Teacher Guide

ActiveWorksheet 1 | Planet Earth

ACTIVITY | PIN THE ERA

When were these time periods on the timeline? Pupils research and identify. Time periods covered many millions of years, although it's common to hear them described as '65 million years ago'.

- Jurassic (Some pupils may identify the range as well as breaking them down into 'early', 'middle' and 'late' where appropriate.
- Triassic
- Cretaceous
- Mesozoic
- Cambrian.

WHAT YOU WILL NEED

- Planet Earth Timeline
- Paper
- Scissors
- Interactive panel software (optional)

PIN THE ERA

Print the timeline sheet activity sheet. Cut out the era labels. Children should research and discuss when the era's were. Some may break down the era's into 'early, middle and late'. Alternatively, use interactive smart panel software to create an interactive lesson resource. accessible for people

ActiveWorksheet 2 | Early Life

ACTIVITY | QUICK FOSSILS

Don't wait thousands or millions of years to get a fossil! This activity allows pupils to make their own fossil models (you can also use them in the 'Palaeontology in the Classroom' activity).

WHAT YOU WILL NEED

- Air drying clay
- Paints
- Modelling tools
- Sand
- Leaves

MAKE A FOSSIL

Pupils should research fossils, especially ammonites, trilobites and early plant life (like ferns).

Using the air dry clay, sculpt an ammonite ot trilobite. Alternatively, press leaves such as fern leaves into clay to create a model of a plant fossil. Sand can be used to add some texture to models if needed. Once dry, the model fossil can be painted and displayed.

ActiveWorksheet 3 | Fossilisation

ACTIVITY | CLASSROOM PALAEONTOLOGY

Create and excavate a dinosaur in the classroom.

WHAT YOU WILL NEED

- An aluminum foil tray
- Plaster of paris
- Soil
- Modelling tools

BURY A DINOSAUR

Encase a plastic dinosaur model in Plaster of Paris. When you have a lump of plaster with the model in the middle, place in the foil tray and cover with earth. Pupils carefully excavate the model dinosaur making sure they don't damage it. They must make observations along the way.

ActiveWorksheet 4 | From Fossil to Fuel

ACTIVITY | RENEWABLE OR NOT?

Pupils will hear these terms almost every day. What do they mean?

WHAT YOU WILL NEED

- Database / Spreadsheet software
- Access to a browser (for research)

WHERE IS OUR ENERGY FROM?

What do we need energy for? Create a database or spreadsheet of what we need fuel for, where it comes from and whether it is renewable or not.

Pupils should research where the power that runs their devices at home comes from. What forms of fuel run our power stations? Pupils research and determine what renewable and non-renewable mean.

ActiveWorksheet 5 | Jurassic Depths

ACTIVITY | PLESIOSAUR ENCOUNTER

Your mission is to go back in time to the early Jurassic period in search of the Plesiosaur . Although this marine reptile was probably a fierce hunter and predator, you should be okay in the timepod. We'd like you to observe the plesiosaur in its natural habitat and report back to us.

WHAT YOU WILL NEED

- A VR device (Google Cardboard amd mobile handset or similar)
- The *Plesiosaur Encounter VR* app & Timelab sheet

TIMELAB BRIEFING FOR EXPLORERS

You are about to travel back in time over 65 million years to the early Jurassic period. Your timepod will materialise deep in the Jurassic ocean, in the area that will become the British Isles. Check your radar for any signs of movement and head towards them.

If you find a plesiosaur DO NOT get too close. Although you should be okay in the timepod, we don't want to scare the animal. Your mission is to observe only and then to report back. You may see ammonites too. They are the main source of food for the plesiosaur, so again, don't get too close or you may be mistaken for lunch!

Pupils choose one of these report styles:

Scientist: Your report must include details of what you have seen and experienced. We'd like to know what the creature looked like (its size and appearance) and to describe how it swam and moved.

Journalist: What you felt when you saw this ancient, extinct animal in the flesh. Describe the event so people reading can feel the excitement you experienced at the time.

