1 Which of the following indicates the correct sequence of travel of an unfertilised ovum from the beginning until it leaves the female body?

A Ovary→Uterus→Oviduct→Vagina

B Uterus→Vagina→Oviduct→Ovary

C Uterus→Oviduct→Vagina→Ovary

D Ovary→Oviduct→Uterus→Vagina

2 Which body changes happen during puberty in both girls and boys?

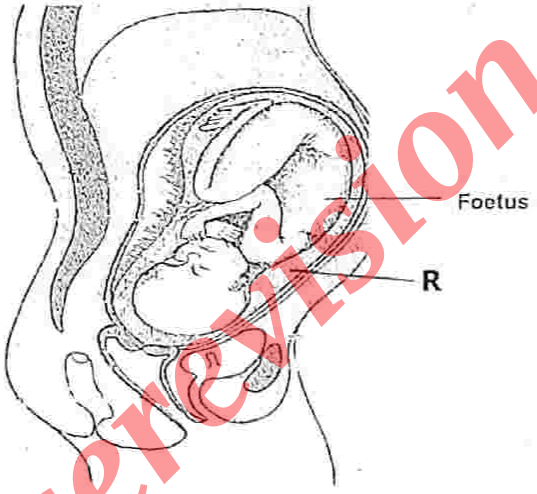
A Body grows rapidly.

B Breasts grow large.

C Pubic hair grows around the vulva.

D Pubic hair grows at the base of the penis.

3 The diagram below shows the position of a foetus just before birth in humans.



The function of the part labelled **R** is to ...

A prevent miscarriage.

B protect the foetus from mechanical shock.

C stabilise temperature around the foetus.

D push the foetus down during childbirth.

4 A woman has a pregnancy which is 24 weeks. How many weeks is she remaining with in order for her to have a normal birth?

A 10

B 12

C 16

D 18

5 The table below shows nutrients and their sources.

	Nutrient	Source
A	Fats	Butter, Cassava, Cooking Oil
B	Proteins	Meat, Rape, Groundnuts
C	Vitamin D	Eggs, Milk, Apples
D	Carbohydrates	Maize, Potatoes, Cassava

Which of the above correctly shows the nutrient and its corresponding source?

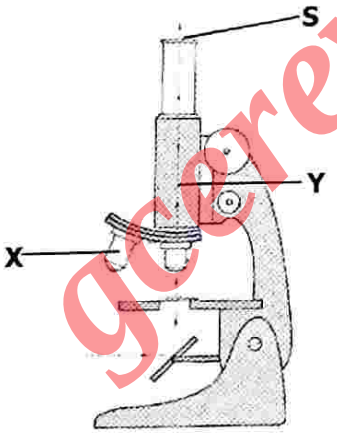
6 The disease that occurs in children because of luck of protein in the diet is ...

A kwashiorkor.
B marasmus.
C rickets.
D scurvy.

7 Which of the following is **not** a natural cause of air pollution?

A Forest fires
B Wind erosion
C Volcanic eruptions
D Waste from incinerators

8 The diagram below shows parts of a microscope.



Identify the parts labelled **S**, **X** and **Y**.

	S	X	Y
A	Eyepiece	Objective lens	Body tube
B	Body tube	Eyepiece	Rotating nose piece
C	Eyepiece lens	Rotating nose tube	Body tube
D	Rotating nose piece	Objective lens	Eyepiece

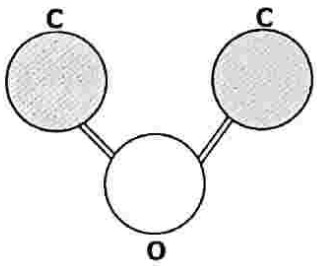
9 The process in plants that makes it possible for water and mineral salts to move from the roots to the rest of the plant is ...

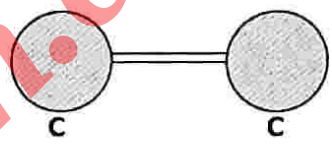
A osmosis.
B respiration.
C transpiration.
D photosynthesis.

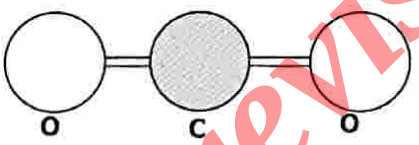
10 Which set correctly shows parts that are found in both plant and animal cells?

