

# Matter Homework Week 1



This Homework requires **GRAPH PAPER!**



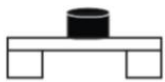


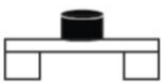
In your jotter write the DATE in the margin.

Now add a TITLE for your homework.

Your title should be the name of the Homework: Matter Homework Wk 1

## Question 1.

Janet investigated the strength of model bridges. She added weights to each bridge until the bridge collapsed. The experiments she carried out are shown below.

<p>1</p>  <p>Length of bridge 15 cm Material used paper</p>	<p>2</p>  <p>Length of bridge 20 cm Material used card</p>
<p>3</p>  <p>Length of bridge 15 cm Material used card</p>	<p>4</p>  <p>Length of bridge 15 cm Material used card</p>

Janet wanted to find out how the length of a bridge affects its strength.

- Which two boxes show the experiments she should compare for a fair test?
- Janet compared the experiments in boxes 1 and 4. What was she trying to find out?
- Janet needed to make her experiment a fair test, name one other variable she should she keep constant if comparing boxes 1 and 4?

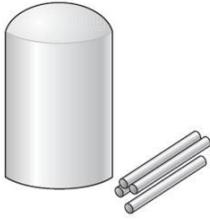
## Question 2.



A road tanker delivers unleaded petrol and diesel to a filling station. The volume of unleaded petrol in the tanker is 6 600 litres. The total volume of fuel in the tanker is 11000 litres.

- Calculate the volume of diesel delivered. Remember to show your working.
- Petrol is sold at £1.20 per litre and diesel at £1.25 per litre.  
How much money will the garage owner collect when he has sold all the fuel delivered?
- The garage makes 5% profit per litre of petrol. What is the garage's profit?

### Question 3.



A plumber fitted a 12 kg water tank in a house. He connected 4 copper pipes to the tank. Each pipe had a mass of 2 kg.  
What is the total mass of the water tank and the four pipes?

### Question 4.



The wreck of a Spanish galleon was found by divers. The divers found five gold coins.  
The total mass of the five coins was 125 g.

Calculate the mass of one coin.

### Question 5.

Mira decided to find out if it was true that adding salt to water makes it boil at a higher temperature. She conducted an experiment at home using salt water.  
Mira heated salt water and measured the temperature every minute.

Time (minutes)	1	2	3	4	5	6	7	8	9	10
Temperature (°C)	25	38	55	69	83	95	104	104	104	104

- Plot a line graph to show Mira's results.
- What term would describe the salt water between 7 and 10 minutes?
- What conclusion can Mira draw on the effect of adding salt to water?

### Question 6.

Air is a mixture of different gases.  
Air is made up of oxygen (21%), Nitrogen (78%) and other gases (1%).

In your jotter construct a pie chart to show the composition of the air.



A marking guide for this Homework is available (password required).