EXCAVATION KIT

I DIG IT! DINOS

DINOSAUR EGGS



THAMES & KOSMOS

⚠ WARNING:
CHOKING HAZARD — Small parts.
Not for children under 3 yrs.

SAFETY INFORMATION

Dear Parents and Supervising Adults,

Please provide your child with assistance and support when excavating the dinosaur figure. Before starting the experiment, read through the manual together and be sure to follow it. Please be careful not to let any parts of the kit get into the hands of small children, especially the plaster pieces that are left over after excavating. These can be disposed of in the household trash.

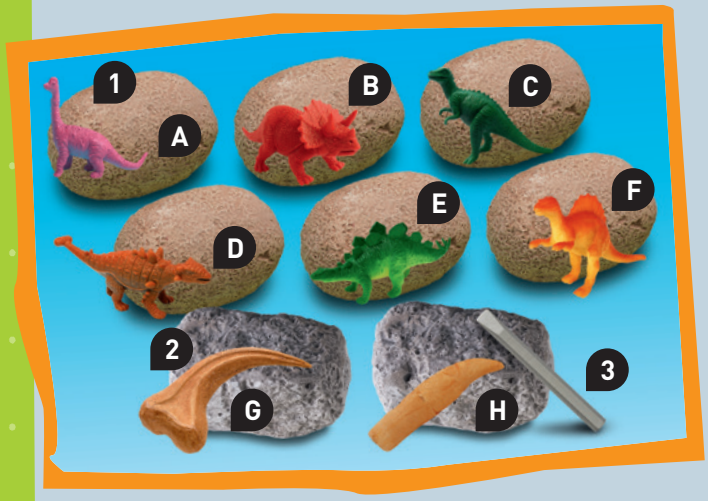
Read the instructions before use, follow them and keep them for reference.

Do not inhale plaster dust or bring it into contact with mouth or eyes. Wash hands after use!

Keep the packaging and instructions as they contain important information.

We reserve the right to make technical changes.

Kit Contents



You will also need:
newspaper, cup, water

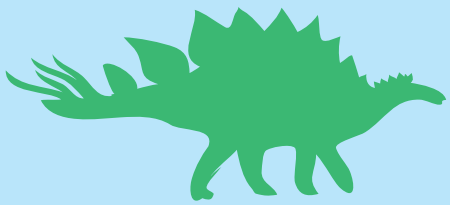
1. Plaster dinosaur eggs containing figures of:
   - A Brachiosaurus
   - B Triceratops
   - C Tyrannosaurus rex
   - D Ankylosaurus
   - E Stegosaurus
   - F Spinosaurus
2. Plaster rocks containing:
   - G T. rex claw replica
   - H T. rex tooth replica
3. Chisel

EXCAVATING THE EGGS AND ROCKS

Here's how

1. Your excavation kit consists of six plaster dinosaur eggs each containing a dinosaur figure, two plaster rocks containing replicas of a claw and a tooth, and one chisel tool. You will also need a cup full of water. Before starting your excavation, prepare the work area by spreading a few layers of newspaper over a table surface. For your workplace, choose an area where it won't matter if some of the plaster material falls here and there or some water gets spilled.





2. The plaster material will become quite soft when the eggs or rocks are placed in water. The longer the plaster is in the water, the softer the material will become and the easier the excavation will go. You can also soften and remove the material in layers as you work toward the center.



