

Yr 6 Multiplication and Division Unit 2 (6491)

Additional teacher instructions for practice sheets

These notes indicate which practice sheets are most appropriate for which groups.

Day 1 Solving problems involving rate Sheet 1

Working towards ARE / Working at ARE / Greater Depth

Children working towards ARE answer questions 1, 2, 5, 6 and 7.

Day 2 Scaling up Sheet 1

Working towards ARE / Working at ARE / Greater Depth

Day 3 Dimensions for dinosaur toys Sheet 3

Working towards ARE / Working at ARE / Greater Depth

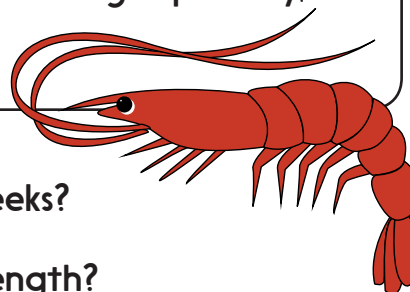
Greater Depth also find the measurements for scale models which are $\frac{1}{20}$ of the size.

Solving problems involving rate

Sheet 1

At birth, a blue whale calf weighs about 2.5 tonnes and is about 7m long. A blue whale calf puts on 90kg/day, grows 2.5 cm in length per day, and drinks 200 litres of milk a day.

Adult whales eat about 3 tonnes per day of krill.



1. How much longer will a calf grow in four weeks?
2. How long will it take to be double its birth length?
3. How much weight will it put on in 6 months?
4. How much milk will it have drunk in that time?
5. How much krill will an adult whale eat in a year?

A human child grows at the following rates:

0-12 months - grows about 25cm

1-2 years - grows about 13cm

2-3 years - grows about 9cm a year

3 years to puberty - grows about 5cm a year

6. How long will it take a child who is 50cm long at birth to double its height?
7. Which has the faster growing rate, a blue whale calf or a human child?

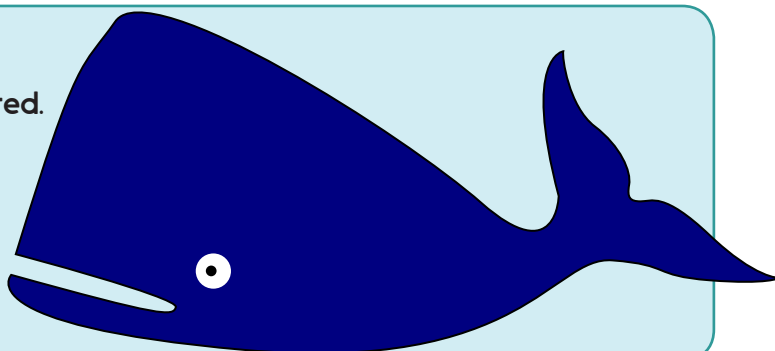
Challenge

A blue whale has been rescued!
Just before release, it was measured.

Use the measurements to
estimate its age:

length = 850cm

weight = 456kg



Scaling up

Sheet 1

Each dimension of the model dinosaur is $\frac{1}{20}$ of what is thought to have been the actual size. Work out the actual height and length of each dinosaur.

Dinosaur	Model height	Actual height	Model length	Actual length
Tyrannosaurus Rex	35cm		76cm	
Brachiosaurus	41cm		76cm	
Velociraptor	3cm		9cm	
Diplodocus	37cm		135cm	
Plateosaurus	11cm		39cm	

Dimensions for dinosaur toys

Sheet 1

A natural history museum wants to sell tiny toy dinosaurs in its shop. Each measurement will be $\frac{1}{200}$ of the size they think the dinosaurs were. Work out the height and length of each toy. How can you check your answers?

Dinosaur	Actual height	Toy's height	Actual length	Toy's length
Allosaurus	5.2m		12.2m	
Triceratops	2.9m		8.4m	
Stegosaurus	3.8m		8.9m	
Spinosaurus	5.4m		13.2m	
Brontosaurus	4.6m		23m	

Challenge

If you have time, look up your own choice of dinosaur in a book or online. Find its length and height and work out the scaled-down measurements.

Multiplication and division

Answers

Day 1 Solving problems involving rate Sheet 1

1. A blue whale calf will grow **70cm** in four weeks.
2. It will take **280 days** to double its birth length.
3. Taking six months as 182 days, it will put on **16,380kg**.
4. It will have drunk **36,400l** of milk in that time.
5. An adult whale will eat about **1095 tonnes** of krill in a year.
6. It will take the calf about **3 years and 7 months** to double its height.
7. A **blue whale calf** has the faster growing rate.

Challenge

The whale's length suggests it is about 60 days old, but it is underweight for this age. This may be due to not feeding after separation from its mother...

Day 2 Scaling up Sheet 1

Dinosaur	Model height	Actual height	Model length	Actual length
Tyrannosaurus Rex	35cm	7m	76cm	15.2m
Brachiosaurus	41cm	8.2m	76cm	15.2m
Velociraptor	3cm	0.6m	9cm	1.8m
Diplodocus	37cm	7.4m	1.35cm	27m
Plateosaurus	11cm	2.2m	39cm	7.8m

Day 3 Dimensions for dinosaur toys Sheet 1

Dinosaur	Actual height	Toy's height	Actual length	Toy's length
Allosaurus	5.2m	2.6cm	12.2m	6.1cm
Triceratops	2.9m	1.45cm	8.4m	4.2cm
Stegosaurus	3.8m	1.9cm	8.9m	4.45cm
Spinosaurus	5.4m	2.7cm	13.2m	6.6cm
Brontosaurus	4.6m	2.3cm	23m	11.5cm