

Family Home Learning Pack

DINOSAURS

Notes for parents and carers:

These home learning packs have been compiled by the Young People's Trust for the Environment to support you whilst your children are at home during the Covid-19 lockdown.



Each week, we will include suggestions for activities you can do alongside your children, as well as those that they can do independently, whilst you are working from home.

We will attempt to suggest activities which require no special materials other than those you may find around the house. It may be possible to pick up some resources during your occasional shop for essentials but please do not aim to shop specifically for listed supplies! We will also attempt to minimise the need to print out any materials.

We'd love to hear your suggestions for making the packs more useful for you, or your children's ideas for future topics. You can follow us on Facebook at <https://www.facebook.com/WeAreYPTE/> or on Instagram @weareyppte. You can share your pictures with us using #ypptelearning

In your pack each week:

- * Open ended project ideas and research topics
- * Activities to explore independently or together
- * Games to play
- * Ideas for science experiments
- * Art and craft ideas
- * Links to other learning resources
- * A use each week for toilet roll tubes...

ACTIVITY IDEAS

What are dinosaurs?

What are dinosaurs? Many prehistoric reptiles are accidentally called dinosaurs. Learn how to sort your pterosaurs and extinct marine reptiles from actual dinosaurs with this useful introduction from The Natural History Museum:

<https://www.nhm.ac.uk/discover/what-are-dinosaurs.html>

Learn how dinosaur fossils are formed here:

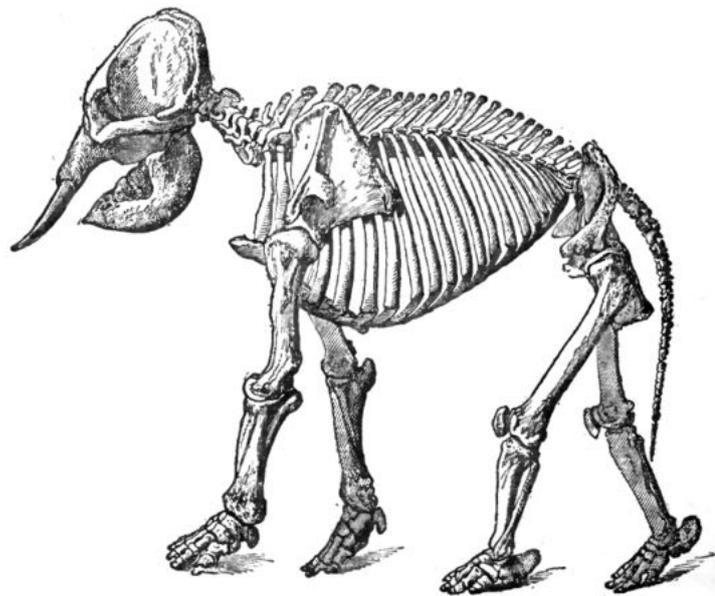
<https://www.nhm.ac.uk/discover/how-are-fossils-formed.html>

Skeleton study:

When the ancient Chinese first came upon fossilised dinosaur bones, they thought they were the bones of ancient dragons!

When archaeologists discover a new dinosaur skeleton, they only have the bones to look at, and they have to recreate the rest of the animal by working out where the muscles would have been, how the dinosaur would have moved and any other clues they can use from their knowledge of modern animals.

Skeletons don't show all parts of an animal, however. Elephants skulls look like this:



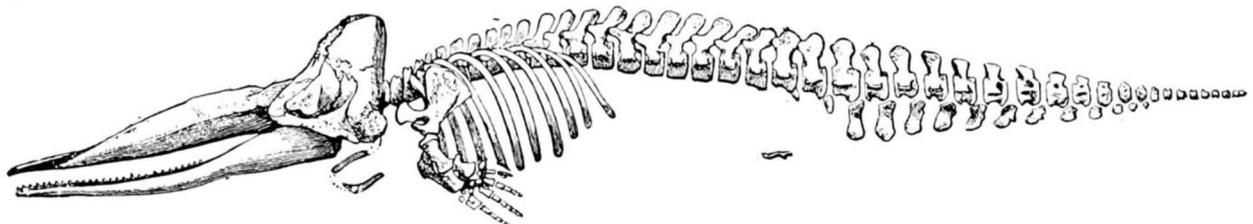
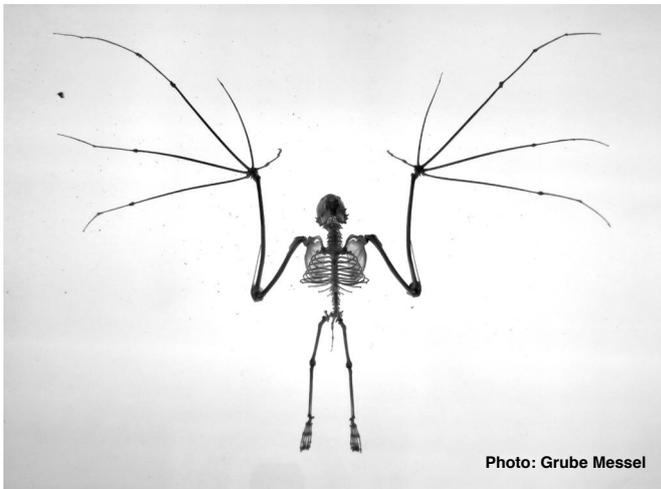
The trunk doesn't show at all as it is made of muscle tissue, not bone.