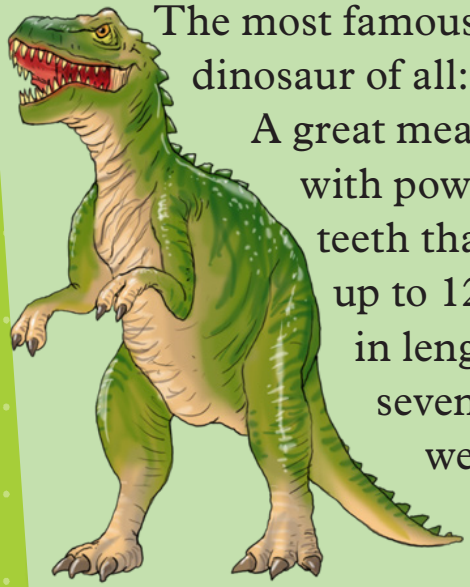
3. Now dig out the dinosaur figure or the claw or tooth from inside the eggs or rocks by scraping away the plaster with your chisel. As soon as your tool hits something, work carefully as you expose the entire figure bit by bit. Finally, you can rinse the last remaining plaster bits off the figure or claw or tooth under running water. Then rinse out the sink.



To find out which dinosaur was in your egg, take a look at the dinosaur facts below and to the right. There are a total of six different dinosaur figures.

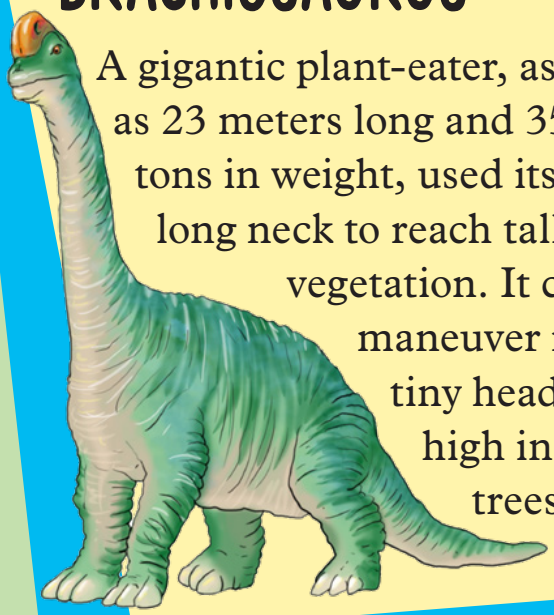
CHECK IT OUT

TYRANNOSAURUS REX



The most famous dinosaur of all: A great meat-eater with powerful teeth that grew up to 12 meters in length and seven tons in weight.

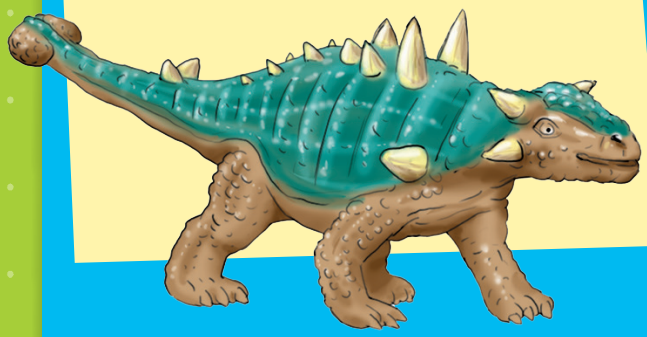
BRACHIOSAURUS



A gigantic plant-eater, as big as 23 meters long and 35 tons in weight, used its long neck to reach tall vegetation. It could maneuver its tiny head high in the trees.