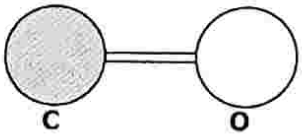
A Nucleus, Cell wall and Cell membrane
B Chloroplast, Nucleus and Cell membrane
C Cytoplasm, Cell membrane and Nucleus
D Cell wall, Cytoplasm and Cell membrane

11 Which of the following correctly gives the model of a carbon dioxide molecule?

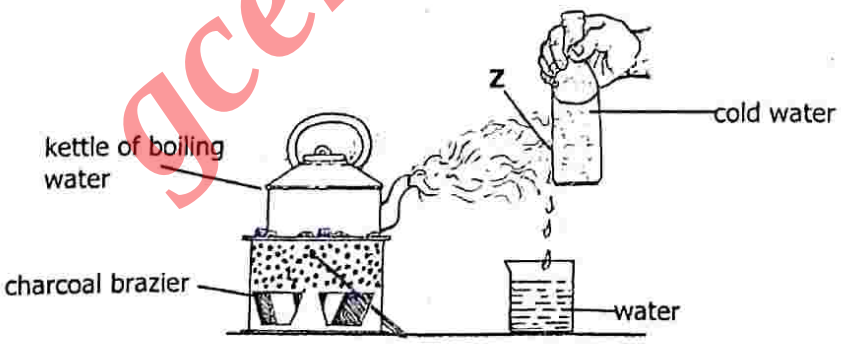
A


B


C


D


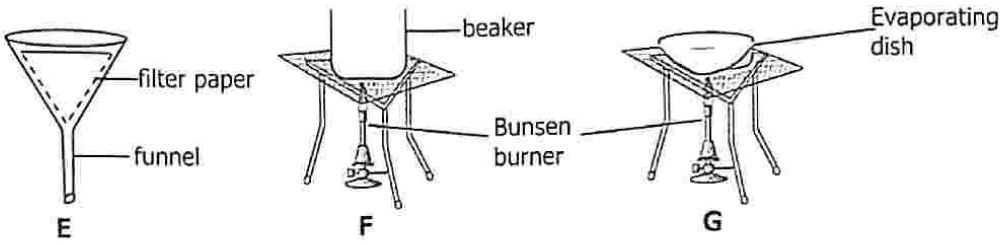
12 The diagram below shows water being heated in a kettle.



What change of state is shown at point **Z**?

A Boiling
B Condensation
C Evaporation
D Melting

13 The diagrams below show three sets of apparatus labelled **E**, **F** and **G**.



Which apparatus would be used to obtain separate samples of sand and salt from a mixture of sand and sea water?

A E only
B G only
C F and G
D E and G

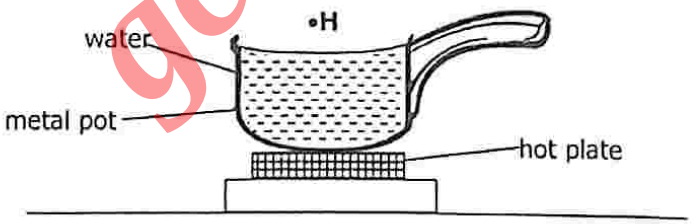
14 Calculate the weight of a 15kg mass on the earth's surface. (Take the gravitational force to be 10N/kg)

A 1.5N
B 5.0N
C 150.0N
D 1 500.0N

15 A beaker containing 40cm^3 of liquid **F** weighed 90g. What is the density of liquid **F** if the mass of the beaker is 30g?

A 0.67g/cm^3
B 1.50g/cm^3
C 2.25g/cm^3
D 3.00g/cm^3

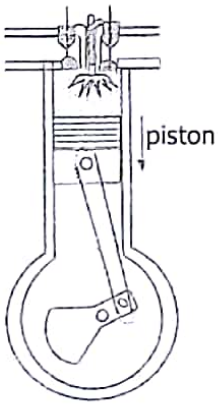
16 The diagram below shows a metal pot containing water placed on a hot plate.



After some time the air at point **H** became hot. Which of the following gives the main ways through which heat travels up to point **H**?

	From hot plate to the pot	Through the water	From the surface of water to point H
A	Conduction	Convection	Convection
B	Conduction	Radiation	Convection
C	Convection	Convection	Conduction
D	Convection	Conduction	Radiation

17 Study the diagram below which shows the power stroke stage of a four stroke combustion engine.



What process causes the piston in the cylinder to move downwards?

