

6 Forces in everyday life**6.1 (a) Types of force**

- 1 A pull on an object is a type of
A energy **B force** C speed D mass
- 2 Which of the following is **not** a force?
A Mass B Gravity C Weight D Friction
- 3 Which of the following is a type of force?
A density **B weight** C mass D energy
- 4 Which of the following does not involve a force?
A Kicking a ball C Wiping the table cloth
B Watching TV D Tearing a piece of paper
- 5 Which of the following forces can both be a pulling and pushing force?
A Gravitational force **B Magnetic force** C Frictional force D Weight
- 6 Gravitational force is a force
A frictional B pushing C magnet D pulling
- 7 The force of gravity pulling a suspended object downwards is its
A distance B height C mass D weight
- 8 A book is resting on a table. Its weight on the table is balanced by a force known as
A push B thrust C action D reaction
- 9 A rubber ball floats on water because its weight is balanced by
A upthrust B gravity C friction D tension
- 10 A steel splinter accidentally entered the eye of a person. To extract it , a doctor uses
A magnetic force B frictional force C turning force D magnetic force
- 11 The following figure shows a crane lifting scrap metals from a rubbish dump. What force is used by the crane?

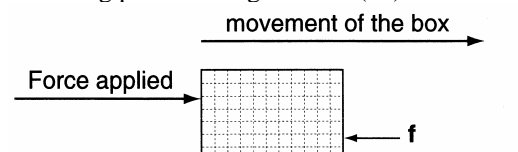


- A magnetic B gravity C friction D compression

6.1(b) Friction

- 1 Friction may be useful or a nuisance. It is useful **except**
- A when tightening a nut
C when climbing a slope
C when striking a match
D when moving parts of machines become hot
- 2 Friction is involved **except** when
- A we walk without slipping
B an astronaut walks in space
C we smoothen surfaces in contact by polishing
D machinery gets worn out
- 3 Which of the following about friction is **not** correct?
- A It always opposes motion
B There are no means to reduce friction between two surfaces
C A moving object comes to rest because of friction
D Moving parts of machines are worn out because of friction
- 4 A wooden crate is pulled along the ground. What should be placed in between surfaces in contact to reduce friction ?
- A grease B rollers C bearings D oil
- 5 School shoes are worn out by
- A friction B repulsion C pressure D heat
- 6 In which of the following is friction a nuisance?
- A Braking system of vehicles
B Walking
C Heat generation in machines
D Writing
- 7 In hovercraft, to reduce friction, is used.
- A wheel and rollers B air cushion C lubricant D ball bearing
- 8 Which of the following does not reduce friction?
- A Ball bearing B Rollers C Lubricating oil D Glue
- 9 Which of the following is **not** used to reduce friction? (97 BJCE)
- A A layer of air to separate two surfaces in contact
B Streamlined shape
C Ball-bearings
D Rough surfaces between the contacts

- 10 The diagram below shows a box being pushed along a floor (98)



What force, f , opposes the movement of the box?

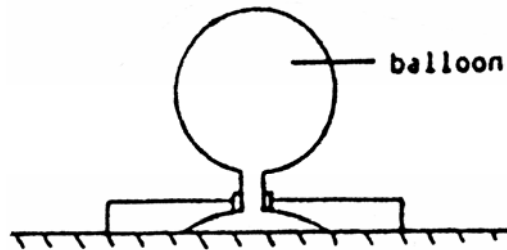
- A friction B gravity C kinetic energy D mass
- 11 A parachutist is able to fall freely through the air safely because of

2

A friction B heat C mass D weight

6.1(b) Friction

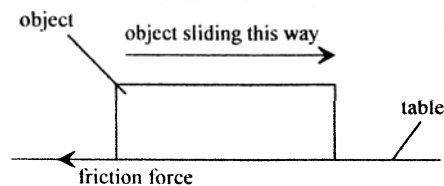
12 The layer of air in between surfaces in contact reduces friction as shown in the figure.



This idea is applied in the

- A glider planes B roller C helicopters D hovercrafts
- 13 A car is traveling along a flat road and all at once the engine stops running It slows down and then comes to a stop Which one of the following explains this? (97 PMB)
- A Friction causes the car to stop
 - B Gravity causes the car to stop
 - C The car just stops naturally
 - D The car runs out of force
- 14 A ball moving with a constant speed on a frictionless surface will
- A increase its speed after some time
 - B stop after some time
 - C change direction after some time
 - D continue moving in the same direction with the same speed
- 15 Which of the following can be used to reduce friction?
- I Ball bearing II Rollers III Grease IV Water
- A I and II only
 - B II and III only
 - C I,II and III only
 - D I,II,III and IV

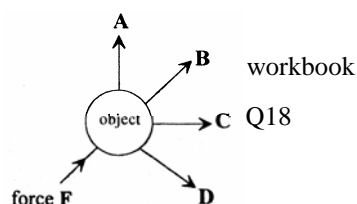
16 An object is pushed and then allowed to slide along a table. The diagram shows the direction of the friction force. What is the effect of the friction force on the sliding object?



