

RAINBOW INTERNATIONAL SCHOOL,

RIYADH, SAUDI ARABIA

GRADE 6- SCIENCE – Revision sheet.

Chapter 4: Forces and Motion

4.1 Mass and Weight

I. Fill in the blanks:

- a) Mass is the amount of __matter_____contained in an object.
- b) Mass is measured in____kilograms/grams_
- c) On the earth mass of an object is the __same_____ as its weight
- d) Weight is defined as the amount of _____gravitational_____ force acting on an object
- e) Weight changes because of ____change in pull of gravity_____
- f) There is no force of gravity in _____space_____
- g) Astronauts float in the space due to__no pull of gravity_____
- h) Weight is measured in _____newton [N]_____
- i) An object weighs _____more_____at sea level than that at top of a mountain

II. Answer the following;

1. Define mass:

It is the amount of matter in an object

2. Define weight

It is the pull of gravity of an object

3. a) Describe what will happen to mass and weight when you go to the moon?

Mass remains the same but weight gets less than on the Earth.

b) Why would this happen?

Because the gravity on the moon is less than on the Earth.

4. What are the two things on which gravity depends?

1....Mass of the object

2...The distance between the objects

4.2,4.4: How forces act and the effect of forces:

I. Fill in the blanks;

1. Any push or pull: __Force_____

2. Force diagram____ show the direction and sizes of forces

3. Force always acts in____pairs_____

4. Force can be measured by using a____force meter_____

5. The unit to measure force_____newton_____

II. Answer the following:

1) What is a force?

It is a pull or push of an object

2) Name some effects of forces:

It can change the speed or direction of a moving object

It can stop a moving object

It can change the shape of an object

4.3 Balanced and unbalanced forces:

I. Fill in the blanks:

a) An unequal force always causes a change in _____position_____

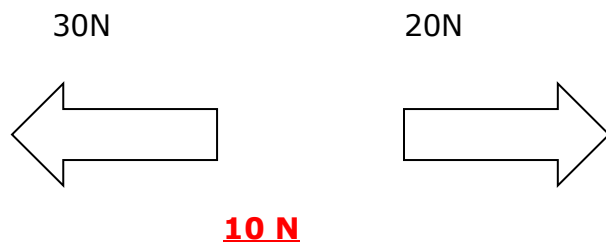
b) When the forces are _____equal_____the object does not move.

c) If the net force on an object is not zero, then the forces are _____equal_____

d) When the forces are in the _____opposite_____ direction, the net force is the difference between the forces

II. Answer the following;

1) What is the net force?



It is a balanced force because the net force is zero

b) How friction is useful?

It help us to walk and hold things

Helps to stop or slow down a moving object

c) How can we reduce friction?

By applying lubricants

By polishing surfaces

By adding wheels

d) What are the harmful effects of friction?

It produces heat

It produces noise

It causes wear and tear

4.8 Air resistance and drag:

I. Fill in the blanks:

1) The frictional force which is acting on an object when it moves through air is called:___air resistance_____

2) Air resistance is a ___pushing_____force which is -exerted against a falling object.

3) Answer the following:

i) What factors affect air resistance?

I ...Mass of the object . II Surface area of the object

ii) a) What direction do the forces of air resistance and gravity act on a falling object?

Air resistance in the upward direction, gravity in the down ward direction

b) If a sky diver jumps out of a plane which force is greater? Gravity or air resistance?

Gravity

4) Why does a feather fall slower than a tennis ball?

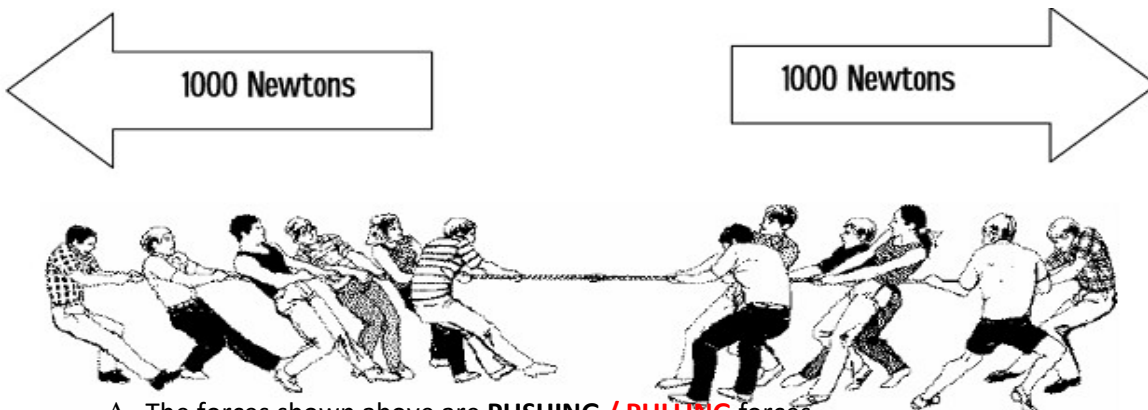
A feather has more surface area, so more air resistance