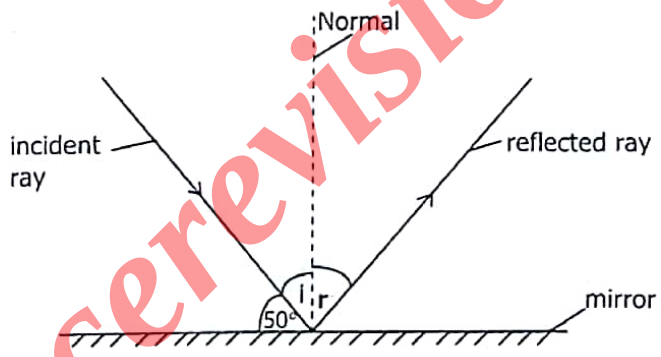
A Compression

B Contraction

C Convection

D Expansion

18 Study the diagram below.



The angle of reflection **r** is ...

A 25°.

B 40°.

C 50°.

D 90°.

19 The table below shows the approximate percentages by volume of gases in air.

Gas	Percentage of gas in air
I	0.03
J	0.97
K	21
L	78

Identify gases **I**, **J**, **K** and **L**.

	I	J	K	L
A	Nitrogen	Carbon dioxide	Inert gases	Oxygen
B	Oxygen	Nitrogen	Carbon dioxide	Inert gases
C	Inert gases	Carbon dioxide	Nitrogen	Oxygen
D	Carbon dioxide	Inert gases	Oxygen	Nitrogen

20 Which blood vessel carries blood at high pressure with a high carbon dioxide concentration?

A Aorta

B Vena Cava

C Pulmonary Artery

D Pulmonary Vein

21 Study the incomplete word equation on tissue respiration.

Glucose + M ⟶ N + P + Energy

What substances are **M**, **N** and **P** to complete the equation?

	M	N	P
A	Carbon dioxide	Water	Oxygen
B	Oxygen	Carbon dioxide	Water
C	Water	Carbon dioxide	Oxygen
D	Carbon dioxide	Oxygen	Water

22 Which pair of sexually transmitted infections (STIs) is caused by bacteria?

A HIV and Syphilis

B HIV and Genital Warts

C Gonorrhoea and Syphilis

D Gonorrhoea and Genital Warts

23 Which one of the following does NOT explain the impact of HIV and AIDS on the population?

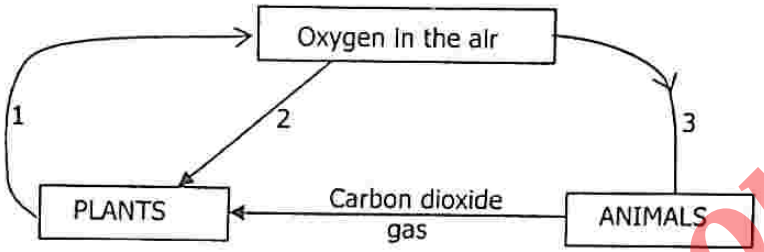
A Increase of orphans

B Increase of poverty

C Decrease of the economy

D Decrease of the pressure on health services

24 Study the diagram below showing the oxygen cycle.



Identify processes **1**, **2** and **3**.

	1	2	3
A	Photosynthesis	Respiration	Respiration
B	Transpiration	Combustion	Respiration
C	Respiration	Photosynthesis	Combustion
D	Combustion	Transpiration	Transpiration

25 Which one of the following is **not** an effective way of water management?

A Ensuring constant supply of water.

B Providing quality and safe drinking water.

C Purifying surface water in rivers, lakes and dams.

D Building dams and water reservoirs.

26 What is the use of chlorine in water management? This is to ...

A kill bacteria in water.

B Improve the taste of water.

C make water clean to drink.

D remove dirty particles from water.

27 Which process can be used to produce a pure plant breed?

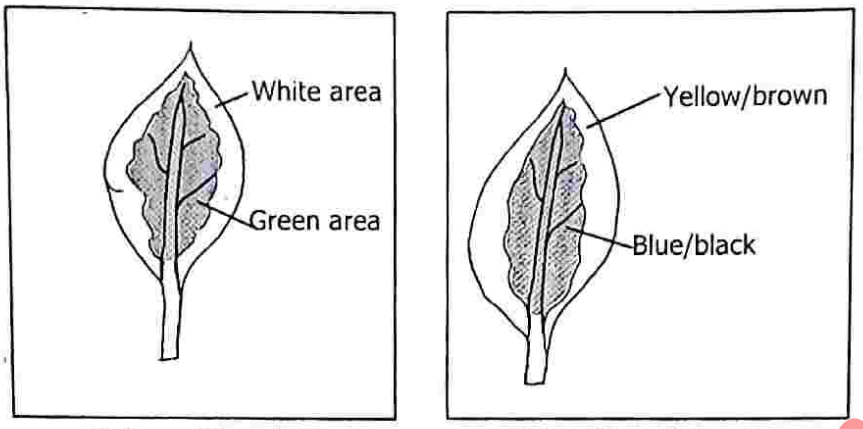
A Cross pollination

B Self pollination

C Natural pollination

D Artificial pollination

28 The diagrams below show a variegated leaf before and after it was tested for starch.



Before Starch Test **After Starch Test**

The best conclusion that can be made from the results is that the white area of the leaf lacked ...