ActiveWorksheet 6 | Feathered Friends?

ACTIVITY | Dino Feathers

Was the Tyrannosaurus Rex covered in feathers? It's likely that it did have some feathers, perhaps when it was young with fewer feathers as an older dinosaur. Point your device at the T. Rex to see what it may have looked like with feathers.

WHAT YOU WILL NEED

- AR app
- Pens/Pencils/Crayons/Felt-tips

MAKING FEATHERS

No one knows what feathers would have looked like on dinosaurs so pupils can create their own patterns and colours. Use the app to take a snapshot of the feather pattern and the T. Rex will

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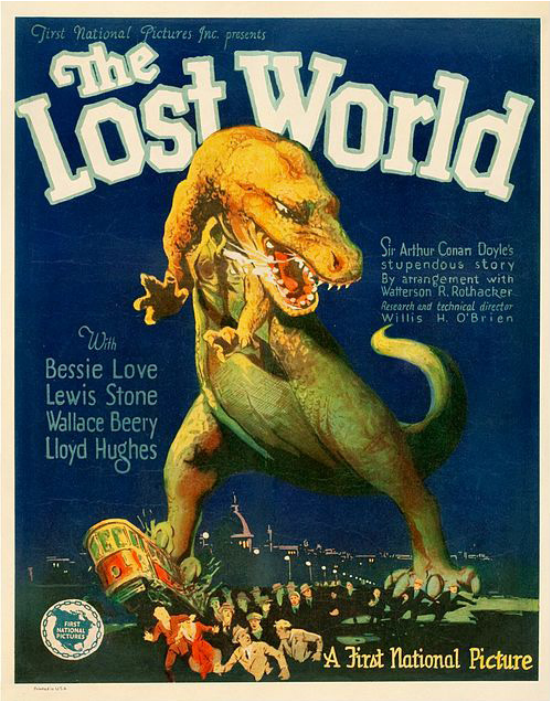
be covered (in the areas scientists believe would have been covered) in their own feathers.

ActiveWorksheet 8 | Extinction

ACTIVITY | THE LOST WORLD

The Lost World is a silent film made in 1925, based on Sir Arthur Conan Doyle's book of the same name. It is one of the first movies ever made to star dinosaurs and was a huge hit. Although we laugh at the special effects now, back in 1925, people thought that footage of real dinosaurs had been captured! The film is now in the public domain and can be viewed and distributed freely. *Teachers can download a copy to watch excerpts from at sites such as www.archive.org*



The dinosaur effects were created using traditional stop motion photography (one frame at a time, moving the limbs and scene each frame).

WHAT YOU WILL NEED

- Plasticine
- Pipe cleaners (to make your model limbs)
- Scenery
- A tablet device with a stop motion app (there are lots to choose from)
- A tripod mount for your tablet
- Some table lamps (not essential)
- Patience!

