



EXAMINATIONS COUNCIL OF ESWATINI  
Eswatini Primary Certificate Examination

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**SCIENCE**

513/01

Paper 1 Multiple Choice

October/November 2023

1 hour

Additional materials required: Multiple Choice Answer Sheet  
Soft clean eraser  
Soft pencil (type B or HB recommended).

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**READ THESE INSTRUCTIONS FIRST**

Write in soft pencil.

Write your centre number, candidate number and name in the spaces provided on the answer sheet unless this has been done for you.

There are **forty (40)** questions on this paper.  
Answer **all** questions.

For each question there are four possible answers **A, B, C** and **D**.  
Choose the one you consider correct and record your choice on the separate Answer Sheet.

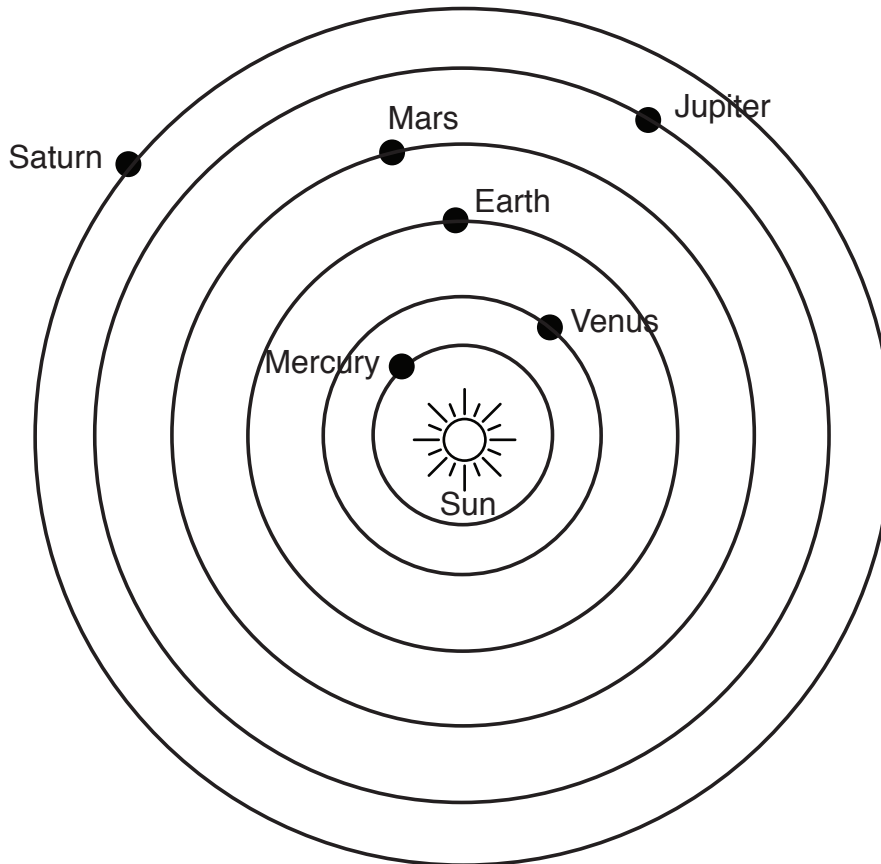
**Read and follow the instructions on the separate Answer Sheet carefully.**

Each correct answer will score **one** mark. A mark will not be deducted for a wrong answer.

Any rough work should be done on this Question Paper and **not** on the Answer Sheet.

Use Fig. 1.1 to answer questions 1 and 2.

Fig. 1.1 shows part of the solar system.



**Fig. 1.1**

- 1 Which of these planets takes lesser time than the earth to orbit the sun.
  - A Mars
  - B Venus
  - C Jupiter
  - D Saturn
  
- 2 Which planet is missing in Fig. 1.1?
  - A Neptune
  - B Pluto
  - C Moon
  - D Galaxy

- 3 Fig. 3.1 shows a skydiver who has just jumped out of an aircraft. She has not yet opened her parachute.