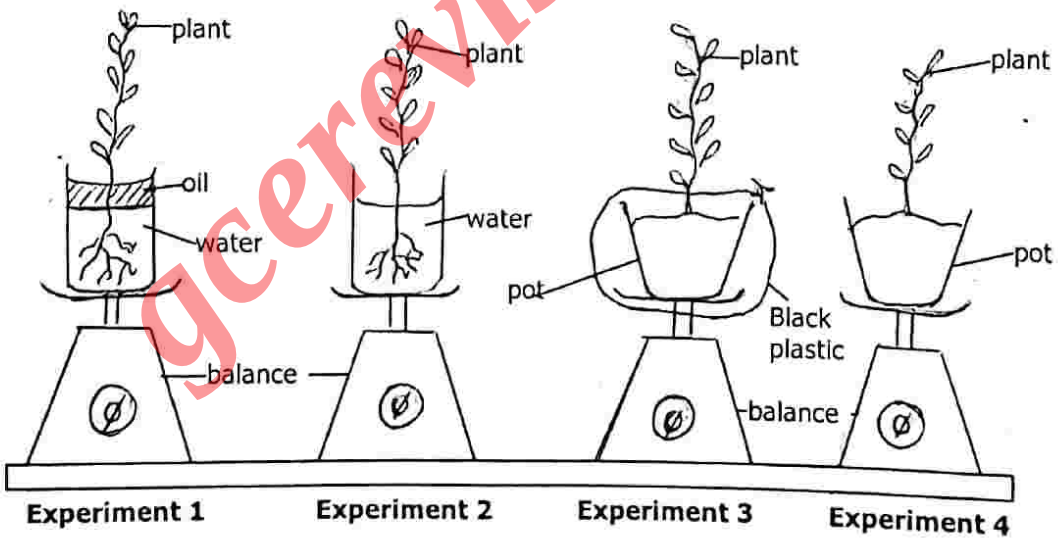
A oxygen.

B sun light.

C chlorophyll.

D carbon dioxide.

29 Study the diagrams below showing experiments on transpiration.



Experiment 1 **Experiment 2** **Experiment 3** **Experiment 4**

After a few days it was observed that the mass in all the experiments had decreased. Which pair shows water loss **mainly** by transpiration?

A 1 and 3

B 3 and 4

C 1 and 2

D 2 and 4

30 Which of the following equations is a double displacement reaction?

A Copper + Oxygen ⟶ Copper II Oxide

B Zinc + Copper Sulphate ⟶ Zinc Sulphate + Copper

C Calcium Carbonate ⟶ Calcium Oxide + Carbon Dioxide

D Sodium Chloride + Silver Nitrate ⟶ Sodium Nitrate + Silver Chloride

31 Which statement below best explains the law of conservation of matter?
The total mass of substances before a chemical reaction is ...

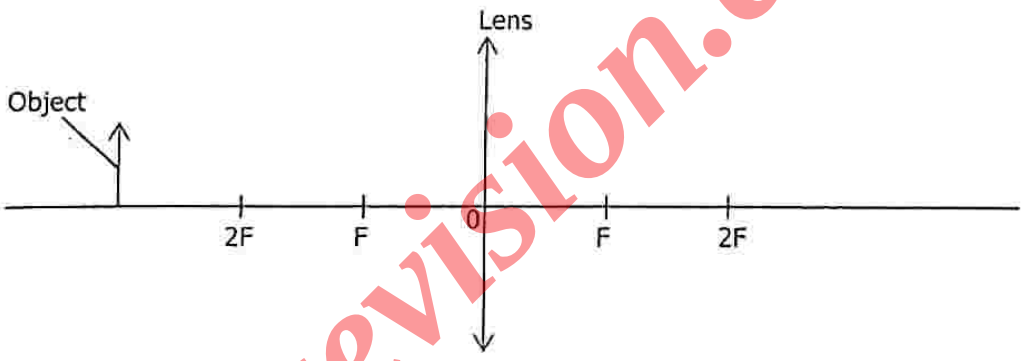
A different from the mass of substances produced.

B equal to the mass of substances produced.

C less than the mass of substances produced.

D more than the mass of substances produced.