Feathers don't show on skeletons either. This is a swan's skeleton. The wings have no feathers.

Scientists have to make educated guesses about dinosaurs' skin based on their studies of modern reptiles, there aren't examples of preserved dinosaur skin that they can look at.

Can you work out what the following animals are based only on pictures of their skeletons? (Answers at the end of the pack!)



Images: wiki commons

Salt dough dinosaur bone dig:

Salt dough is very easy for children to make and, once dry is quite sturdy, as long as none of the models have very thin parts. It's ideal for making 'dinosaur bones'! This recipe will make a medium sized ball of dough. Do remind children that the dough isn't edible. The high salt content should put most people off, but it's not healthy to consume! It can also hurt hands if you have cuts or eczema, so wearing rubber gloves might be a good idea while making or moulding the dough.

You will need:

- 1 cupful of plain flour (about 250g)
- half a cupful of table salt (about 125g)
- half a cupful of water (about 125ml)



Photo: Jimmie Bones

Method:



Photo: Matthew Dillon

1. Preheat the oven to its lowest setting and line a baking sheet with baking parchment.
2. Mix the flour and salt in a large bowl. Add the water and stir until it comes together into a ball.
3. Transfer the dough to a floured work surface, or silicone baking sheet (if using the latter, it can go straight into the oven) and shape into your chosen model.
4. Put your finished items on the lined baking sheet and bake for 3 hrs or until solid.
5. Leave to cool and then paint.

If you have a sand pit or patch of garden, you could now bury and 'excavate' the bones. Archaeologists have to be very careful not to break any remains that they find, so use tools such as brushes. Old toothbrushes or paint brushes work well for this work.

Make a dinosaur 'fossil':

If you have plaster of Paris and modelling clay, you can make a cast of a toy dinosaur and create a 'fossilised' remain in the plaster. This link will show you how (youtube link supervision recommended):

<https://youtu.be/NimNfy-rX1k>

Make 'insects in amber' jelly:

Fans of Jurassic Park will know that the story is based on the idea of scientists taking dino DNA from a mosquito found trapped in amber. Watch this video to see a prehistoric bee trapped in sticky plant sap that has become amber, then make your own slightly gruesome edible version! (Youtube link supervision recommended)

<https://www.youtube.com/watch?v=Fyub9CUALc4>

You will need:

Orange and strawberry flavoured jelly
Raisins or other dried fruit pieces
Ice cube tray

Make up the orange and red jelly, using slightly less water than recommended to keep the mix extra firm. Place a raisin or piece of dried fruit into the bottom of each section of your ice cube tray. Pour the jelly mix over the top and leave to set.



Dinosaurs in your garden:

Not all life on earth went extinct 65 million years ago. Some creatures that still exist today, such as turtles, crocodiles, snakes and lizards have descended from creatures that lived in those times. One type of dinosaur, called theropods, descended into today's birds. There are many similarities between these dinosaurs and their modern descendants, such as hollow bones and the ability to walk upright on two legs.

Look at these feet! Are they from a velociraptor? Nope! The picture on the left is a crow... and the one on the right is - a chicken!



Watch this video to find out how birds were able to survive and evolve into the ones we see each day - then see what you can find out about the dinosaurs living in your garden!

<https://www.nhm.ac.uk/discover/why-are-birds-the-only-surviving-dinosaurs.html>

Make a dinosaur small world:

Use a dish, tray or even a whole area of your garden to make a miniature world for toy dinosaurs to live in (if you don't have any toy dinosaurs, you can make some using toilet roll tubes later in this pack!). Using pebbles, moss, small plants and rocks, you can build your own land of the dinosaurs!



RESEARCH IDEAS

Herbivore or Carnivore?

DID YOU KNOW:

- Teeth come in different shapes based on their purpose?
- You can tell what an animal eats by studying its teeth?

FIND OUT:

- What are the names of the different types of teeth that a human has?
- What are the jobs of the different teeth (eg. cutting, grinding)?

Can you guess which animals owned these teeth?

Have a look at the teeth on this skull. What shape are they? What do you think this animal eats?



