

The Rutland Sea Dragon



Items you will need...



Before you start this session...



Print session sheets if you need them.



Make sure you have access to the internet so that you can watch video clips on YouTube.

For activity 13.1

- Tape measure or metre sticks
- Chalk

For activity 13.3

- Salt
- Flour
- Water
- Coffee or cocoa powder
- Bowl
- Images of fossils

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Lesson 13 Information sheet

You can use our Rutland Sea Dragon assembly and teacher notes to discover more about the Sea Dragon and other ichthyosaurs.

Britain's largest ever ichthyosaur fossil

The Rutland Sea Dragon was discovered in Rutland Water reservoir in January 2021 and was excavated by a team of expert palaeontologists in summer 2021.

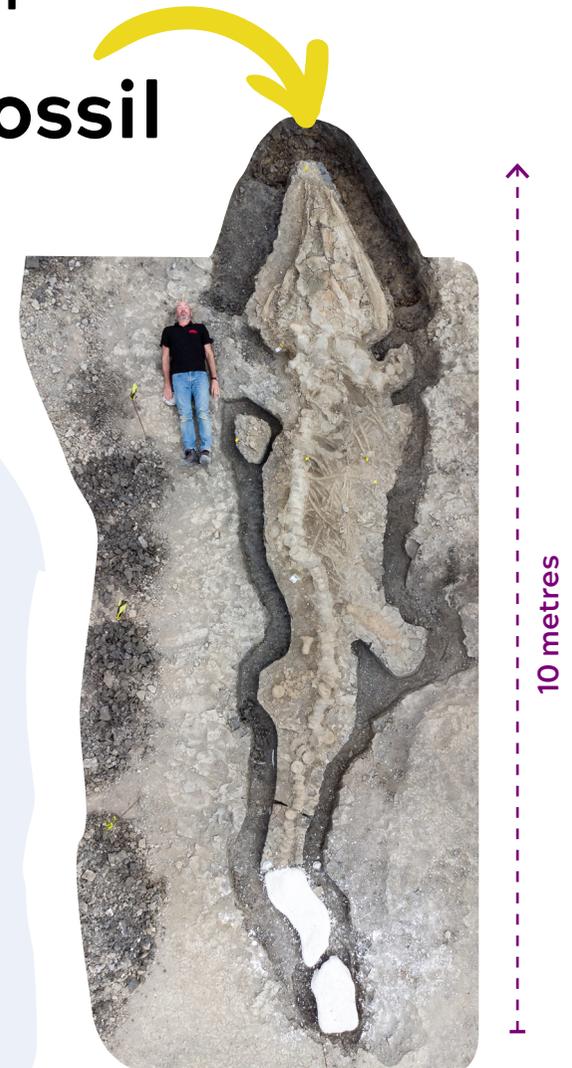


It has been determined to be an **ichthyosaur**. It is the biggest and most complete skeleton of its kind found to date in the UK, which makes it very **rare**. It is thought to be a **Temnodontosaurus Trigonodon**, the first found outside of Germany, which makes it even **rarer**.

Ichthyosaurs are ancient **marine reptiles** and they lived in the sea. That is why they look similar to

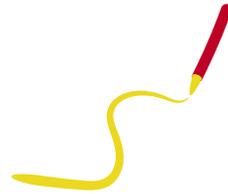
dolphins or whales. They aren't dinosaurs as dinosaurs only lived on land although they did exist at the same time.

The Rutland Sea Dragon is the fossil of the animal that lived **180 million years ago**. After it died, over many years its skeleton turned into rock, in a process called **fossilisation**. Fossils can teach us lots of different things about the animals that lived here before us.



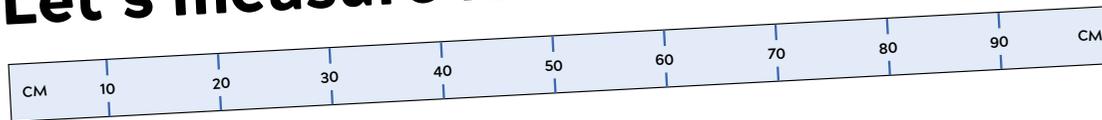
Activity 13.1

Measuring out



How **big** is that? **Bigger** than you?
Bigger than a car?

Let's measure it out



You will need...

A long tape measure or metre sticks, chalk and space, school hall or playground would be good for this.

Activity...

The Rutland Sea Dragon is **10 metres long**.

Can you predict how many of your steps it will be?

What about your teacher's steps?

Can you lay down along the length, how many children make up the Rutland Sea Dragon?

Mark your starting point with chalk.

Measure it out and mark 10 metres.

