

## Dinosaur Maths Challenge

Jump right in to the world of the dinosaur with this fun mathematical challenge!



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These 3 activities can be completed in groups in a carousel system.

### Footprints!



Investigate the area of the footprints and the mass of the two types of dinosaur using the foot casts in the museum.

### On The Move

Investigate the step of a *Brachiosaur*.  
Compare your step to that of a large dinosaur!



Your investigation will include:  
Comparisons  
Calculations

You will also travel back in time by constructing a timeline!

### Dinosaur Data

Find out how long and how tall a large *Brachiosaur* was!

Compare, measure and calculate!

Estimate the height of the *Brachiosaur* and compare this to everyday objects.

## ON THE MOVE

## Walking with Dinosaurs



Let's investigate!

How far can a *Brachiosaur* step?

Firstly, measure your own walking step. Measure from heel to heel.



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Measure out the step of a *Brachiosaur* on the ground. An average *Brachiosaur* step measured about 3 metres.

How long is it in cm? \_\_\_\_\_centimetres

How many of your steps would fit into one *Brachiosaur* step? \_\_\_\_\_

How much longer than your step is the *Brachiosaur* step? \_\_\_\_\_

### Extension Task

**Investigate a running step:**

My running step is \_\_\_\_\_cm

My running step is approximately \_\_\_\_\_ times longer than my walking step

Estimate the length of the *Brachiosaur* running stride: \_\_\_\_\_cm

Difference \_\_\_\_\_cm.





## ON THE MOVE

### INFORMATION

- ▶ The first dinosaurs appeared about 230 million years ago
- ▶ *Brachiosaurus* lived about 150 million years ago (Jurassic Period)
- ▶ The last dinosaurs disappeared 65 million years ago
- ▶ Man's ancestors appeared about 6 million years ago
- ▶ Modern man has been around for the last 200,000 years (0.2 million yrs).

$$\begin{aligned}
 1 \text{ million} &= 1000,000 \\
 &= 1000 \times 1000 \\
 &= 100 \times 10,000 \\
 &= 10 \times 100,000
 \end{aligned}$$

$$\begin{aligned}
 1 \text{ metre} &= 100 \text{ cm} \\
 &= 1000 \text{ mm}
 \end{aligned}$$

### Time Travel

How could you draw a timeline that shows 230 million years? That's a long time!

#### CHALLENGE

1. If you were to draw a timeline where 1 metre represented 1 million years, how long would the timeline be?

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3. How many years will 1cm represent?

**Draw out this timeline and mark out every 50 million years.**

Label it with the events in the information box (left).

- ▶ What do you notice?

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# DINOSAUR DATA!



## Length of a Brachiosaur

Find out how long and how tall a large *Brachiosaur* was.

Height \_\_\_\_\_ m      Length \_\_\_\_\_ m

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- ▶ Using squared paper, imagine a *Brachiosaur* 26 squares long and 18 squares high. Draw a picture of a *Brachiosaur* 26 squares long and 18 squares high.
- ▶ How long and how high would this brachiosaur be in real life?

\_\_\_\_\_ m long      \_\_\_\_\_ m high

### Comparing

Draw and cut out a double decker bus that is 10 squares long and 4 squares high.

How many buses can you fit along the length of the *Brachiosaur*? \_\_\_\_\_

Using the lengths in the information box (below), work out how many cars and how many beds would fit from the tail tip to nose tip of the *Brachiosaur*.

The *Brachiosaur* is \_\_\_\_\_ buses long.

The *Brachiosaur* is \_\_\_\_\_ cars long.

The *Brachiosaur* is the same length as \_\_\_\_\_ beds.

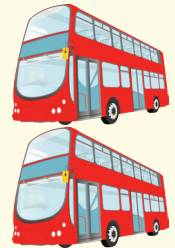
Lengths	
Bus	10 metres
Car	4 metres
Bed	2 metres



### Extra Challenge!

Can you work these out?

▶ A *Brachiosaur* is \_\_\_\_\_ times taller than a double decker bus.



▶ What is the difference in length? \_\_\_\_\_ m

▶ What is the difference in height? \_\_\_\_\_ m

# FOOTPRINTS!

Find the two casts of dinosaur footprints.

One is from a *Brachiosaur*, the other is from an *Iguanodon*.

Measure and compare

Working in a group, use one of the card templates to measure the area.

How many of your

- ✓ Draw around your foot on squared paper
- ✓ Cut it out
- ✓ Work out the area by counting the squares

How many squares does one of your feet cover? \_\_\_\_\_

How could you use this to estimate the number of squares the dinosaur footprint would cover?

\_\_\_\_\_

These are the shapes of the front and back footprints of a *Brachiosaur*.

Which do you think the foot cast in the museum is?

\_\_\_\_\_

Front



Back

The area of the dinosaur footprint

My estimate : \_\_\_\_\_ cm<sup>2</sup>

Now do the same with the other dinosaur footprint.

I estimate the area of the *Brachiosaur* footprint is \_\_\_\_\_ cm<sup>2</sup>

I estimate the area of the *Iguanodon* footprint is \_\_\_\_\_ cm<sup>2</sup>

Write sentences to compare the footprints using the words *greater than* and *less than*:

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Can you write a number sentence using the signs < or > ?

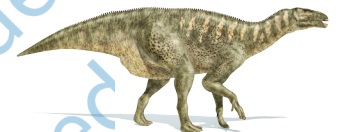
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MASS

Find out your mass. Use some weighing scales.

My mass = \_\_\_\_\_ kilograms

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We believe that Education Destination Ltd. provides curriculum relevant materials supporting school trips to the Isle of Wight. Find out the mass of other objects to compare with the dinosaur. Book today with Education Destination and get full access to this and hundreds more quality resources.

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Brachiosaur mass = \_\_\_\_\_ kilograms

Calculate the mass:

10 x my mass = \_\_\_\_\_ kg

100 x my mass = \_\_\_\_\_ kg

1000 x my mass = \_\_\_\_\_ kg

Write a sentence comparing your mass with the mass of an adult *Brachiosaur*.

\_\_\_\_\_  
\_\_\_\_\_



BACK AT SCHOOL

E.g. How many elephants?

How many buses?