OpenUpScience

Issue 4

Welcome to OpenUpScience, the weekly magazine from Cambridge Science Centre. In this issue, we're thinking about Dinosaurs. We have experiments, quizzes and challenges to encourage you to think a bit differently about these fascinating creatures.

Dinosaurs first appeared on Earth around 245 million years ago in a time known as the Triassic Period. In the Cretaceous Period, about 65 million years ago, an asteroid impact in Mexico is thought to have brought about the extinction of the dinosaurs.

Palaeontologists are scientists who study extinct life. They can find out lots about dinosaurs from fossils of bones, eggs, nests and footprints. But what did the dinosaurs really look like?

Find out more with the fun activities inside!

Spark, Ignite, Fuel, Illuminate

Dinosaurs with a difference

What did dinosaurs really look like?

Based on fossil and bone discoveries, early dinosaur images looked like giant hairless lizards. In fact the name dinosaur means **fearfully-great lizard**!

New research shows that some dinosaurs were brightly coloured, and others had feathers. Let's re-imagine what dinosaurs might have looked like.

Caudipteryx species (credit:Jamie A Headden)

What to do

Colour over the top of the pale dinosaur skeleton. Add some feathers, fur, scales or anything else you can think of!

Make a wax fossil

What you'll need

- A deep tray, plastic container or large bowl
- Sand
- Something to make a mould (a fossil, an interesting rock, a shell, a plastic toy)
- Wax crayons
- Sharp knife
- Microwave
- Microwavable dish
- Helpful adult

Fossils are the remains or traces of ancient life. It's very rare for living things to become fossilised. Bones from a dead animal need to get covered with sand or mud. Then, over millions of years, layers of mud turn to rock and cover the bones. Water seeps into the bones, and leaves behind minerals, turning the bone to stone and creating a fossil. Sometimes footprints or feathers are also fossilised too!

What to do

1. Put the sand into the deep tray, and smooth down
2. Get a grown up to help you cut the wax crayon into pieces
3. Put the crayon into a microwaveable dish
4. Microwave until the crayon melts (get a grown up to help!)
5. Gently press your chosen object into the sand
6. Carefully remove the object, you should get an imprint of it in the sand
7. Carefully pour the melted wax into the sand mould
8. Leave the sand and wax fossil to dry (10-15 mins)
9. Once dry, carefully remove your wax fossil from the sand
10. You can wash or brush off any remaining sand

Dinosaur Quiz

(Answers on back page)

1. The word dinosaur was first used in 1842 by scientist Sir Richard Owen, from the Greek words 'deinos' and 'sauros'. What does the name 'dinosaur' mean in English?
   A. Raptor
   B. Meat eater
   C. Huge reptile
   D. Fearfully-great lizard

2. What is the scientific name for the study of extinct life?
   A. Fossilology
   B. Archaeology
   C. Palaeontology
   D. Philology

3. The asteroid, that many scientists believe helped to wipe out the dinosaurs, struck in which modern day country?
   A. Mexico
   B. Australia
   C. South Africa
   D. North America

4. Which of these did a velociraptor use as a weapon?
   A. Bony, spiked tail
   B. Large, curved claws
   C. Sharp, overgrown incisors
   D. Strong ridges on its back

Did you know...?

Marine reptiles (like ichthyosaurs) and flying reptiles (like pterosaurs) are **not** dinosaurs.

Dinosaurs lived on land and could walk upright.

Q: Why can't you hear a pterodactyl using the toilet?

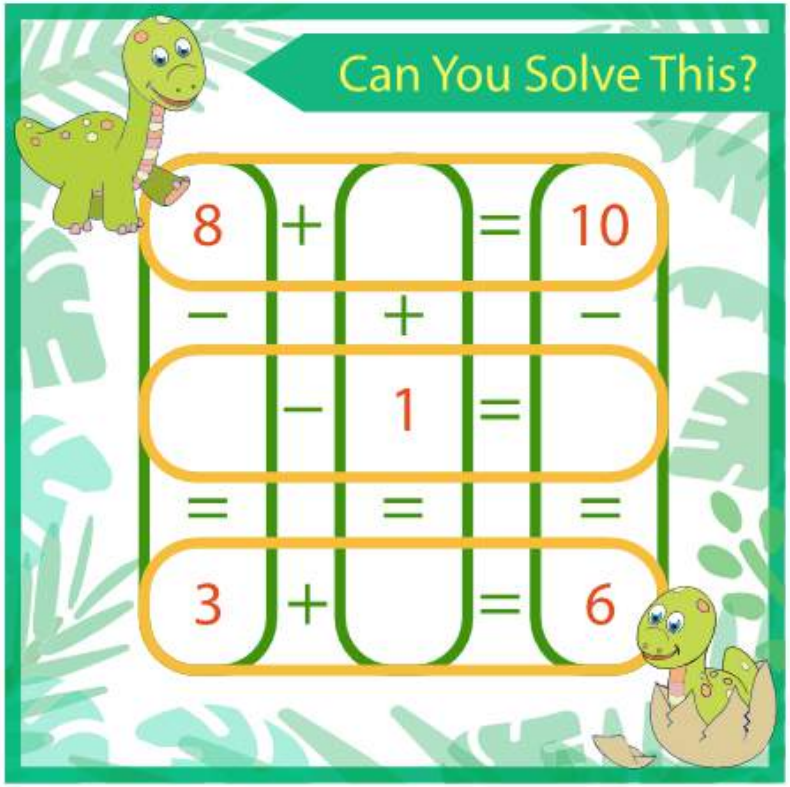
A: Because the p is silent

Q: What do you call a sleeping dinosaur?

