

Design a Dinosaur!

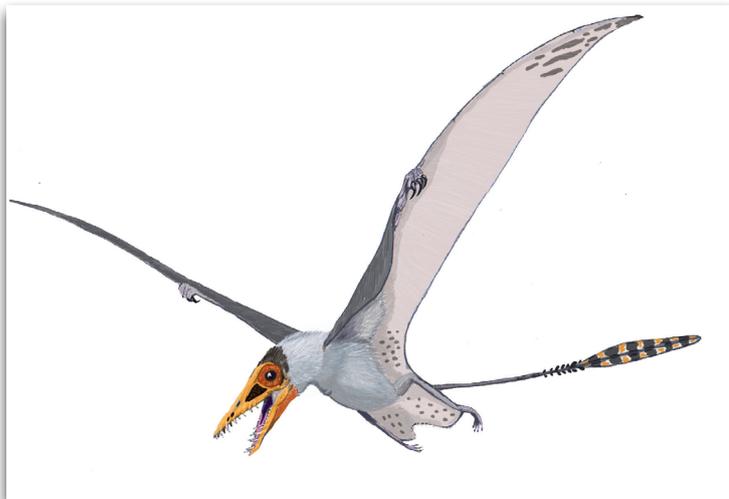
Dinosaurs roamed the Earth between 245 and 65 million years ago. This means that there is more time between when Stegosaurus were alive and Tyrannosaurus rex were alive than between us and Tyrannosaurus rex! Dinosaurs ruled the Earth for a really long time!

There were lots of different kinds of dinosaurs which all evolved to live across many different habitats which means there was a lot of variety!

They ranged in size from as tall as a six storey building to the size of small birds. Some dinosaurs ate only plants while others only meat.



*Mounted skeleton of a Stegosaurus
Image credit: Susannah Maidment et al. via Natural History Museum, London*



*An artistic idea of what some Pterosaurs might have looked like
Image credit: Dmitry Bogdanov*

Dinosaurs always lived on land; the flying reptiles we sometimes think of as dinosaurs are in fact pterosaurs.

Modern day birds are the ancestors of these land based dinosaurs and not the flying pterosaurs.

If you want to learn more about birds (or, we could call them, modern day dinosaurs!) check out our Dynamic Earth Online activities on birds!

What we know about dinosaurs is pieced together from fossil evidence. Fossils are the preserved remains of long dead plants and animals.

Most fossils are preserved parts of a plant or animal's body - usually hard parts are preserved best which is why lots of bones and shells are fossilized. Sometimes the traces that animals leave behind can be preserved too so we can get fossils of footprints, scratch marks or even poo!

To learn more about how fossils are formed check out the comic on the next page!



One gets too close to the edge..

Dinosaurs are happily roaming about at the edge of a cliff...

Aaah!

It falls off the cliff, dies and lands at the bottom of a lake...

The dead dinosaur is buried by mud...

Millions of years pass...

Dinosaur bones are squashed flat as the mud slowly turns into rock.

Millions of years pass..

Rocks are buried deep underground!

Millions of years pass..

Hello!

Rocks are lifted up and worn away, until the dinosaur fossil appears!

Because we only know about dinosaurs from fossils we are still making new discoveries about them all the time. The majority of dinosaurs (except the ones which evolved into birds) became extinct in a dramatic event 65 million years ago. There are a few theories on what might have happened but the most popular is that a huge meteorite struck the Earth and changed the climate so much it caused the mass extinction of the dinosaurs. Read below!

What is a 'Massive' meteorite like?...

Meteorite Statistics

11,000m

12,000 m

DIMENSIONS: 12 x 11 x 12 km

MASS: 4 900 billion tonnes

PROPERTIES: Stone

FREQUENCY: Every 100 million years

Watch it hit the Earth!

65 million years ago...

I'm winning!



But a massive meteorite was heading towards Earth....

A shadow blocked out the sun...

What on Earth?

BOOM!

The shockwave blasted across the land...

Tonnes of dust blocked out the sun and caused a 'post-impact winter'.

The dinosaurs went extinct...what might happen to us?!



Activity 1: Draw a Dinosaur Challenge

The next three pages have six evidence cards each with some fossilised evidence from one dinosaur. Can you piece together the evidence and draw a picture of what you think this dinosaur might look like?

