

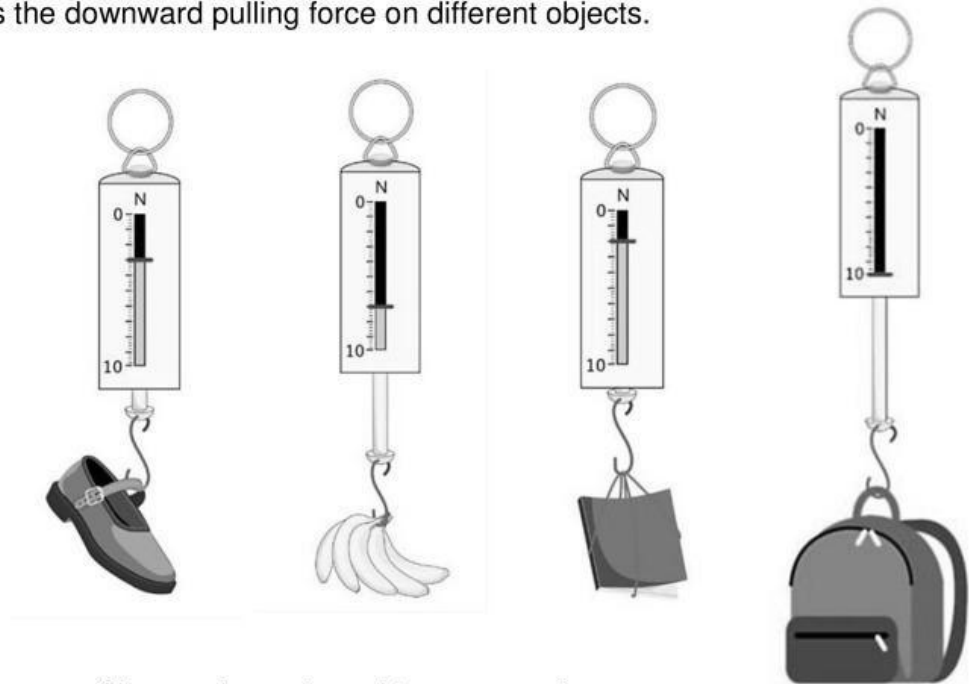
Primary Science Stage 3 - Unit 5 - Revision

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Unit 5: Forces and magnets

5.1 Forces and forcemeter

1. Tien investigates the downward pulling force on different objects.



a. Write down the name of the equipment used to measure force.

[1]

b. He records his results in the table.

objects	_____ (N)
shoe	3
banana	_____
book	2
bag	10

i. The result for the **banana** is missing. Write down the result for the banana in the table. [1]

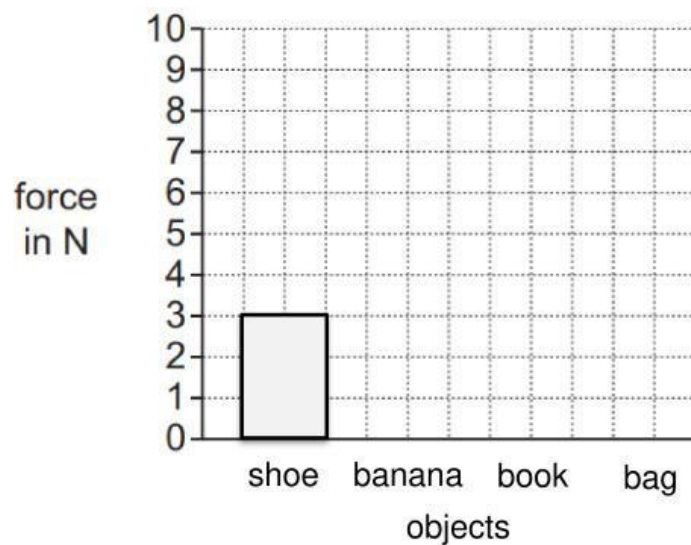
ii. What unit of measurement is represented by (N)? [1]

iii. Complete the number sentence below. [1]

Bag = _____ + _____

c. Draw a bar chart to show his results. One bar has been drawn for you.

[2]



d. Tien wants to use apples instead of forcemeter to measure the force of the objects. Below is his result.

Tien	
shoe	5 apples
banana	7 apples
book	1 apple
bag	12 apples

i. Why are his results different?

[1]

ii. Why is it better to use forcemeter than apples to measure force?

[1]

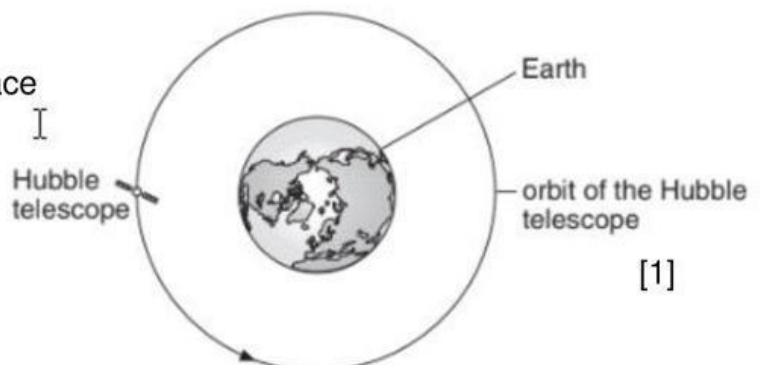
☐ Forcemeter uses standard units in newton.

