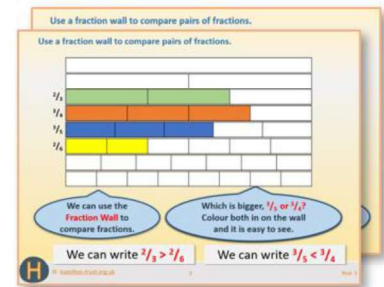


## Week 12, Day 2

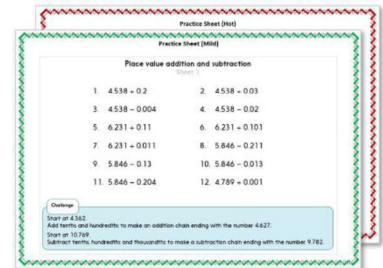
### Solve problems requiring scaling by simple fractions.

Each day covers one maths topic. It should take you about 1 hour or just a little more.

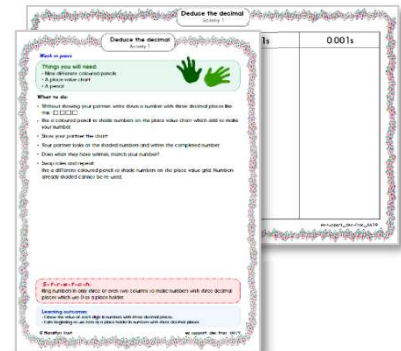
1. Start by reading through the **Learning Reminders**. They come from our *PowerPoint* slides.



2. Tackle the questions on the **Practice Sheet**. There might be a choice of either **Mild** (easier) or **Hot** (harder)! Check the answers.



3. Finding it tricky? That's OK... have a go with a grown-up at **A Bit Stuck?**



4. Think you've cracked it? Whizzed through the Practice Sheets? Have a go at the **Investigation...**

## Learning Reminders

Solve problems requiring scaling by simple fractions.

*Hogwarts*

Every dimension of a scale model of Hogwarts is  $\frac{1}{10}$  of what would be real life-size. In other words, the designers had to divide every length and height by 10 so that the model would look right and be 'in proportion'.

A bedroom in Hogwarts is 4.6m by 4.2m, and the scale model is to be  $\frac{1}{10}$  of this. To work out the scale dimensions change the lengths to centimetres and divide by 10.

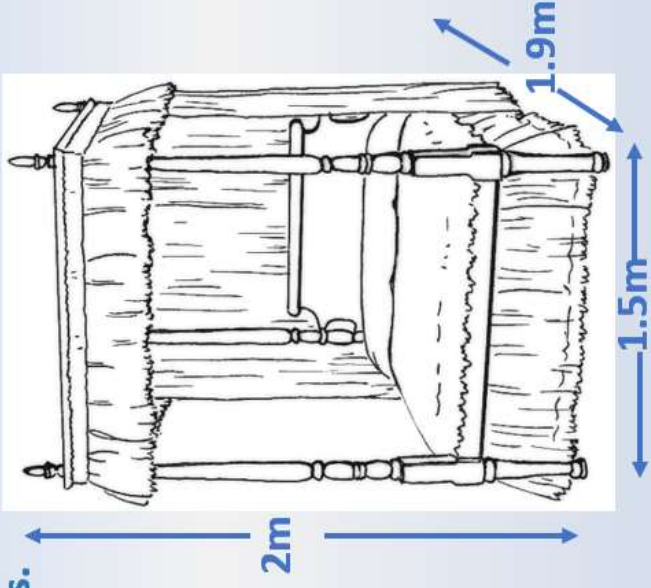
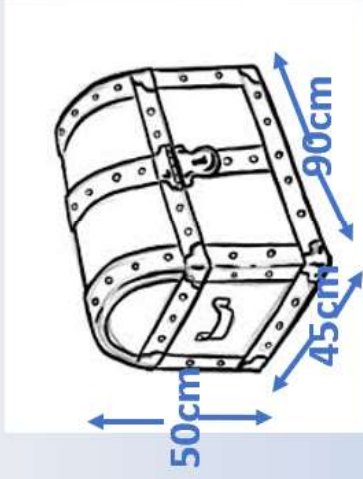
4.6m = 460cm.  
4.2m = 420cm.

The size of the bedroom in the model will be 46cm by 42cm.

## Learning Reminders

Solve problems requiring scaling by simple fractions.

Work out the measurements needed for a scale model of the 4-poster bed and the trunk. Remember divide by 10 each time.



Answers

Bed: 15cm by 19cm by 20cm.  
Trunk: 4.5cm by 9cm by 5cm.

## Practice Sheet Mild

### Scale bedroom at Hogwarts Castle

Calculate the dimensions of everything in the model bedroom.  
 Each measurement needs to be one tenth of the life-size measurements.  
 Check the model dimensions for the single bed, then complete the table.

Item	Life size dimensions	Model dimensions
Single bed	90cm wide, 2m long, 60cm high	9cm wide, 20cm long, 6cm high
Owl's cage	90cm tall, 40cm wide, 40cm deep	
Box of potions	30cm by 20cm by 20cm	
Desk	80cm tall, 1.2m wide, 70cm deep	
Spells book	50cm tall, 30cm wide, 10cm deep	
Wardrobe	80cm wide, 1.8m tall, 50cm deep	
Chest of drawers	80cm wide, 80cm tall, 40cm deep	
Bedside drawers	50cm wide, 40cm deep, 60cm tall	

## Practice Sheet Hot

### Scale bedroom at Hogwarts Castle

Calculate the dimensions of everything in the model bedroom.  
Each measurement needs to be one tenth of the life-size measurements.

Item	Life size dimensions	Model dimensions
Single bed	90cm wide, 2m long, 60cm high	
Owl's cage	90cm tall, 40cm wide, 40cm deep	
Box of potions	30cm by 20cm by 20cm	
Desk	80cm tall, 1.2m wide, 70cm deep	
Spells book	50cm tall, 30cm wide, 10cm deep	
Wardrobe	80cm wide, 1.8m tall, 50cm deep	
Chest of drawers	80cm wide, 80cm tall, 40cm deep	
Bedside drawers	50cm wide, 40cm deep, 60cm tall	

#### Challenge

Think of three more items in the bedroom, give an estimate of their life size dimensions and the corresponding model dimensions.