ANIMATE

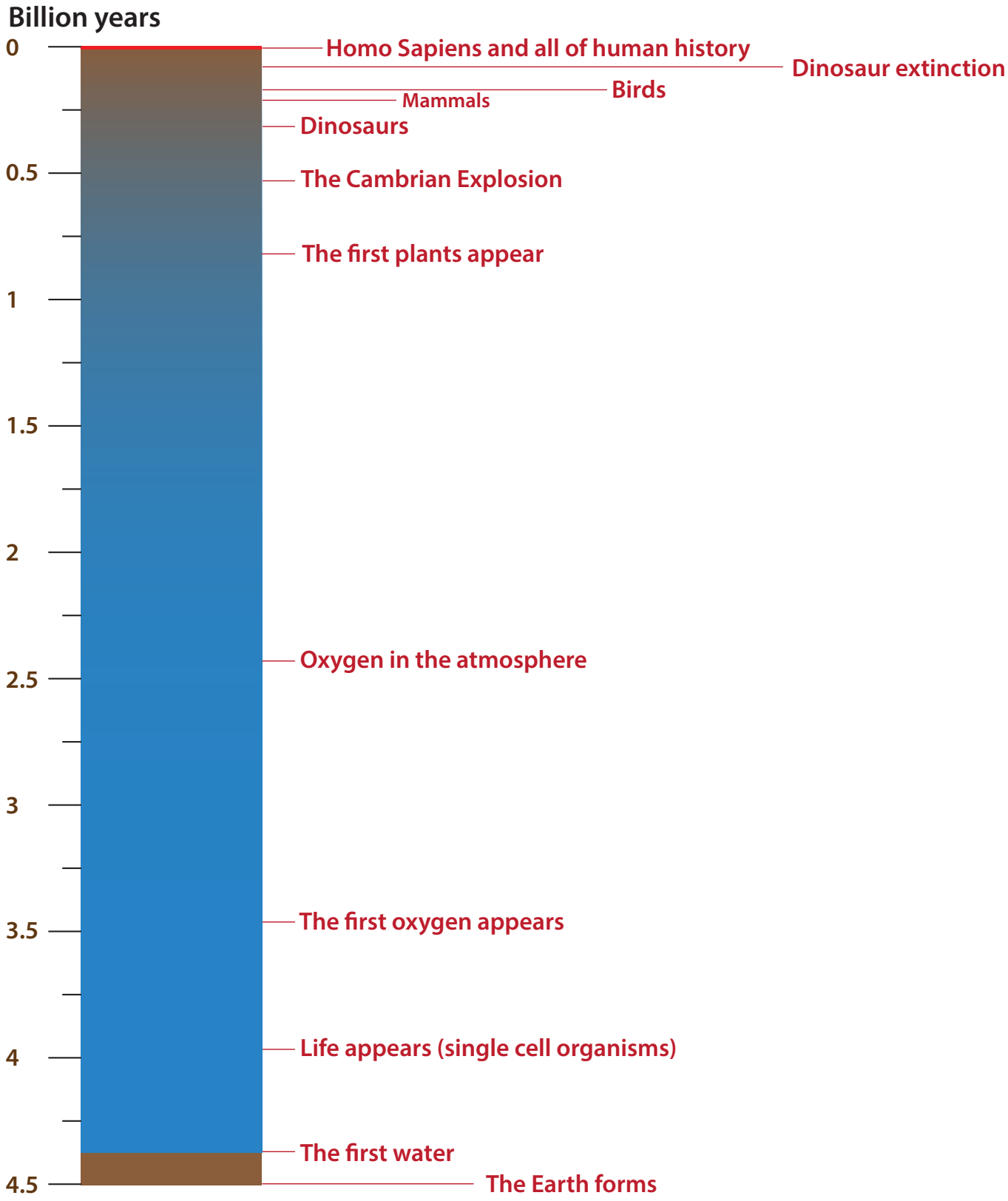
Pupils design the models of their dinosaurs and make the 'skeleton' from pipe cleaners. The body is then fleshed out and the dinosaur should now be able to be posed and moved.

Plan out the clip, don't be too ambitious, remember that each second usually takes 15 frames (individual photos).
The background can be made in the same way with a painted backdrop. Alternatively, tfilm the stop motion on a green surface and green background. Different backgrounds can then be used in another app such as iMovie to add later.

Trivia: The Lost World was one of the first ever in-flight movies, shown on a flight between London and Paris in 1925.

FOSSILS AND DINOSAURS

Timeline



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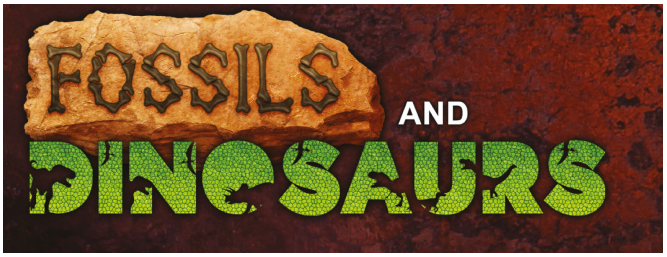