1. Name the following:

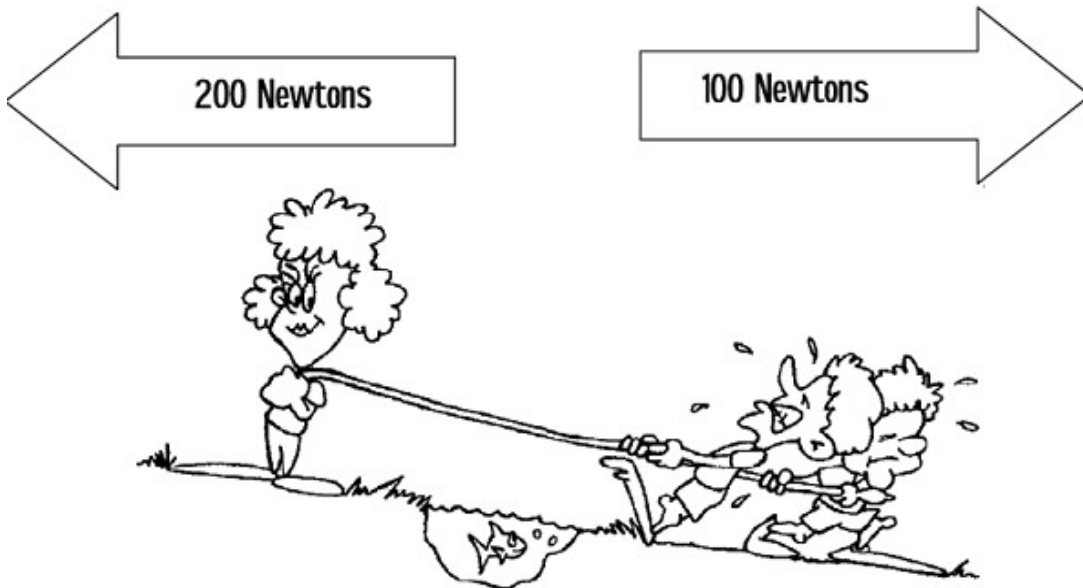
Frictional force

- i) A force that tries to slow things down when two things rub together
ii) force that tries to slow things that are moving through air.....air resistance.....
iii) When two forces working in opposite directions are not the same strength..—Un balanced—force—
iv) The amount of force on something from gravity .It is measured in Newtons. weight
v unit of force(N).——Newton——
vi) push or a pull.——Force——
vii) A piece of equipment containing a spring that is used to measure forces..——Force meter——

2. Circle the best answer:



- A. The forces shown above are **PUSHING / PULLING** forces.
B. The forces shown above are **WORKING TOGETHER / OPPOSITE FORCES**.
C. The forces are **EQUAL / NOT EQUAL**.
D. The forces **DO / DO NOT** balance each other.
E. The resultant force is **1000 N TO THE RIGHT / 1000 N TO THE LEFT / ZERO**.
F. There **IS / IS NO** motion.



3 ..

- A. The forces shown above are **PUSHING / PULLING** forces.
- B. The forces shown above are **WORKING TOGETHER / OPPOSITE FORCES**.
- C. The forces are **EQUAL / NOT EQUAL**.
- D. The forces **DO / DO NOT** balance each other.
- E. The stronger force is pulling to the **RIGHT / LEFT**.
- F. The weaker force is pulling to the **RIGHT / LEFT**.
- G. Motion is to the **RIGHT / LEFT**.

4..i. When forces are balanced, the total force -----

- a. is greater than the sum of the forces
- b. is zero
- c. is negative
- d. is equal to the largest force

ii . A force is which one of these?

- a. a push
- b. a push or pull
- c. a pull
- d. none of these

iii. Force is measured in which units?

- a. kilograms
- b. newtons
- c. degrees
- d. m/s²

5..Give **two** examples of a **pushing** force **AND two** examples of a **pulling** force:

Pushing Force

Pulling Force

- 1- closing a drawer
- 1- opening a drawer

Chapter 5

Electrical Conductors and Insulators

5.1

I. Fill in the blanks:

1. _____plastic_____ is a poor conductor of electricity
2. Metals are electrical _____conductors_____
3. Non-metals are ____insulators_____
4. The outer layer of plastic is an____insulator_____

II. Answer the following;

1. a) Differentiate conductors and insulators with two examples each;

Conductors

Materials that allow electricity to pass through them

Ex. Metals

Insulators

Materials that do not allow electricity to pass through them.

Ex. Non metals

- b) Why is copper used for making electric wires?

Because it is a good conductor of electricity

2. Give reason

- a) Why electric wires have plastic covering?

Plastic is an insulator so to prevent from getting electric shocks wires are covered with plastic.

- b) A metal spoon becomes warm when it is used to stir warm objects.

Because metals are good conductors of heat.

5.2

I. Fill in the blanks;

1. Pure water is a bad conductor of electricity

2. Muddy water water can conduct electricity

3. Answer;

Does pure water conduct electricity? If not, how can we achieve to conduct electricity through pure water?