- A Has no effect
- B Slows it down
- C Increases in weight
- D Speeds it up

6.2 Effects of force

- 1 A force applied in the direction of motion of the moving body will make the body
- A move faster
B move slower
C move in opposite direction
D stop
- 2 The effects of a force cannot be
- A seen B heard C felt D measured
- 3 The force cannot change the
- A size of an object
B speed of an object
C mass of an object
D shape of an object
- 4 A force can change the of an object
- A shape B colour C content D mass
- 5 Exerting a force on a moving object may result in a change of
- A direction B mass C volume D weight
- 6 Ahmad moulded a piece of plasticine into a bird. This shows that a force
- A makes plasticine very soft
B can change the shape of things
C can change the state of plasticine
D is a gravitational pull
- 7 When a piece of soft clay is moulded, it proves that a force can
- A change direction
B change the laws of gravity
C change the shape of something
D change the contents of something
- 8 A girl, **X**, squats on a trolley facing another girl, **Y**, on a another trolley. What would happen if **X** pushes **Y**?
- A **X** moves backward and **Y** does not move
B **Y** moves backward and **X** does not move
C **X** moves forward while **Y** moves backward
D **X** and **Y** move in opposite directions
- 9 Forces can have many effects. Which of the following **cannot** be changed by a force?
- A speed of the motion
B mass of the body
C shape of the body
D direction of motion
- 10 Forces cannot be seen but their effects can. Which one of the following is **not** produced by forces? (95)
- A a change in the shape of a body
B a change in the speed of a moving body
C a change in the direction of moving body
D a change in the mass of a body
- 11 A car slows down and stops in front of a traffic light. A braking force has changed the car's
- A direction B shape C speed D weight
- 12 A force, **F**, is applied to an object as shown in the diagram. In which direction will the object move?



6.3 Measurements of force

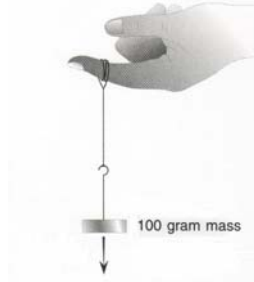
1 The unit of force is the

- A kilogram B metre C joule D newton

2 1 kg of substance weighs

- A 1N B 1.6N C 10N D 16N

3 The following figure shows a suspended 100 gram mass. What is the weight ?

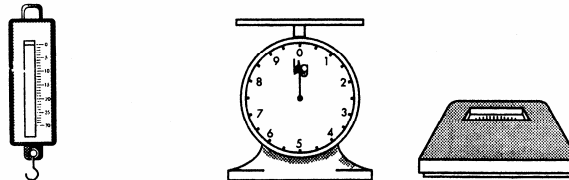


- A 0.1 newton B 1 newton C 10 newton D 100 newton

4 A load is placed on a spring balance and a beam balance. What is measured by each balance?

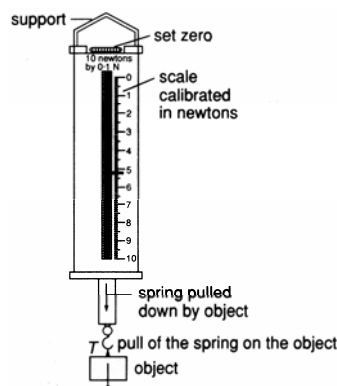
	Spring balance	beam balance
A	mass	density
B	mass	weight
C	weight	density
D	weight	mass