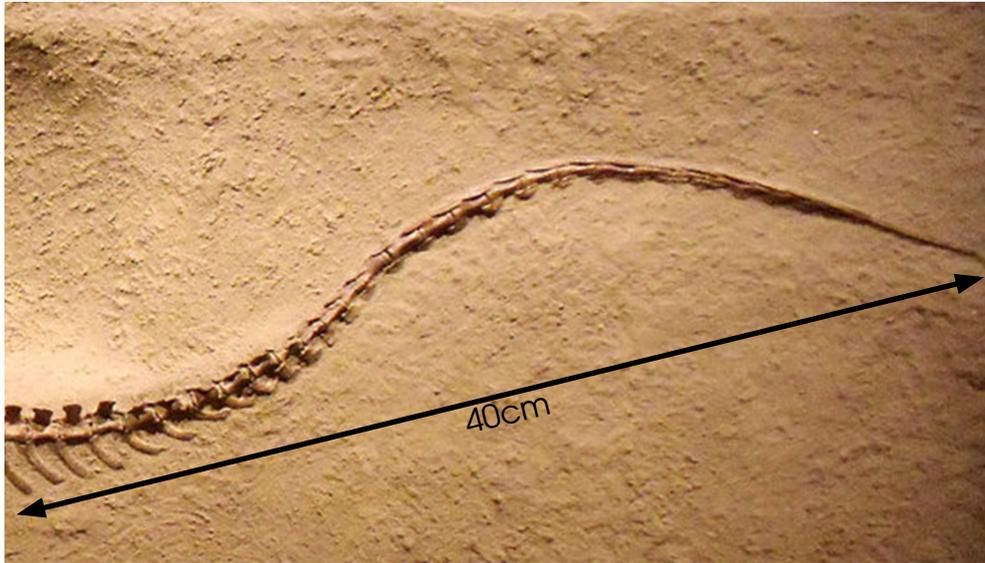
Evidence: Rib Bone



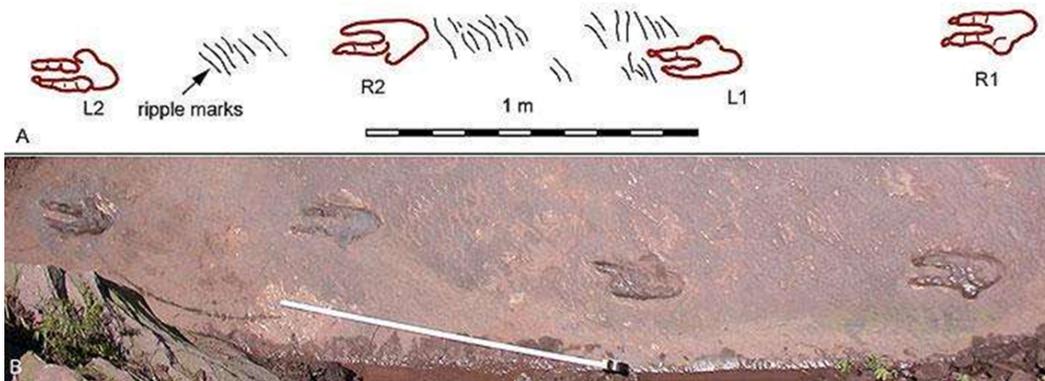
Evidence: Tooth



Evidence: Tail Bone



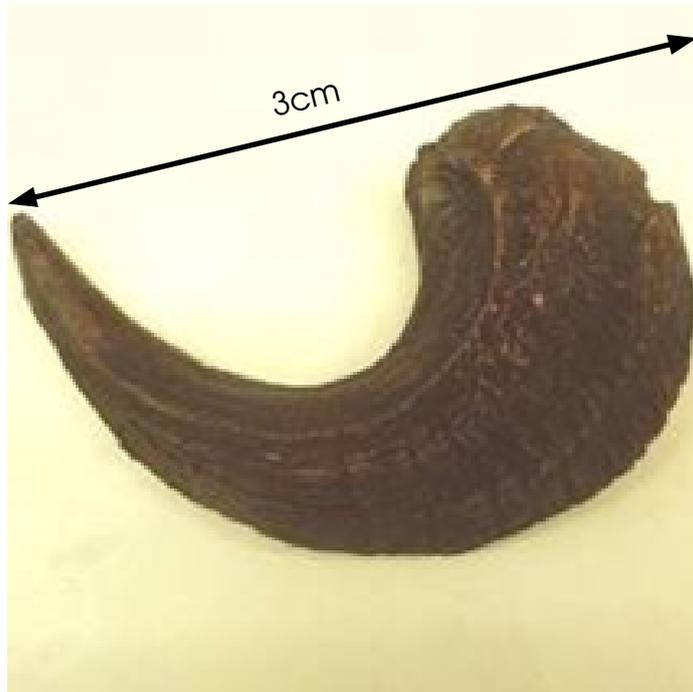
Evidence: Footprints



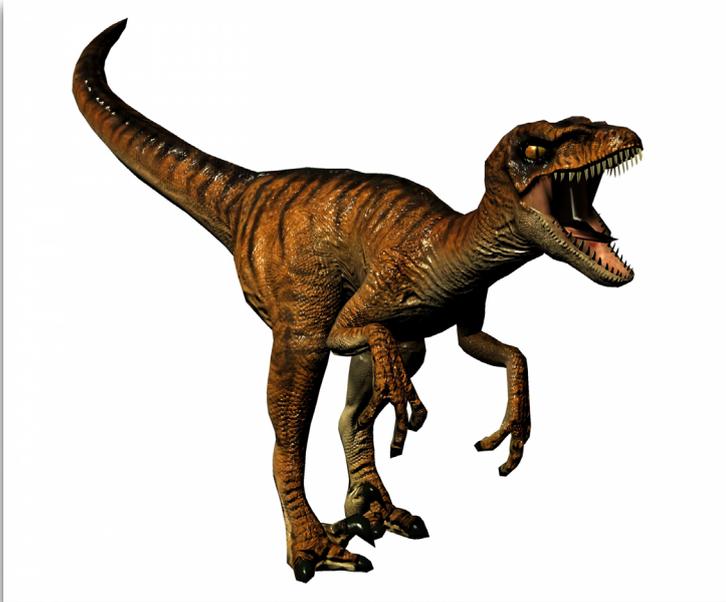
Evidence: Skull



Evidence: Claw



Did you get something like this?



The fossils all come from a dinosaur called a Velociraptor and for hundreds of years this is what we thought they looked like.

Velociraptors were about 1.8m tall and had strong back legs so could run pretty fast. They were meat eaters and either scavenged the leftovers from dead animals or hunted small animals.

Fairly recently scientists discovered a new fossil which showed that velociraptors had feathers (just like modern day birds) and now think that it probably looked like this:



Well done if you drew feathers on your dinosaur! If you didn't don't worry, there was no evidence in any of the fossils we gave you to suggest that it had feathers. Being a good scientist is updating your ideas when you have new evidence and constantly trying to learn more. Now you can either draw a new picture using your new evidence or add feathers to your existing picture.

To learn more about the mistakes we have made when learning about dinosaurs check out this [article from the BBC!](#)