A: A dino-snore

Dino puzzle – can you solve it?

Can you make the sums add up?



This Week's Challenge

Dinosaur remains were not only found in rock, some were preserved in ice. Can you make, and then carefully excavate, your own ice fossil? Let us know how you make it, and what you use to reveal your fossil remains. We'd love to see your results. Send them to OpenUpScience@cambridgesciencecentre.org

Dinosaur skeleton

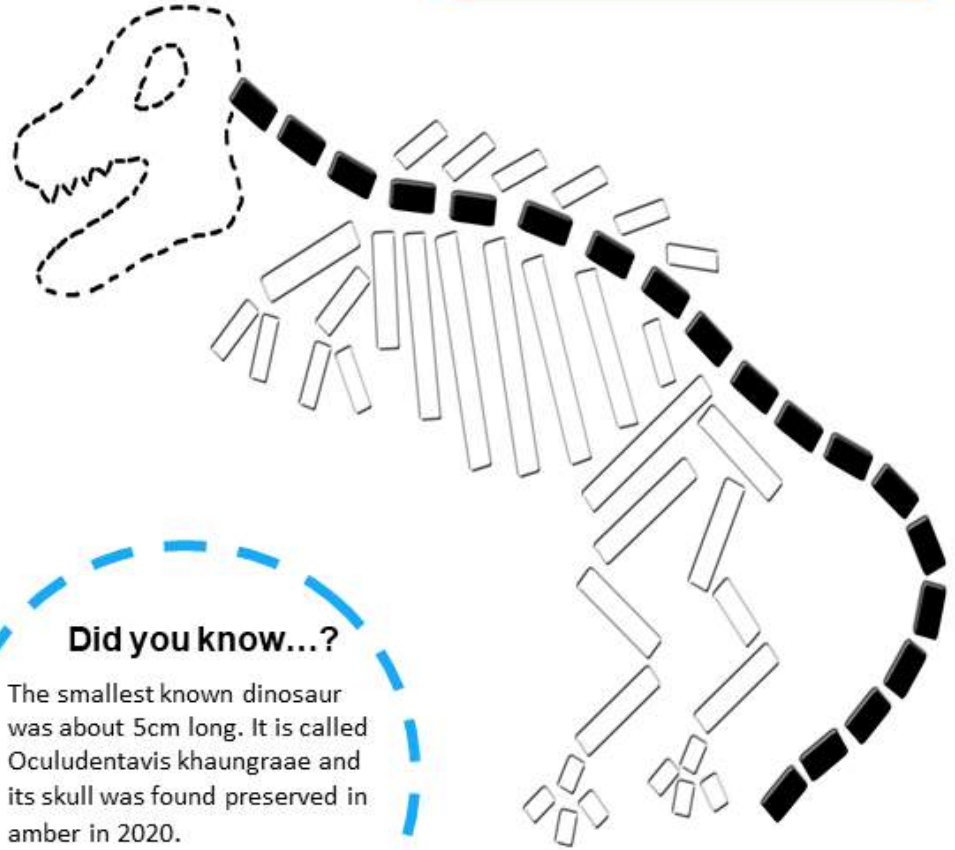
Make your own dinosaur skeleton!

What you'll need

- Paper straws- or just pieces of paper
- Scissors
- Glue or tape
- A helpful adult

What to do

- Cut pieces of straw the same size as the bones on the skeleton below
- Stick the straws to the image to make the bones of the skeleton
- Draw round the outline of the skull



Did you know…?

The smallest known dinosaur was about 5cm long. It is called Oculudentavis khaungraae and its skull was found preserved in amber in 2020.

Dinosaur footprints

Can you match the dinosaur to their footprint?

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What to do
Draw a line from the footprint to the dinosaur

This dinosaur had a crest on the back of its head.

TYRANNOSAURUS

This dinosaur had three horns on its head.

DIMETRODON

DIPLODOCUS

GALLIMIMUS

This dinosaur had a spiky tail.

VELOCIRAPTOR

This smaller dinosaur had sharp claws.

TRICERATOPS

This large dinosaur walked on two legs.

PARASAUROLOPHUS

This dinosaur had a large semi-circle fin on its back.

STEGOSAURUS

This ostrich-like dinosaur could run very fast

This huge dinosaur was a plant eater.

Puzzle Solutions

Dino puzzle

Dino footprints

Next Issue: Over The Moon

Take a small step to discover more about our rocky companion!

Send us your work! OpenUpScience@cambridgesciencecentre.org

Send us your questions! Look out for the answers on: Science@6 - YouTube, Monday, 6pm

Help us improve OpenUpScience! Let us know what you think: /link.cambridgesciencecentre.org/feedbackissue4

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Quiz Answers: Q1 – D , Q2 – C , Q3 - A , Q4 - B