-No, pure water is not a good conductor. By adding some salts.

II. Give reasons;

Tap water is a good conductor of electricity whereas distilled water is not.

Tap water has dissolved salts but distilled water does not contain any salts

III. State whether true or false:

1. Rubber is a good conductor of electricity: False

2. Plastics are poor conductor of electricity: True

3. All liquids conduct electricity: False

4. Pure water conducts electricity: False

5. Distilled water is free of salts: True

6. Distilled water when mixed with salt conducts electricity: True

5.3

I. Answer the following;

1. a) What is current?

Current is the rate at which the electric charges flow through a conductor

b). How do we measure current?

By using a multi meter.

c). What is the unit of current?

Amperes

2. What is an alloy? Give two examples.

An alloy is a mixture of two or more metals... .Ex. Steel, Brass

3. a) Do all metals conduct electricity?

yes

b) Why do some metals conduct electricity better than others?

Some metals have low resistance than others

c) Which metals conduct electricity best?

Silver, Copper, Gold

5.4

I. Give reasons;

1. Metals are used for the pin in a plug:

The pins allow electricity to travel from the wall socket, through the plug in to an appliance.

2. A plug has a plastic cover

Plastic is an insulator , so you don't get a shock

3. You can get a shock if you touch the live wires

Electricity will flow through you as you are a conductor

4. Never place an electric wire under a carpet

The plastic wears off the copper wire as people walk and may cause a fire

5. Turn off the switch before you pull out the plug.

To prevent an electric shock

Q.1 Choose the best answer.

1. In a simple series circuit, the bulb lights up when the switch is turned on because:
 - A. the switch produces electricity
 - B. the gap in the circuit is closed
 - C. the switch breaks the circuit
 - D. the circuit is open

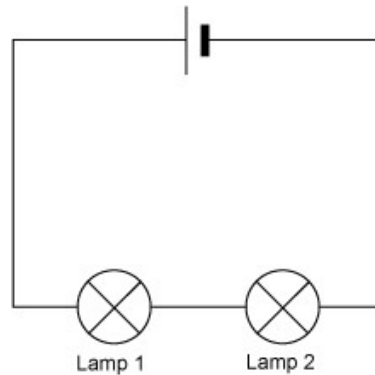
2. Imagine a simple series circuit with one 1.5V battery and one bulb. When the 1.5V battery is replaced with a 3V battery:
 - A. the bulb gets brighter
 - B. the bulb gets dimmer
 - C. the bulb stays at the same level of brightness
 - D. the brightness of the bulb decreases

3. Why might a bulb burn out when a 1.5V battery and a 3V battery are both connected across it in series circuit?
 - A. There is not enough electricity flowing around the circuit
 - B. Too much electricity flows through the bulb's filament and the bulb blows
 - C. The batteries are flat
 - D. There is not enough current in the circuit

4. What is the effect of changing the wire in a circuit from a straight thick wire to a straight thin wire?
 - A. The bulbs become dimmer
 - B. The bulbs become brighter
 - C. The bulbs stay at the same level of brightness
 - D. The bulbs burn out

5. If lamp 1 is unscrewed from its holder, what will happen to lamp 2?

- A. it will not glow
- B. it will keep on working
- C. it will get brighter
- D. it will get dimmer



Q.2 Answer the following questions.

- a. Will a thicker or thinner copper wire of the same length allow more electric current to pass through?

_____ The thicker wire has lesser resistance

—

- b. The handles of screwdrivers and pliers used by electrician for repair have plastic or rubber covering.

Because both are insulators

- c. Will a copper or Aluminum wire of the same length and thickness allow more electric current to pass through?

Copper ,because it has more conductivity

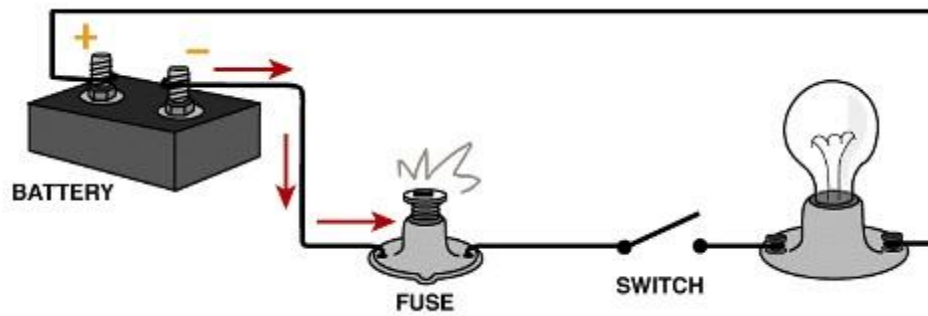
Q.3 Identify the factors that affect the brightness of the bulb(s) in a circuit.

The number of batteries

The thickness of the wires

The length of the wire

Q.4 Will the bulb glow in the circuit drawn below? Explain your answer.



No, because the circuit is open