Now look at this animal's teeth. What do you notice about their shape? How are they different from the first animal. What kind of food do you think this animal eats?



The first set of teeth above belong to a cow. They are quite flat and designed for chewing grass. They show that the cow is a herbivore. The second set of teeth belong to a fox. They are sharp, like knives for tearing through flesh, because the fox eats meat. A fox is an omnivore, because it doesn't just eat meat, but it has sharp teeth like a carnivore (meat eater) so that it can eat animals, such as rabbits.

Now look at these dinosaurs' teeth. Which one is the carnivore and which is the herbivore?



The first skull belongs to a tyrannosaurus rex, which ate the meat of other dinosaurs. The second is a triceratops, which ate grass, leaves and plants.

See if you can find out what kinds of teeth other animals have and use these to work out what sort of food they eat.

This video shows the ways that different animals use their teeth to eat (Youtube clip, supervision recommended)

<https://www.youtube.com/watch?v=th2ROcyH8Xw>

MATHS CHALLENGES



Dinosaur eggs:

These challenges are designed to get children thinking about problem solving and how to approach a problem, work systematically and record their work with jottings in any way that helps them. Can they PROVE that they have found all possible solutions? How do they know?

Photo Chris Elt

Challenge one (You may like to use counters or small objects to represent the eggs):

- * **3 dinosaurs laid some eggs**
- * **They each laid an ODD number of eggs**
- * **All together they laid 19 eggs**

How many eggs did each dinosaur lay, and how many different solutions can you find?

Challenge two (You may like to use counters or small objects to represent the eggs):

- * **Tilly T-Rex laid up to 20 eggs**
- * **When she counted her eggs in groups of 4, she had 3 left over**
- * **When she grouped her eggs into 5s, she had 4 left over.**

How many eggs did Tilly lay?

Challenge three:

- * **Mr Goldblum spent exactly £10 on some dino eggs for a theme park**
- * **T-Rex eggs cost him 50p each**
- * **Velociraptor eggs cost him 10p each**
- * **Triceratops eggs cost him 5p each**

For two of the types of dinosaur, he bought the same number of each. How many of each type of egg did he buy?

**Questions adapted from *Mathematical Challenges for Able Pupils, DFE, 2000.*
Solutions at end of the pack!**



WORD CHALLENGES

How many words can you make?:

The name 'Tyrannosaurus Rex' has lots of smaller words 'hidden' inside it, such as: 'ran', 'rat', 'star' and 'no'. How many words can you find? Try different dinosaur names as well!

Find the meaning behind the names:

The word dinosaur means "**terrible lizard**" in Greek.

Lots of dinosaurs were named after Greek words based on their behaviour or appearance.

- **Velociraptor** means "speedy robber"
- **Triceratops** means "three-horned head"

See if you can find the meaning behind some other dinosaur names.
Look these up to start with: Microdontosaurus, Oviraptor, Maiasaurus.

Park Persuasion:

Write a letter to your parents, or to the local council, trying to convince them that opening a Jurassic Park-style theme park would be the perfect addition to your home or neighbourhood. How would you convince them to agree with the plan? Design posters and leaflets to advertise the new park to visitors!



Photo: Thomas Wanhoff

ART AND CRAFT

Dinosaur skeletons:

If you have been ordering lots of home deliveries during the lock down, you might have access to some maize packing chips, used to protect fragile items in the post. Did you know that you can join the chips together by licking the ends? (NOTE: In current times, we recommend that you press the ends of the chips on a damp sponge or cloth instead of licking them!)

Try building a dinosaur, pterodactyl or plesiosaur skeleton out of the packaging chips! This brontosaurus was made by Lydia in Bristol - it even stands up by itself!



If you don't have access to the packaging material, you can make skeleton designs on paper using different shapes of pasta, if that's any easier to come by. Maybe not... (Don't worry - you can still eat the pasta afterwards!) These great pastasaurus skeletons were made by Caroline in Lyndhurst.





Paper dinosaur models:

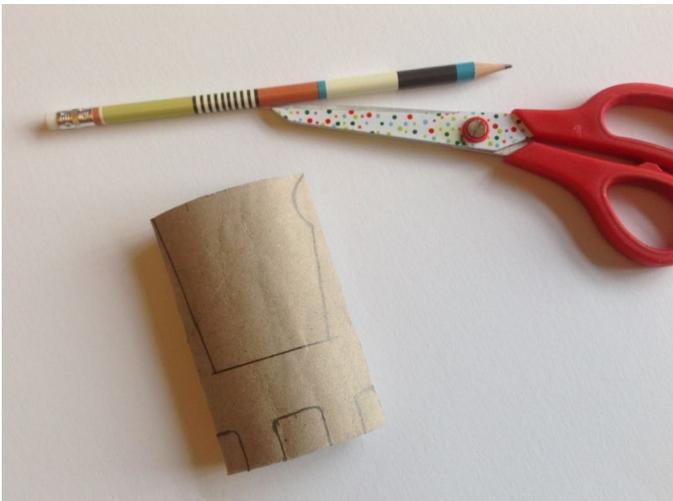
This link provides links to a range of patterns to make detailed paper models of different dinosaurs - suitable for older children. Time taken to make each model approx 3 hours!