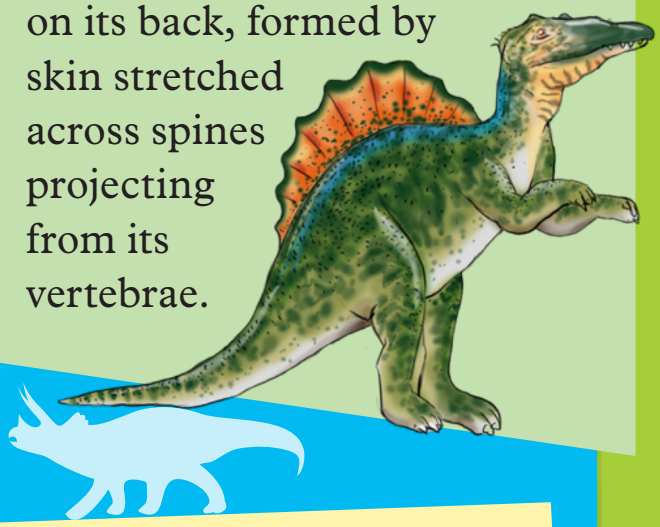
ANKYLOSAURUS

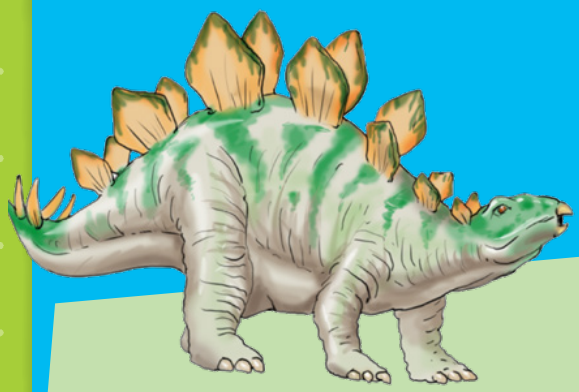
This plant-eater had a body protected by a thick set of armored plates and a clubbed tail to serve as a defensive weapon. It grew up to nine meters in length and three tons in weight.



SPINOSAURUS

Another big meat-eater, it grew up to 16 meters long and nine tons in weight. An especially striking feature was the "sail" on its back, formed by skin stretched across spines projecting from its vertebrae.





STEGOSAURUS

It had a tiny head, gigantic plates on its back, and a clubbed tail with bony spikes. This plant-eater grew up to nine meters long and weighed up to four tons.

TRICERATOPS

The largest dinosaur from the group of horn-bearing plant-eaters, grew up to nine meters long and 12 tons in weight. It carried three horns on its skull and had a broad bony frill to protect its neck.



THE TOOTH OF THE TYRANNOSAURUS REX



There's no doubt that this giant dinosaur was a **carnivore!** The T. rex had more than 60 teeth, which were long and razor-sharp. The longest teeth found were 20 cm long. Its gigantic teeth, powerful jaw muscles, and massive, fused skull helped it to bite through hard bones.

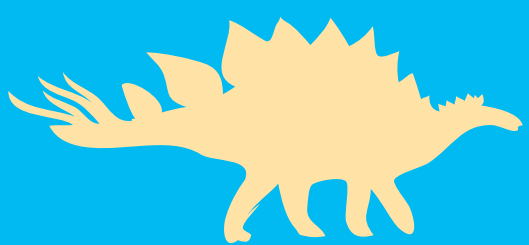
There was no escape from the jaws of the T. rex. Its upper jaw was wider than the lower jaw. Because of this overbite, it could probably tear huge pieces of meat from its prey with one bite.



... AND THE CLAW

Tyrannosaurus rex had impressive claws that helped it hunt and defend itself. Although its arms were relatively short, the claws on its hands were strong and sharp, which was useful for holding onto prey.

The claws on its feet were also very pronounced and probably served to grab prey or provide stability when running. Overall, T. rex's claws were an important part of its equipment for hunting and surviving in its environment.



HOW DO WE KNOW SO MUCH ABOUT DINOSAURS?



There are many animals and plants that once lived on this planet and no longer exist today. The dinosaurs became extinct millions of years ago, but some remains of their bodies have been preserved. Their bones, skin impressions, eggs, and even footprints remain embedded in stone in the form of fossils.

Researchers dig up these fossils, study them, and compare them to other finds. In this way, scientists figured out about 200 years ago that some fossil remains came from enormous and long-extinct animals. Before then, people had thought they were the remains of elephants, monsters, or even human-like giants!

HOW DO WE KNOW HOW OLD A FOSSIL IS?