Did you know

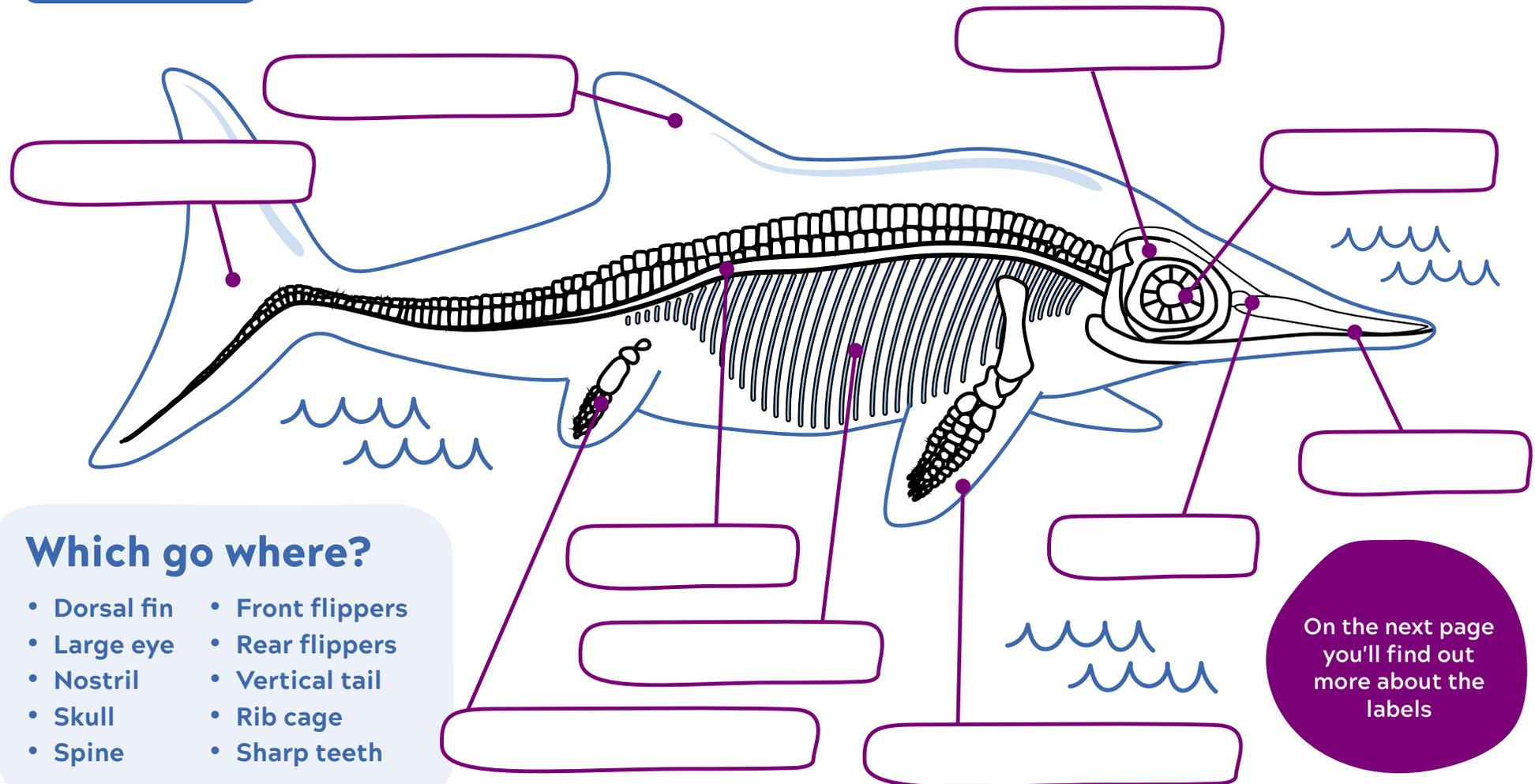
Some ichthyosaurs found have been from 2 metres long to over 20 metres long. That's almost the length of a blue whale.

Activity 13.2

Anatomy of an ichthyosaur

Activity...

Can you identify the parts of the Sea Dragon and what they were used for?