Era's

Jurassic

Cambrian

Triassic

Cretaceous

Mesozoic

Denovian

Ordovician

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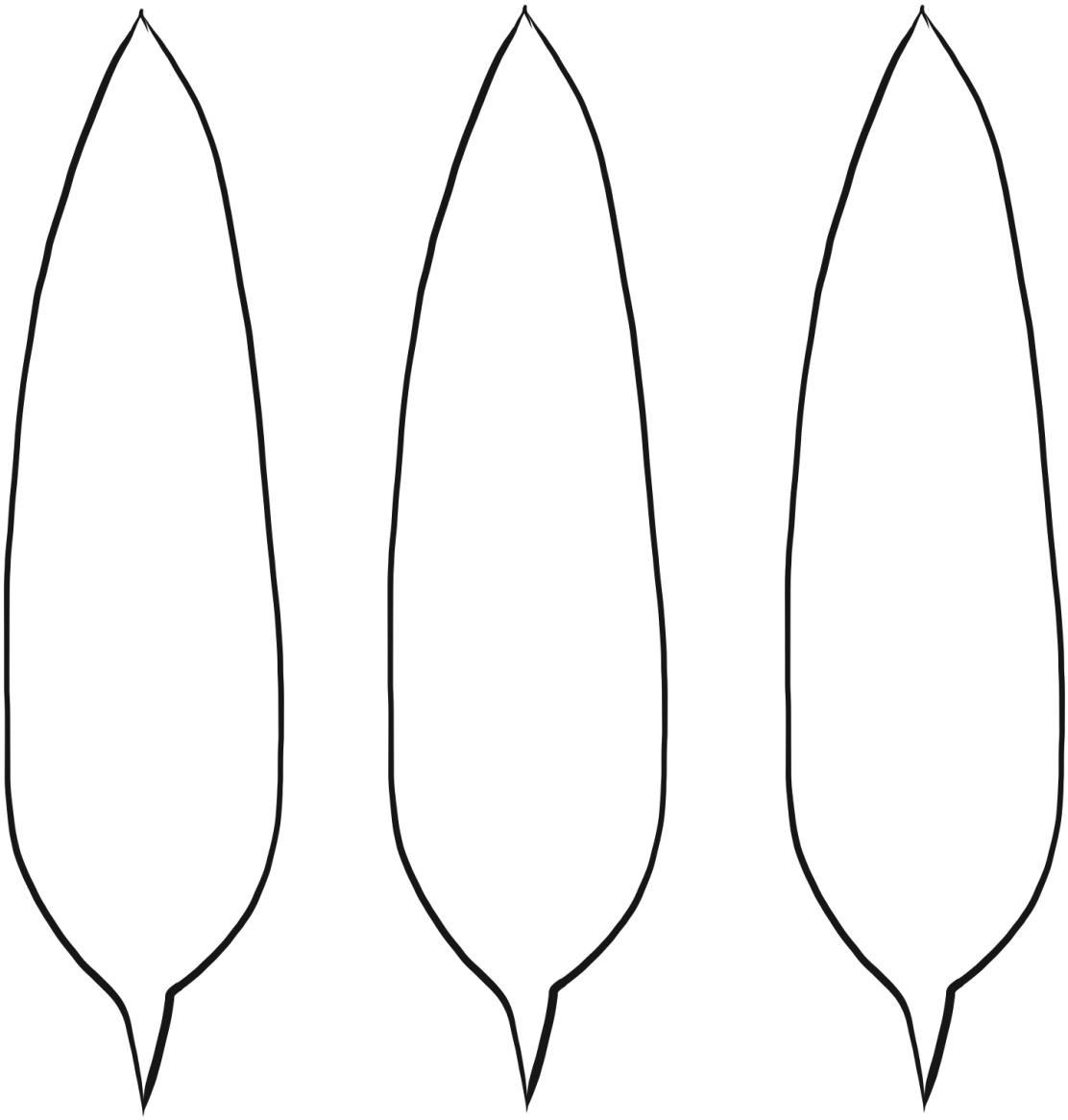
Feathers



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