontologist and *Dinosaurium* consultant Jon Tennant
- Vibrantly illustrated by *Urban Jungle* and *A World of Birds* creator Vicky Woodgate

# A World of Dinosaurs

## The Age of Dinosaurs

The first dinosaurs appeared around 230 million years ago. They lived over three major periods in the history of Earth: the Triassic, Jurassic and Cretaceous periods. Together, these form the Mesozoic era, often referred to as the Age of Dinosaurs.

### The Triassic

At the beginning of the Triassic, there was the super supercontinent 'Pangea'. Global temperatures were high. The Earth started to split into two continents: Laurasia and Gondwana.

230,000,000 - 200 million years ago

### The Jurassic

The continents continued to move away from each other. Temperature dropped and plants life became more lush and abundant. Dinosaurs grew bigger and bigger.

200,000,000 - 145 million years ago

### The Cretaceous

The continents began to look more like their current shape. By now, dinosaurs lived right across the globe - even at the north and south poles. They grew bigger and bigger.

145,000,000 - 65 million years ago

### End of the dinosaurs

Dinosaurs were not everywhere before then, and in their last days, a number of predatory dinosaurs like the *Tyrannosaurus rex* were the only ones left to survive. As the dinosaurs died out, a new era began to appear.

### Extinction

By the end of the Mesozoic got around 65 million years ago, a rather small the Earth. Several large kinds of dinosaurs were discovered with large scale volcanic eruptions. This dramatically changed temperature around the world. Around three quarters of all plants and animals went extinct.

The reason that most fossils is thought to be from about the same time - which is the end of the Mesozoic.

### Ratnot or evolved?

While many of the dinosaurs went extinct, some survived the event. They were a special line of dinosaurs - the birds. Able to adapt to the changing environments, they can only escape out of the extinction event, but most do so. However, there have been several times the large number of species we can see today.

### Dinosaur timeline

Timeline from 230 million years ago to 65 million years ago, showing the appearance of various dinosaur groups like Triceratops, Stegosaurus, and Tyrannosaurus rex.

## Dinosaurs Today

Almost every day, we have fossil remains from our prehistoric past. Fossils are preserved over millions of years. Fossils are usually made up of the hard part of an animal's body, such as its bones. The oldest fossils are about 3.5 billion years old. They comprise the nuclear bases of simple life, similar to bacteria.

### What is a fossil?

The process of fossilisation takes many thousands of years to complete. It is a gradual process where the parts of an organism are slowly replaced with hard minerals, which are harder than the original flesh. Dinosaurs that die are replaced by mineral.

### Fossil hunters

Fossil hunters are those who search for fossils. They are often found in rocks and soil. Fossil hunters are often found in rocks and soil. Fossil hunters are often found in rocks and soil.

### Trace fossils

Trace fossils are the preserved remains of a dead animal. Sometimes, we can find and find evidence of what a dinosaur was doing while it was alive. These are called trace fossils, and are useful evidence of dinosaur behaviour. These fossils include egg, footprints and other fossilised faeces (poop).

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## North America

Towards the end of the Cretaceous, the supercontinent Pangea started to break up, and the Atlantic Ocean separated North America from Africa and Europe. At this time, North America had a humid, temperate climate, with many different habitats. Later on, during the Cretaceous period, a shallow inland sea covered much of the middle of North America. The first fossil that shows types of dinosaur evolved on either side of the water.

Key

- Stegosaurus albertensis
- Stegosaurus stenops
- Ankylosaurus
- Allosaurus fragilis
- Tyrannosaurus rex
- Quercyosaurus serratoris

## Tyrannosaurus rex

Group: Theropod • Period: Cretaceous  
Pronunciation: Tie-ran-oh-saw-rus-eks

*Tyrannosaurus rex* was perhaps the largest carnivore ever to walk the Earth. It had one of the most powerful bites of any animal, with teeth like steak knives for tearing through flesh and crushing bone. Its name, meaning 'tyrant lizard king', reflects its spot at the top of the food chain in the Cretaceous period.

A large olfactory bulb (the part of the brain that processes smell) suggests *T. rex* may have been a scavenger as well as a hunter.

Huge head

Eyes as big as grapefruits

Stiff tail to counterbalance heavy head

Teeth as long and thick as bananas

*T. rex* could bite with a force of about 3,500kg - 6 times stronger than a crocodile's bite.

Tiny strong arms with two claws

Powerful hind legs for sprinting

Up to 3.6m

Swampwater crocodile

## Allosaurus fragilis

Group: Theropod • Period: Jurassic  
Pronunciation: Al-oh-saw-rus fra-jil-is

Often termed the 'wolf of the Jurassic', *Allosaurus* was among the top predators of its time. Packs of these fearsome hunters would chase after their prey, slowly draining their target of energy before diving in for the kill. Discovered in 1877, *Allosaurus* was one of the first dinosaur fossils discovered in North America.

Allosaurus could probably open its jaws very wide, to around 70-90 degrees.

Slash & grab

*Allosaurus* probably used its sharp teeth in a 'hooking and slashing' motion, to inflict dozens of smaller wounds on larger prey.

Crest may have made it look more intimidating

More than 70 sharp teeth

Fairly long arms, possibly for grabbing prey

Stegosaurus

Allosaurus

*Allosaurus* specialised in attacking mid-sized prey such as *Stegosaurus*.

Powerful legs for running

Up to 9.6m

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