

Nature Activities— May

Dinosaurs

The Natural History Museum have produced some great resources for Dippy on Tour—have a look at: <http://www.nhm.ac.uk/take-part/dippy-on-tour/dippy-learning-resources.html> for:

- Dinosaur facts
- Timelines
- The story of a new dinosaur
- Dinosaur bones and skeletons
- Dinosaur feet
- Dinosaur dinners
- Calculating stride length
- Dinosaur trackways
- Dinosaur herds
- Which dinosaur are you?
- The sound of the Jurassic
- Jurassic Forest
- A 3D rotatable Dippy skull



They have an excellent Dinosaur Directory at: <http://www.nhm.ac.uk/discover/dino-directory.html> and more at: <http://www.nhm.ac.uk/discover/dinosaurs.html>



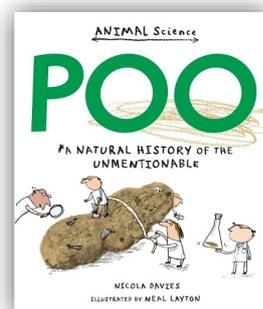
Nature Activities— May

Dinosaur Poo!

Investigate different kinds of modern poo to find out about the different excreta of carnivores, herbivores, land animals, fish etc. Obviously you aren't going to want to pick up poo in the street, but the Wildlife Trusts have a great id resource that makes the link between what an animal eats and its poo: <https://www.wildlifetrusts.org/wildlife/how-identify/identify-poo> and you could go for a poo walk to see what you can find!

Fossil poo is called coprolite (that's Latin for 'poo stone'). You can find out about dinosaur poo at:

<https://www.sciencefriday.com/videos/discovering-the-past-through-dino-poop/> or: <https://www.earthmagazine.org/article/its-dirty-job-someones-gotta-do-it>



Try making your own dinosaur poo! Either make a set yourself and get the class to dissect them and work out the diet or allow your class to produce different kinds themselves. Think about what the dinosaur might have eaten and include bits of an appropriate size and texture. What should go in? Do you want it firm or sloppy?? The Young Archaeologists Club have a basic recipe for human poo which you can make appropriate to the diets of different eras: <https://www.yac-uk.org/activity/make-and-excavate-archaeological-poo> and you can adapt an animal poo recipe from here: <https://naturalsciences.org/docs/special-exhibits/AnimalScat.pdf>



Nature Activities— May

Dinosaur diets

Dinosaurs are great if you want to look at carnivores, herbivores and omnivores or look at teeth and compare dinosaur teeth to us and other species.

Information on dinosaur teeth fossils and the clues they provide can be found here...

<https://www.fossilera.com/pages/dinosaur-teeth>

<https://www.faceliftdentistry.com/bite-correction/a-learn-about-dinosaur-teeth.html>

Follow this up on your visit to see Dippy—you can compare his teeth with those of T rex and Iguanodon, other prehistoric animals like ichthyosaurs, pterosaurs, early amphibians and carnivorous fish. You can also look at the teeth of modern animals around the galleries.

Of course you can also find out about dinosaur diets from their poo:

<https://www.smithsonianmag.com/science-nature/tyrannosaurus-scat-96841015/> and there is also evidence from things like bite marks

preserved on fossilised bones: <http://blogs.discovermagazine.com/d-brief/2018/10/18/juvenile-dinosaur-ceratopsian-bite-marks/>

[#.XMcX2 IKiUk; https://www.uky.edu/KGS/education/Mesozoic.htm](https://www.uky.edu/KGS/education/Mesozoic.htm)



Nature Activities— May

Fossil fun

Fossils tell us about what dinosaurs were like from their remains. To begin learning about fossils, you could create a palentologists dig kit:

<http://parentingchaos.com/make-your-own-dinosaur-fossil-dig-kit/>

After learning about how fossils are made, such as at <https://www.bbc.com/bitesize/articles/z2ym2p3> , you can make your own fossils, using seeds, shells, pasta shapes etc to imprint in air drying clay.