You will need a colour printer, scissors and/or a craft knife and glue.

<https://creativepark.canon/en/categories/CAT-ST01-0093/index.html>

This week's use for a toilet roll tube:

Draw a the brontosaurus shape as shown and cut this out carefully with scissors, asking for help if you need it. Fold the head and tail sections down, as shown. Paint your dinosaur and add details such as eyes or scales.



In fact, why not make a Recyclosaurus?!

Use any items in your recycling to construct a dinosaur, real or imagined! Don't forget to tag us in any pictures using **#yptelearning** so we can feature your work in our online gallery! These toilet roll tube dinosaurs were made by Liam in London.



Here are some other ideas for making recyclosauruses. Can you see what they're made from?



GAMES

Dinosaur spikes:

In this game, each player has a number of clothes pegs pegged to the back of their t-shirt like the spikes on the back of a dinosaur. The aim of the game is to unpeg as many of your opponents' pegs as possible. When a player manages to take a spike from someone's back, they can peg it on to the front of their t-shirt. Pegs cannot be stolen from people's fronts. When the game ends, whoever has the most spikes is the winner!

Steal the dinosaur egg:

In this game, players pass a ball, water balloon or other object between themselves to music. It can be played while everyone sits down, perhaps in a circle, or on the move for added challenge! When the music stops, the person holding the egg is extinct and out of the game for this round. Continue until there is only one person left.

Pin the tooth on the T Rex:

Like pin the tail on the donkey, but with a dinosaur! This game involves drawing a T Rex head on a piece of paper and each family member being given a paper tooth, or two. Write each person's name on the backs of their paper teeth so you can tell which one belongs to whom. Put sticky - tack on the backs of the teeth. Blindfold each player in turn and direct them towards the picture of the T Rex, and see whose teeth end up closest to the mouth.

Anklyosaurus tail whip:

This game involves children playing the ankylosaurus, a dinosaur with a terrifying tail! To make the tail, tie a pair of tights round the player's waist, with a tennis ball or similar in the end of one of the legs. The aim of the game is to swing the tail round and knock down either trees or other dinosaurs. You can get creative and model these out of recycled items, such as 2 litre drink bottles or empty cartons with pictures added. These can be weighted down with water.

Extinct Dinosaurs:

In this game, one player hides, like in hide and seek. The others have to hunt for the extinct dinosaur all round the house. If they find the dinosaur, they, too, become extinct and have to lie down wherever they found the first! This keeps going until there is only one person left. They might be the next to be the extinct dinosaur, or you may just like to take it in turns.

LEARNING LINKS

There are a large number of resources available for online learning at this time. We'd always recommend that you support your child with this and only follow links from reputable names. **Any links provided here have been checked for suitability.**

Dinosaur directory of over 300 dinosaurs with pictures and facts. Browse by name, shape or where and when they lived:

<https://www.nhm.ac.uk/discover/dino-directory.html>

Play online palaeontology games such as reconstructing and sorting dinosaur skeletons:

<https://www.amnh.org/explore/ology/paleontology>

Find simple dinosaur colouring sheets and join the dot type activities here:

https://www.education.com/resources/dinosaurs/?referral_url=kidsdinosaurs.com

Calculate the relative speeds of different dinosaurs with this footprint maths investigation:

<https://www.geolsoc.org.uk/~media/shared/documents/education%20and%20careers/Resources/Presentations%20and%20activity%20sheets/Dinosaurs/dinosaur%20footprint%20activity%20sheet.pdf?la=en>

ANSWERS

Answers to guess the animal skeleton, top to bottom and left to right:

1: Fruit bat, 2: Timber Wolf, 3. Sperm Whale.

Answers to Maths Challenges:

1. There are 10 possibilities:

1, 1, 17

1, 3, 15

1, 5, 13

1, 7, 11

1, 9, 9

3, 3, 13

3, 5, 11

3, 7, 9

5, 5, 9

5, 7, 7

2. Tilly has 19 eggs.

You could make up similar problems with, say, 21 eggs.

If you counted them in fours, there would be 1 left over.

If you counted them in fives, there would be 1 left over.

3. Mr Goldblum bought 10 T-rex eggs at 50p each, 10 velociraptor eggs at 10p each and 80 Triceratops eggs at 5p each.

If you like, you can send us some photos of your toy dinosaurs (or recyclosauruses!) in a prehistoric scene you have created in your garden or home.