☐ Forcemeter uses standard units in apples.

5.2 Gravity

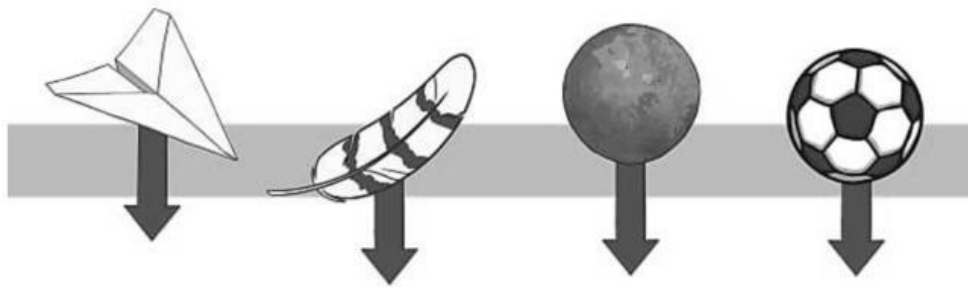
1. Andrew drew a picture of Hubble Space Telescope moving around the Earth.

Draw an arrow to show the force of gravity pulling on the space telescope.



[1]

2. Nikita has four objects shown below.
She dropped them 5 meters above the ground and timed their fall.



- a. She wants to measure the time it takes to reach the ground.
Tick the correct equipment she needs to measure time.

[1]



Before she started the investigation, she predicted that;

“The paper plane will the fall the last”

Below is the result of her investigation.

	objects			
	paper plane	feather	metal ball	soccer ball
time it takes to reach the ground	18 seconds	16 seconds	5 seconds	5 seconds

- b. Was her prediction correct? Why?

[1]

_____, because the _____ took the longest time to fall.

- c. What caused the paper plane and feather to fall slower than the balls?

[1]

5.3 Friction

1. Ruth and Anna test the grip of different shoes of the same size.
They put each shoe on a table and attach a forcemeter to measure the force needed to move the shoe.



They record the forces needed to make each shoe move.

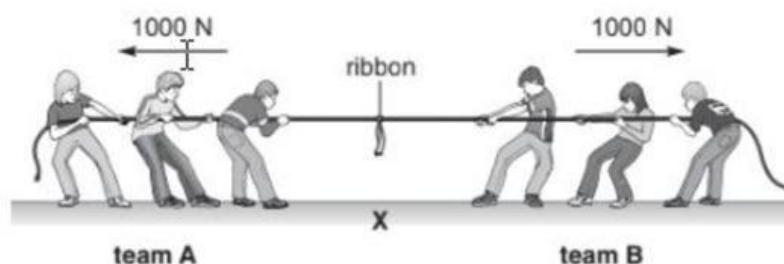
shoe	force in Newtons
A	0.5
B	2.1
C	1.4

- a. Which shoe has the best grip? [1]

- b. Which shoe has the least grip? [1]

- c. To make the test fair, which of the following must be kept the same? [1]
☐ The type of shoe ☐ The type of surface
- d. What force slows down moving objects? [1]
☐ gravity ☐ friction
- e. Ruth and Anna chose shoe B for hiking. In what way shoe B is good for hiking? [1]
☐ Shoe B has the best grip and will help them not to slide.
☐ Shoe B has the least grip and will help them not to slide.

2. Team A and Team B competes for tug-of-war game.



Circle the correct word that best complete the sentence. [3]

- a. The force shown above is [**pulling** / **pushing**].
- b. Each team exerts an [**equal** / **unequal**] amount of forces.
- c. There is [**friction** / **gravity**] between the rope and their hands.

5.4-5.5. Magnets

1. Magnets have two poles, N and S.



a. What is **N**?

Circle the correct answer.

[1]

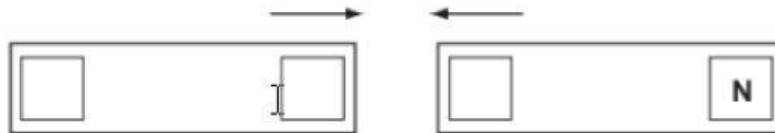
north edge

north end

north part

north pole

b. These two magnets attract each other. Label the missing poles of the magnets below. Write N or S in the box. [1]



c. The table below shows materials classified as magnetic and non-magnetic.

Magnetic objects	Non-magnetic objects
steel clip iron nail aluminium	rubber eraser gold necklace wooden stick

i. Write the material that does not belong to the group.

[1]

ii. What equipment do we use to test if a material is magnetic?

[1]

iii. Are all metals magnetic? Why?

[1]

_____, because _____ is a metal but is not magnetic.

