

FORCES – CORE HOMEWORK 1

YOU WILL NEED GRAPH PAPER FOR THIS HOMEWORK

1. Name 3 things that a force can **change** about an object? (3)

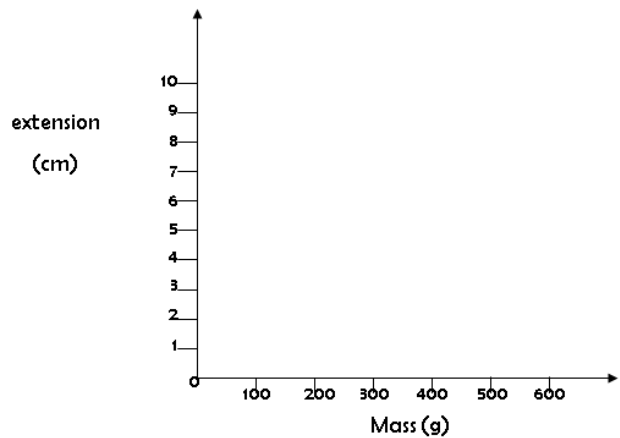
2. Look at the following table which shows how the mass on a spring affects the length of the spring.
The spring was 2 cm long when no mass was hanging on it.

Mass (g)	Length of Spring (cm)	Extension of Spring (cm)
100	3.8	1.8
200	6.0	4.0
300	8.2	6.2
400	9.9	
500	12.0	10.0

- (a) Calculate the extension of the spring when 400g hangs on it. (1)

- (b) Draw a **line graph on graph paper** to show how the mass on the spring affects the **extension** of the spring.

Here's a helpful hint to get you started!



(3)

3. Copy and complete the following sentences:
*"The force of gravity acting on an object is called the _____ of the object. It is measured in _____. Big planets have big **gravitational field strengths**. On Earth, the gravitational field strength is _____ N / kg."*

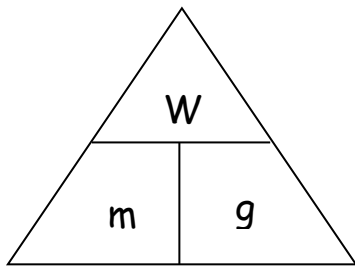
(3)
TOTAL = 10

FORCES – CORE HOMEWORK 2

1. What do we use to measure the size of a force? (1)
2. A rock on a certain planet has a mass of 2kg and its weight is 24N.

Use an equation to calculate the gravitational field strength of this planet.
You must show your working.

Here's a start ...



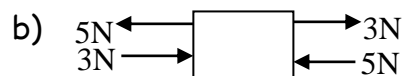
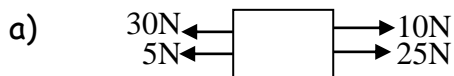
$$W =$$

$$m =$$

$$g =$$

(3)

2. Give 2 examples of ways to reduce the force of friction. (2)
3. A 1kg mass weighs 10N when measured with a Newton balance. The reading on the balance drops to 8.5N when the mass is put under water. Explain why the reading is different for the mass under water. (2)
4. Look at each of the following diagrams and state whether the forces are **balanced** or **unbalanced**. (2)



TOTAL = 10