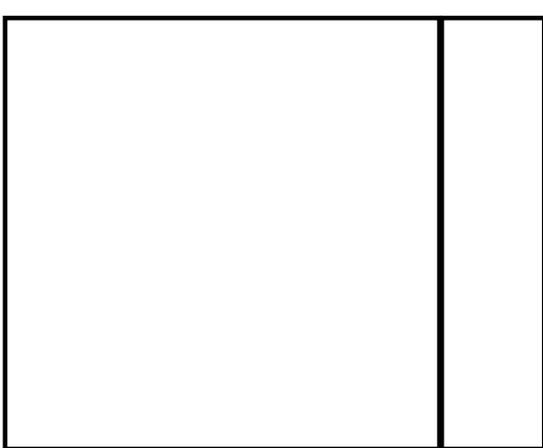
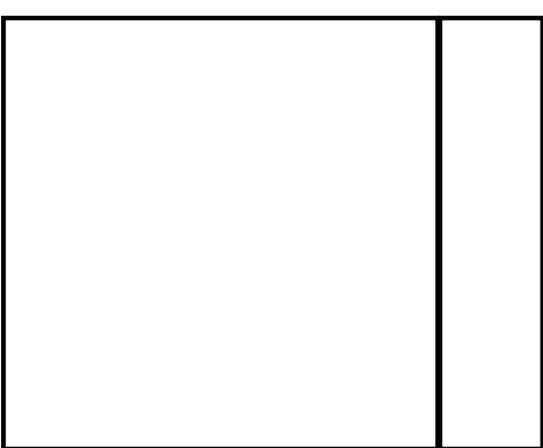
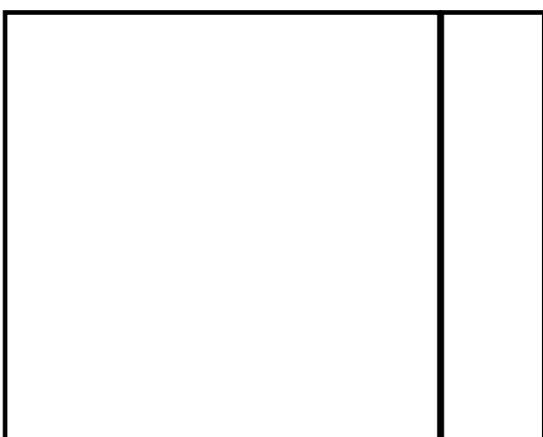
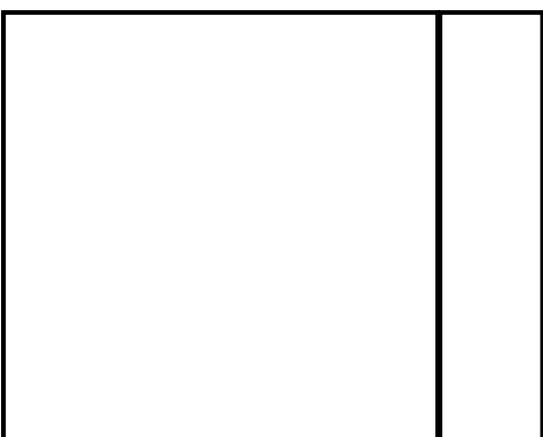
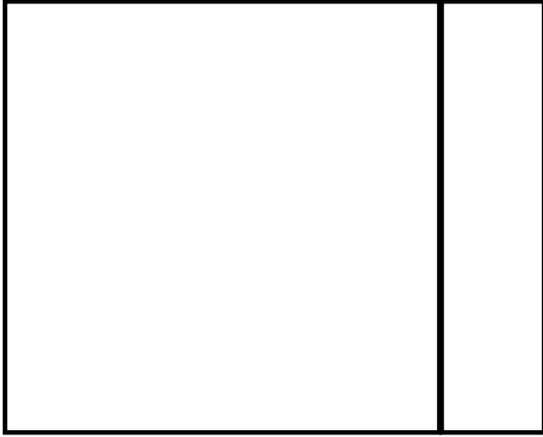
Activity 2: Write a dinosaur comic

Create a story about your favourite dinosaur. Either you can make it up or you can do what we did and make a comic to tell your favourite dinosaur fact.

You can use our template on the next page.



Dinosaur Comic Template



Activity 3: Design a Dinosaur

Dinosaurs had lots of different features that were useful for different reasons. [Design your own dinosaur](#) and then see if you can find your way home!

If you can't access the game you can draw your dinosaur on paper!

Some things to think about:

What will it eat? This might effect the shape of its head and teeth.

How does it defend itself? Does it have claws, thick scaly armour for skin, or does it use camouflage to avoid predators?

How big is it?

Does it walk on two legs or four, if two, how will it balance? Think about its tail!

Now it's time to name your dinosaur and there are a few tricks to come up with an amazing dinosaur name. Dinosaur names often describe what the dinosaur looks like, for example, Velociraptor comes from two words:

veloco-, meaning fast and **-raptor**, meaning thief

Here's a list of words that you could use when naming your dinosaur. You can pick one from the first column and one from the second to make a name but feel free to add any other words too. Lot of dinosaurs are named after people or places too.

Giganto- (big)	-tops (face)
Micro- (small)	-taurus (bull)
Cerat- (horned)	-saurus (lizard)
Teras- (monster)	-saura (lizard)
Bronto- (thunder)	-raptor (thief)
Echino- (spiked)	-rex (king)
Tyranno- (tyrant)	-ventor (hunter)
Allo- (strange)	-teras (monster)