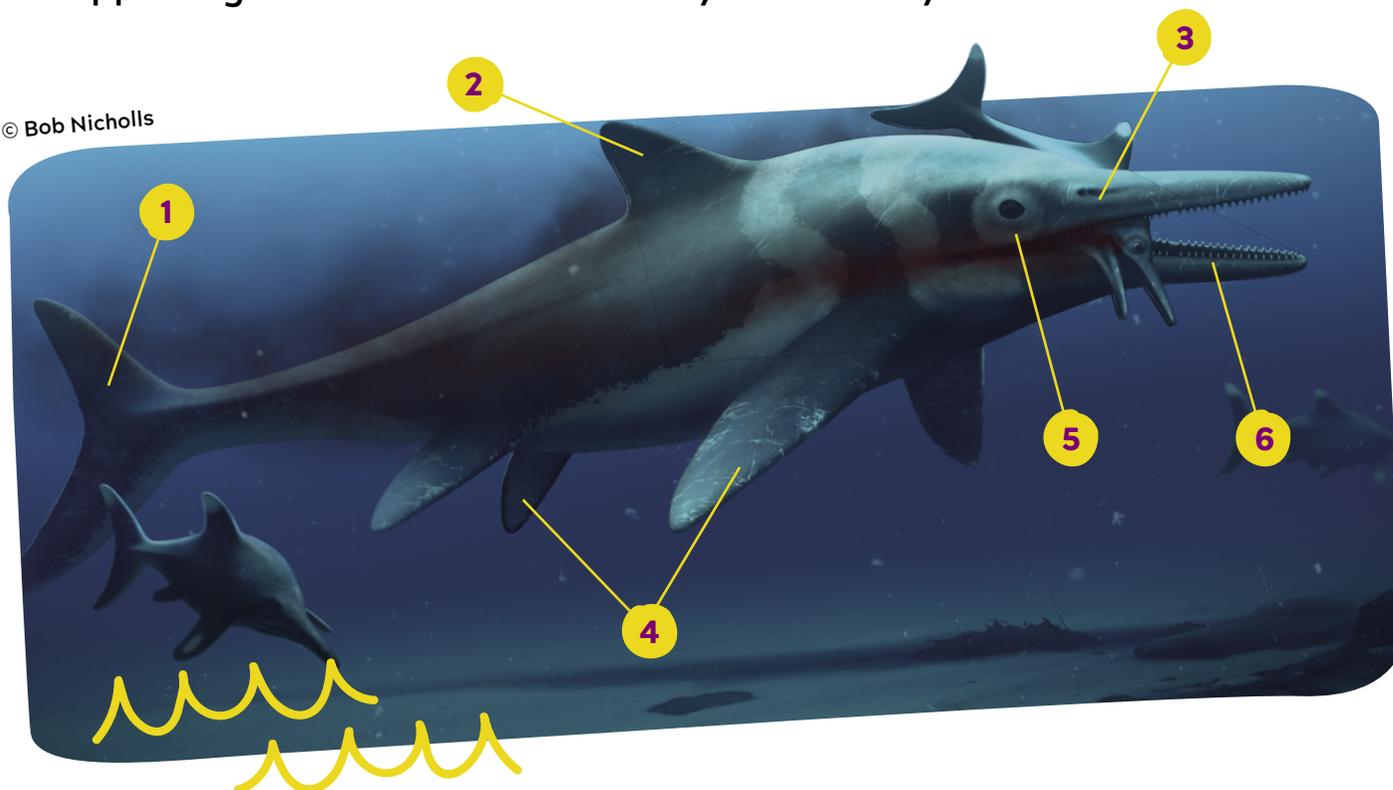
Which go where?

- Dorsal fin
- Large eye
- Nostril
- Skull
- Spine
- Front flippers
- Rear flippers
- Vertical tail
- Rib cage
- Sharp teeth

On the next page
you'll find out
more about the
labels

Supporting information 13.2: Anatomy of an ichthyosaur

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1 Vertical tail

An ichthyosaur used its tail to swim unlike the later plesiosaur which used its flippers. The different swimming techniques are shown when the vertebrae (the bones in the spine) are examined. This is one of the ways palaeontologists identify the species. They were also fast, swimming up to 22 miles per hour.

2 Dorsal fin

The upright fin on the ichthyosaur's back is called a dorsal fin. Experts think this gave ichthyosaurs more stability as they swam at speed.

3 Nostrils

Nostrils are also an identifying feature of an ichthyosaur, they are on either side of the skull, not usually seen from above.

4 Flippers

Ichthyosaurs had two pairs of flippers or fins. The Rutland Sea Dragon excavation showed an amazingly preserved hind fin. This YouTube clip shows the discovery: Giving the #RutlandSeaDragon a bath

[Click here to watch our Youtube video](#)

5 Large eye

Ichthyosaurs had the largest eye of any vertebrate mammal. One species of ichthyosaur had an eye the size of a football. They were thought to have such large eyes for hunting in deep, dark ocean waters.

6 Teeth

They had two rows of sharp teeth. The teeth are different shapes in the different species depending on what they fed on.

Activity 13.3

Making fossils



How about making your own fossils from salt dough?

This is great fun, but you need to use your observational skills.

You will need...

- Bowl
- Mixing spoon
- 200g salt
- 150g flour
- 150g ground coffee or cocoa powder (optional)
- 100ml - 120ml warm water

Activity...

1

First, research some fossils. Find some that you would like to make and see how accurately you can recreate them. Could you even make an ichthyosaur?

2

Then we need to make the salt dough mixture. Add the salt and flour to a large bowl and mix. If you are using coffee or cocoa powder, this makes the dough look more like rock. It's a good idea to mix it with warm water to dissolve it first, then add this coloured water to your mixture. Stir it around, then combine it with your hands.

3

Knead for 3-4 minutes.

Kneading is what you do when you make bread. Make it into a rough ball shape. Push with your hand on one side, turn it around then push again, and repeat.

4

Using the images you found, mould your dough into fossil shapes.

Alternatively, you can use some of your toys, shells or leaves to make imprints. Maybe you have dinosaur toys - if so, you could push their feet into the dough.

5

Leave it to dry for around two days.

Keeping it somewhere warm like an airing cupboard will speed up the drying, or you could use an oven on low heat (50 degrees) for 2-4 hours. If you want to make your fossils last even longer you can varnish them. Painting them with glue will do this. Just make sure you put some old paper down before you start.



Extension activity

Could you make your own dinosaur dig and bury your fossils?

Get a plastic storage box and hide your fossils in play sand or compost. Challenge your friends or family to dig them up. Can they identify your fossils?