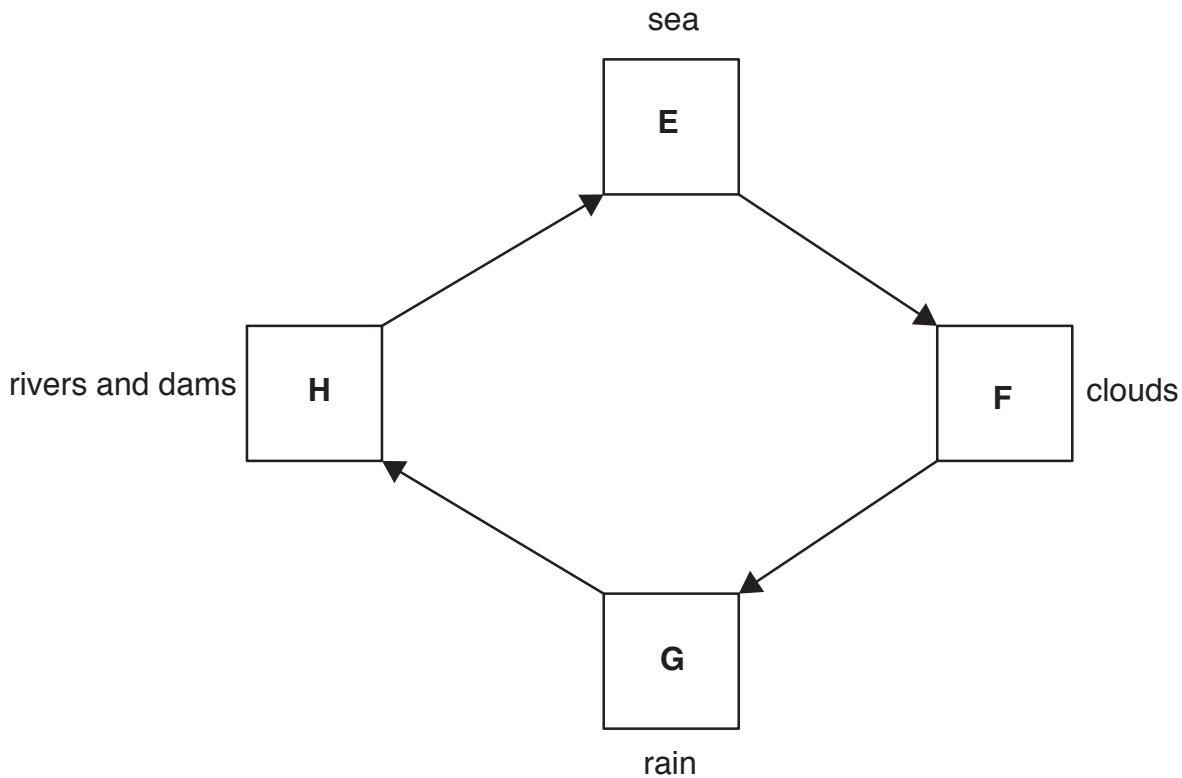


**Fig. 3.1**

Which statement best explains what is happening to the diver in Fig.3.1.

- A she is pulled towards the earth surface by the force of gravity.
  - B she is pushed towards the earth surface by the force of gravity.
  - C she is pulled towards the centre of the earth by the force of gravity.
  - D she is pushed towards the centre of the earth by the force of gravity.
- 4 Which part of the plant gives out excess water?
- A stem
  - B roots
  - C fruits
  - D leaves
- 5 Which form of energy is given off by a burning candle?
- A chemical
  - B potential
  - C sound
  - D light

6 Fig. 6.1 shows the different stages of a water cycle.



**Fig. 6.1**

Which processes take place from stage **E** to **F** in Fig.6.1.

- A** evaporation and condensation
- B** precipitation and transpiration
- C** melting and evaporation
- D** freezing and melting

7 The following statements show practices on using electricity.

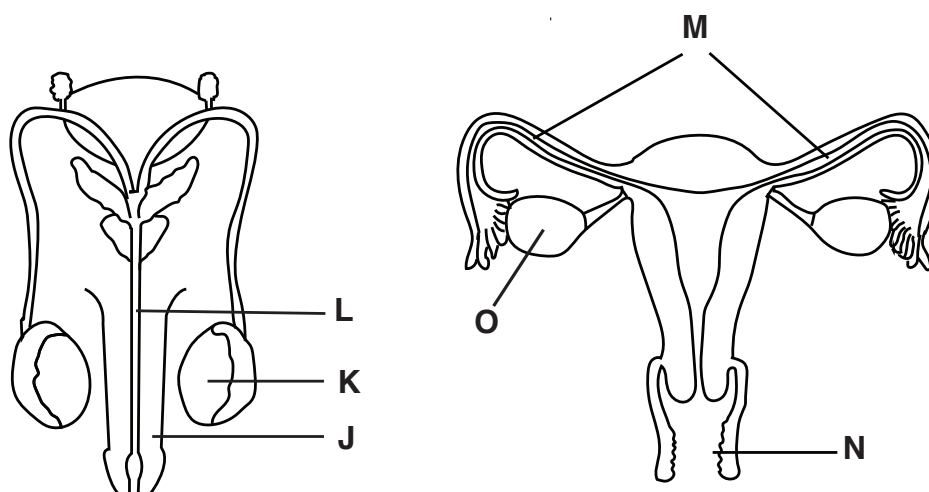
- (i)** Switch off lights in unused rooms.
- (ii)** Use clothes dryer on sunny days.
- (iii)** Use energy saving bulbs

Which letter represents practices to conserve electricity?

