

Weighing Giants



KLAs:
Science / Mathematics

LESSON TOPIC:
Palaeontology

YEAR LEVEL: 7-10

DURATION OF ACTIVITY:
45-50 minutes

Tipping the prehistoric scales

Open any book on dinosaurs, and it will almost certainly mention their size. Some might even suggest “a T-rex weighed as much as a bus!” Dinosaurs are well known for their enormous sizes, and indeed they include the largest animals ever to walk the earth. But how do we know how heavy they were? Dinosaurs have been extinct for a long time, and only their bones remain. So how can we possibly weigh them? This activity combines palaeontology, mathematics, physics and biology, using an age-old technique to estimate just how large these amazing animals once were!



SYLLABUS OUTCOMES

S4 – S5: SCIENCE

- Knowledge and understanding – Living World: SC4-14LW, SC4-15LW, SC5-15LW
- Skills – Working Scientifically: SC4-6WS, SC5-6WS, SC4-7WS

MATHEMATICS

- Working Mathematically: MA4-2WM; Number and Algebra: MA4-4NA, MA5.3-4NA; Measurement and Geometry: MA5.1-9MG; Statistics and Probability: MA4-19SP, MA5.1-12SP, MA5.3-19SP

LEARNING OUTCOMES

Students will:

- Appreciate the process of palaeontological research, and what knowledge of extinct animals can tell us about the past and the future
- Appreciate the importance of preserving specimens of extant and extinct organisms for a greater understanding of our natural world
- Acknowledge the process of using fragments of information and gathering evidence to build knowledge
- Apply physical and mathematical models to estimate dinosaur body size, and plot these results on a graph

EXPLORATORY AND PLAY-BASED COMPONENTS

In this activity students mould their own dinosaurs out of clay and use balancing scales to determine the mass and volume of their model. Artistic license allows them to use variations in their creations such as ‘fatness’, ‘thinness’ and extra features to discuss how error may be introduced into scientific models.

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