Of course scientists want to know when a species lived on Earth — in other words, how old a fossil is. There are several methods for that. For example, if layers of rock have been left undisturbed, the ones on the bottom will be older. That gives you a relative age for the fossils embedded in the rock. Scientists can also measure radioactive decay in the rocks surrounding a fossil to find out how old they are.

HOW FOSSILS ARE CREATED

1 When animals die, scavengers eat their remains or they decay over time. Their bones or imprints are preserved only in very rare cases. This may happen, for example, when they become embedded in sediment, which can preserve the remains for a long time due to its low oxygen content.

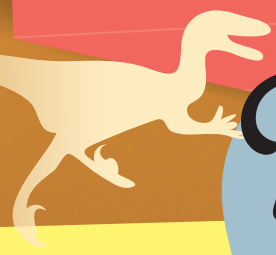
2 Over time, extra layers may settle on top of and protect the animals remains. Although the flesh itself will quickly decay, mineral-rich groundwater may penetrate the spaces that remain behind. This causes the embedded bones to turn to stone: the organic bone material is replaced by minerals, in the shape of the bone.

3 In some areas, rain and wind may then carry off the layers on top of the fossils, revealing the fossils at the surface, where they can be dug up.









Tyrannosaurus

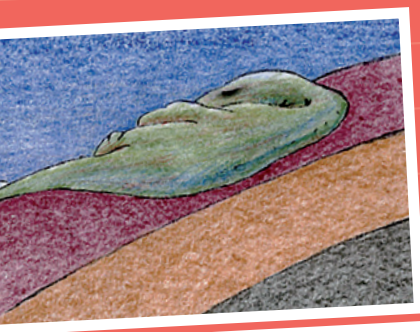
A FORMIDABLE PREDATOR



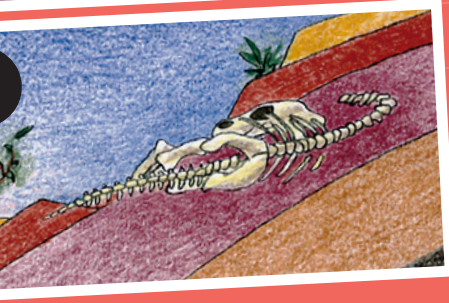
A T. rex could reach 13 meters (43 feet), or about the length of four cars. When these giants stood upright, they were six meters (20 feet) tall, or about three times the height of a human.

Although they were somewhat heavier than a bull elephant, around seven tons, they could run well on their powerful rear legs. They used their mighty tail to help keep their balance.









WHAT DID THE WORLD LOOK LIKE AT THE TIME OF THE DINOSAURS?

Earth had a much warmer and wetter climate across the entire globe. Plant-eating dinosaurs fed on ferns, conifers, redwoods, and ginkgo trees. Flowering plants and broad-leaved trees did not develop until the end of the Age of Dinosaurs.

Even the globe itself looked quite different in the time of the dinosaurs. At the beginning of the dinosaur age, all the land masses lay together in one giant continent, known as Pangaea. Later, this supercontinent broke apart, and the pieces became the various continents we know today. That is also the reason why dinosaur remains can be found on all of today's continents.



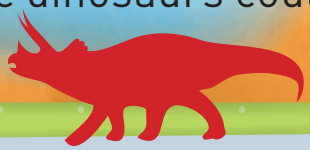


WHY ARE THERE NO MORE DINOSAURS TODAY?

At the end of the Cretaceous period, the last dinosaur species died out. But why?

The most plausible theory is that a meteorite crashed into Earth. A meteorite is a solid object from space that does not burn up as it approaches Earth and impacts the ground. The dinosaurs may have been killed by the powerful impact, the resulting tidal wave, or by the choking dust clouds that blocked sunlight for decades and caused plants to die off.

It is also possible that there was a very powerful volcanic eruption that changed Earth's climate. Or, new plants and animal species may have evolved so that the dinosaurs could no longer find their usual food.



If any parts of this kit are defective, please contact Thames & Kosmos technical support.

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