For younger children, you can make dough fossils:

<https://www.makelifelovely.com/diy-dinosaur-fossils-with-salt-dough/>

For older children, there is a good resource explaining fossil tracks and you can play guess the fossil tracks: <https://ucmp.berkeley.edu/science/trackways/trackways5.php> . You could make your own fossil tracks biscuits: <http://www.nhm.ac.uk/discover/dinosaur-footprint-cookies-recipe.html>

You can download templates for some excellent models and hand puppets from the British Geological Survey at: <https://www.bgs.ac.uk/discoveringGeology/time/puppets/home.html>

A nice recap song on fossilisation can be found here, made specially for us at the Great North Museum (warning: its very catchy!): <https://greatnorthmuseum.org.uk/learning/film-resources>



Literacy Activities— May

Read or write a story in an appropriate location - a scary story in a creepy place or an adventure story somewhere wild...

Dear Dinosaur

https://www.amazon.co.uk/Dear-Dinosaur-Chae-Strathie/dp/1407159291/ref=pd_lpo_sbs_14_img_2?encoding=UTF8&psc=1&refRID=VCE2EPYFE5QZH78NHZ95

How to look after your dinosaur

https://www.amazon.co.uk/How-Look-After-Your-Dinosaur/dp/0857639293/ref=pd_sbs_0_6/258-5593498-3780759?encoding=UTF8&pd_rd_i=0857639293&pd_rd_r=6a0def3f-5d22-11e9-aa99-41356e6fd336&pd_rd_w=JAXCi&pd_rd_wg=3m1fR&pf_rd_p=18edf98b-139a-41ee-bb40-d725dd59d1d3&pf_rd_r=EZV9EN152PVGA45XQ5NT&psc=1&refRID=EZV9EN152PVGA45XQ5NT

Dinosaurs and other beastly beasts

https://books.google.co.uk/books/about/Dinosaurs_and_Other_Beastly_Beasts.html?id=NPDYswEACAAJ&source=kp_book_description&safe=vss&redir_esc=y

Dinosaurs in my school

<https://www.amazon.co.uk/Dinosaurs-My-School-Timothy-Knapman/dp/140714586X>

The dinosaur's diary

https://www.amazon.co.uk/Dinosaurs-Diary-Young-Puffin-Story/dp/014131382X/ref=pd_lpo_sbs_14_img_1?encoding=UTF8&psc=1&refRID=VCE2EPYFE5QZH78NHZ95



Maths Activities— May

A nice 'hidden maths' activity can be found in a research task comparing 2 species of dinosaurs.

You can play top trumps or create graphs or display based on the Natural History Museum dinosaur directory, which is full of facts : <http://www.nhm.ac.uk/discover/dino-directory.html>

For older students, you can create a Venn Diagram of then vs now and fill it with comparative data.

For older children or those who need to be stretched, this is quite a high level activity aimed at calculating the speed of a dinosaur from the fossil trackways it left behind: https://d32ogogqmya1dw8.cloudfront.net/files/NAGTWorkshops/paleo/activities/laboratory_ndash_estimating_di.pdf

For a slightly less taxing option, create your own trackways using a tray of water in a dry yard (or on the beach if you have one available). Choose children with as different length legs as possible. Produce a trackway walking, jogging and running as fast as possible. Measure the distance between footprints in the different trackways and create graphs of speed against stride length for different lengths of leg (you could also see if you can find a relationship between leg length and foot size). You could also look at the different shapes of footprints you produce. Now get other children to make tracks and see if you can interpret the speed at which they were moving.



Art, Artsmark, Arts Award —

Making scientifically accurate images or models of environments or creatures from the past is called **palaeoart**. Dippy was found in rocks called the Morrison Formation in Wyoming, USA. We can find out a lot about what his habitat would have been from the types of rock and the other fossils found there too.