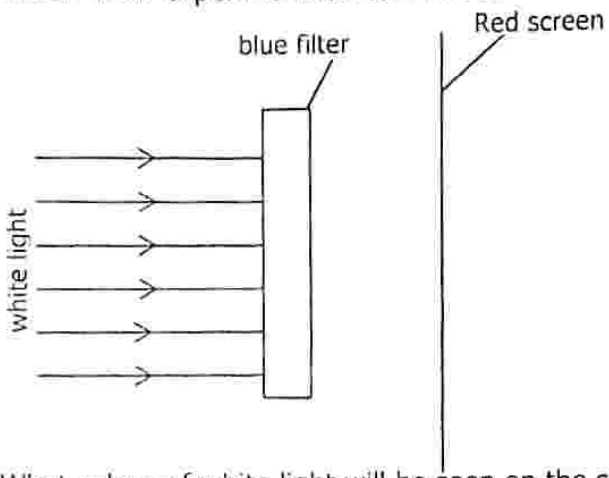
32 The diagram below shows an object placed beyond 2F in front of a converging lens.



Which of the following shows the correct position and nature of the image formed?

	Image Position	Nature of Image
A	At 2F on the right	Same size, real and upside down
B	Between F and 2F on the right	Diminished, real and upside down
C	Between optical centre 0 and F on the left	Magnified, virtual and upright
D	Beyond 2F on the right	Magnified, real and upside down

33 The diagram below shows white light passing through a blue filter onto a red screen in an experiment done in the dark.



What colour of white light will be seen on the screen?

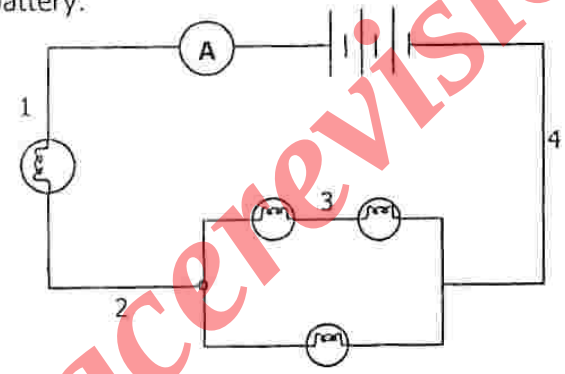
A Red

B Blue

C White

D None

34 The diagram below shows four identical bulbs and an ammeter connected to a battery.



If the ammeter reads 2A, which of the labelled points 1, 2, 3 or 4 in the circuit is the only place where the current is less than 2A?

A 1

B 2

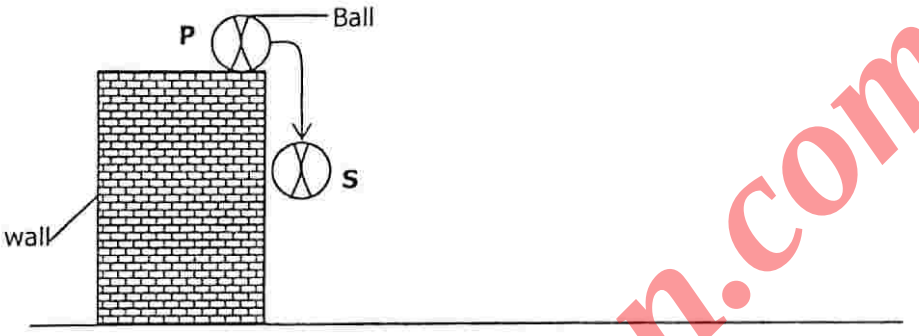
C 3

D 4

35 The ice will break if a pressure on it is greater than $1N/m^2$. If four objects are placed on the ice, which of the following will break the ice?

	Weight of Object (N)	Base area of object (m^2)
A	20	27
B	30	25
C	40	50
D	50	56

36 The diagram below shows a ball as it falls from the top of a wall.



What forms of energy does the ball have at points **P** and **S**?

	P	S
A	Potential	Kinetic
B	Kinetic	Chemical
C	Kinetic	Potential
D	Chemical	Kinetic

37. Which of the following ways of communication disadvantages listeners from referring back immediately?

A Radio
B Email
C Facsimile
D Tape recorder

38 Which of the following devices is **not** used in long distance communication?

A Cell phone
B Traffic lights
C Land phone
D Laptop computer

39 Which of the following makes an electrical signal from a tape recorder stronger?

A Aerial

B Amplifier

C Microphone

D Satellite

40 Which one of the following is not necessary during the transmission of a live football match relayed from the United Kingdom to Zambia?

A Satellite

B Microphone

C Video camera

D Tape