5 The figure shows different kinds of spring balances. What is the quantity and the unit measured?



	Quantity	Unit
A	mass	kg
B	weight	N
C	weight	J
D	mass	N

6 The following figure shows an object hung to a spring balance. What is the quantity measured and the value shown?

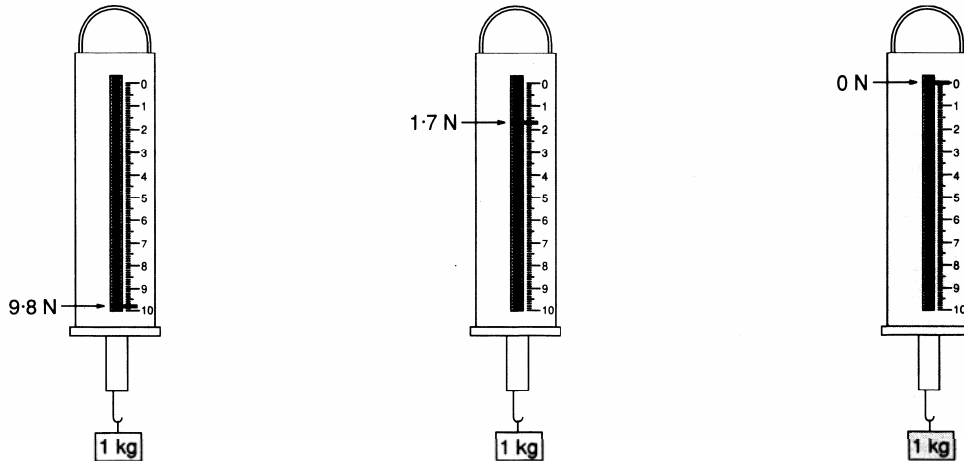


	Quantity	Value
A	mass	5 kg
B	mass	5 N

- C weight 5 kg
- D weight 5 N

6.3 Measurements of force

7 The following figure shows weights of a 1 kg mass measured by a spring balance in three different places. The values in different places are



- | | Earth | moon | outer space |
|---|-------|------|-------------|
| A | 9.8N | 1.7N | zero |
| B | 1.7N | 9.8N | zero |
| C | 9.8N | zero | 1.7N |
| D | zero | 1.7N | 9.8N |

8 What is the weight shown on the following spring balance?



- A 1.4 g
- B 1.4 N
- C 1.8 N
- D 1.8 g

6 Forces in everyday life

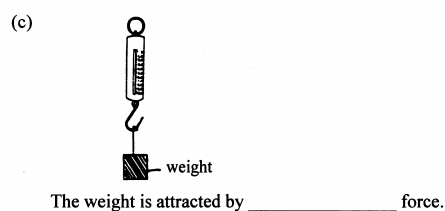
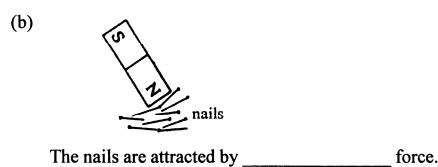
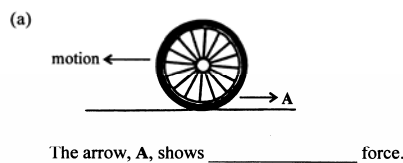
1 State the type of force involved in the situations described in the table

Situations	Types of force
(a) A bullet train being lifted above its track	
(b) Holding a glass cup without slipping through the fingers	
(c) A durian falling from a tree	

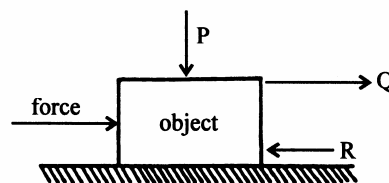
2 Study the situations described in the table below. State whether a push or a pull is applied to each object. State the effect of force in each situation.

Situation	Push or Pull	Effect of force
(a) A car is braked		
(b) A swimming suit is stretched		
(c) A rocket blasts off into space		
(d) A satellite orbits the earth at constant speed		

3 Name the forces present in each of the following.



4 A force is exerted on an object as shown.



- (a) Which alphabet represents the frictional force?
- (b) The object will move in the direction of
- (c) Suggest one way of overcoming the frictional force

Section C

- 1 (a) What is a frictional force?
- (b) State two advantages and two disadvantages of friction?

- (c) Name two ways of overcoming friction in moving machine parts
- (d) Explain why cars with worn-out tyres skid easily on rainy days.

CONTENTS

1 Introducing Science

- 1.1 Laboratory safety
- 1.2 Handling common laboratory apparatus
- 1.3 Measurements
- 1 Section B & C

2 Matter

- 2.1(a) Properties of matter
- 2.1(b) Space between particles & Brownian motion
- 2.1(c) Diffusion
- 2.1(d) Elements, compounds and mixtures
- 2.1(e) Filtration & Evaporation
- 2.1(f) Distillation
- 2.1(g) Paper chromatography
- 2.2(a) Gases in the air
- 2.2(b) Air pollution
- 2 Section B & C

3 Energy around us

- 3.1 Sources and forms of energy
- 3.2 Transformation of energy
- 3.3 Conservation of energy
- 3 Section B & C

4 Grouping of living things

- 4.1 Characteristics of living things
- 4.2(a) Diversity and classification of plant life
- 4.2(b) (i) Vertebrates
- 4.2(b) (ii) Invertebrates
- 4.3(a) Cells
- 4.3(b) Tissues
- 4.3(c) Organs and systems
- 4 Section B & C

5 Basic ideas of electricity

- 5.1 Electric current and source
- 5.2 Simple electrical circuits
- 5.3 Use of ammeters and voltmeters
- 5 Section B & C

6 Forces in everyday life

- 6.1(a) Types of force
- 6.1(b) Friction
- 6.2 Effects of force
- 6.3 Measurements of force
- 6 Section B & C