For Arts Award, you need to find out about an artist and if you would like to do a dinosaur based Arts Award, there are lots of amazing palaeoartists you can find out about, for example

Mark Witton: <http://markwitton-com.blogspot.com/>

Emma Willoughby: <https://emilywilloughby.com/>

Or you could investigate the makers of Jurassic World! There is a handy guide to the rights and wrongs of dinosaurs in film at: <http://www.nhm.ac.uk/discover/debunking-dinosaur-myths-and-movie-misconceptions.html>

The National Museum of Natural History in the USA have a short video of their scientific illustrator explaining her work: <https://naturalhistory.si.edu/education/teaching-resources/paleontology/how-do-we-reconstruct-ancient-ecosystem>

A really interesting discussion can be had around how we would interpret animals that are alive today in future palaeoart based solely on their skeletons, and the implications for our understanding of what dinosaurs looked like: <https://www.atlasobscura.com/articles/dinosaurs-art-paleoartists-mistakes>

<http://www.nhm.ac.uk/discover/whats-wrong-with-these-dinosaur-reconstructions.html>



Palaeoart

You can find a downloadable resource to create palaeoart around Dippy at: <http://www.nhm.ac.uk/content/dam/nhmwww/take-part/dippy-on-tour/resources/dinosaurs-and-birds-learning-resource-dinosaur-habitats.pdf> and there is also information at <https://jurassiccoast.org/a-history-of-dippy/>

On the following pages, you will find:

- A description of the habitat that Dippy lived in—the Morrison formation. Use this information as the basis of your artwork
- A Dippy skeleton. Use this as the base to draw the living animal around the bones. Think about what colour and texture it should be—you can use the habitat information and what you know about modern animals to help
- You can find a Dippy outline in the NHM resource above for younger children or those who may find creating their outline using the skeleton a bit too challenging

You could.....

- Make a big, class wall display using all that information with everyone contributing a species to the habitat
- Use shoe boxes to make Dippy dioramas. You could make clay dinosaurs, use plastic ones or try dinosaur origami: <https://www.origami-resource-center.com/origami-dinosaurs.html>; <http://www.nhm.ac.uk/discover/origami-tyrannosaurus-rex-dinosaur.html>
- Make a diorama, with different layers or boards in the classroom reflecting different ages of the dinosaurs: Triassic, Jurassic and Cretaceous.



The Morrison Formation

Habitat

Dry (semi-arid), savanna-like

Volcanic ash—but coming in on the wind from elsewhere

River channels flowing into a large salt lake and wetland areas

Dinosaurs

Diplodocus (obviously!), Allosaurus, Ceratosaurus, Camerasaurus, Camptosaurus, Ornithoslestes, Stegosaurus, Apatosaurus, Brachiosaurus, Coelurus, Stokesosaurus, Torvosaurus

Other Animals

fish, frogs, salamanders, lizards, crocodiles, turtles, crayfish, clams, pterosaurs like Harpactognathus, and early mammals like Docodon

Insects were similar to modern ones, and included termites which built 30m high nests

Plants

No grass or flowering plants!

Conifers, tree ferns, ginkgos, horsetails, cycads

Lots of plants along the river channels (the best place to get water)





Crest Awards —

Crest Awards (<https://www.crestawards.org/>) are run by the British Science Association and support science work and working scientifically. Star level is aimed at KS1; Superstar at KS2 and Discovery at KS3 and all have pre-made downloadable challenges which you can put together to achieve the awards. Beyond that, Bronze, Silver and Gold levels give more scope for individual projects. The awards are cheap to do (£1 per child for Star and Superstar and £3 each for Discovery) and you can record the activities online to get the children's certificates and badges.

Investigating Nature Challenges

Star (<https://www.crestawards.org/crest-star>)

Superstar (<https://www.crestawards.org/crest-superstar>)

Disappearing Dinosaurs (SS);

Warm or Cold (SS)



Things to look out for

cow parsley



insects



swifts



badgers



May blossom
(hawthorn)