- A** I, II and III
- B** I and II only
- C** I and III only
- D** II and III only

Use Fig. 8.1 to answer Questions 8 and 9.

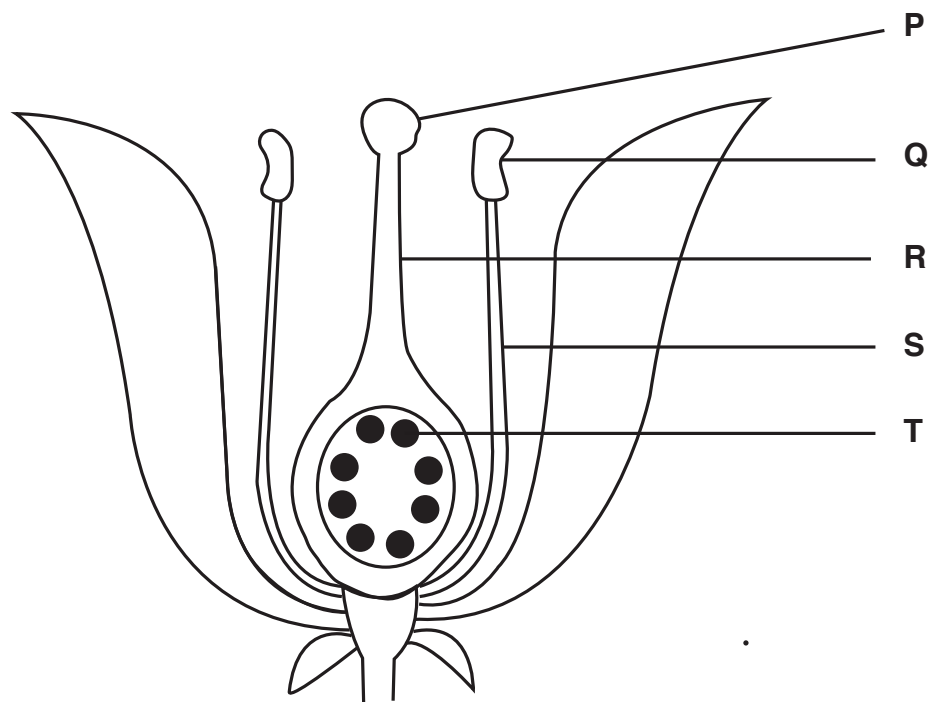
Fig. 8.1 shows the human male and female reproductive systems.



**Fig. 8.1**

- 8 Which letters in Fig.8.1 represent parts of the male and female reproductive systems that perform similar functions?
- A** N and J  
**B** L and O  
**C** K and N  
**D** K and O
- 9 In which part of Fig. 8.1 does fertilisation take place?
- A** J  
**B** M  
**C** N  
**D** O
- 10 What energy changes occur when electricity is generated from the sun?
- A** heat → electrical → chemical  
**B** electrical → heat → chemical  
**C** light → chemical → electrical  
**D** heat → light → electrical

- 11 Which group of organs help in breathing in the human body?
- A nose, gullet, lungs.  
 B diaphragm, nose, gullet.  
 C lungs, chest cavity, wind pipe.  
 D wind pipe, chest cavity, backbone
- 12 Which list shows only the conditions needed for photosynthesis to occur?
- A sunlight, water, carbon dioxide, chlorophyll.  
 B carbon dioxide, warmth, starch, chlorophyll.  
 C water, warmth, carbon dioxide, starch.  
 D oxygen, chlorophyll, starch, sunlight.
- 13 Fig. 13.1 shows a cross section of a flower.



**Fig. 13.1**

Which letters represent the parts involved in pollination?

- A P and Q only  
 B P and T only  
 C Q and T  
 D R and S

- 14 Which of the following objects **does not** possess kinetic energy?
- A lighted torch
- B rotating windmill
- C stone falling off a steep hill
- D small stone released from a sling
- 15 The table below shows four different conditions under which four similar seeds were placed.

U	V	W	X
no light	light	no light	light
no water	water	water	no water
air	air	air	air
30 °C	30 °C	30 °C	30 °C

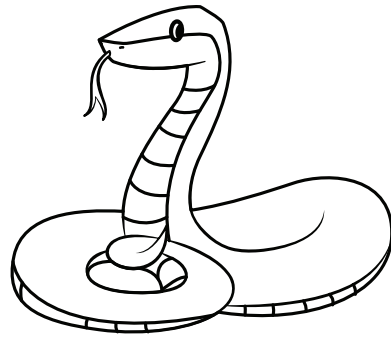
Which of the seeds will germinate?

- A U only
- B X only
- C V and W
- D W and X
- 16 Which of the following ways could prevent the spread of HIV/AIDS?
- A eating healthy food
- B abstaining from sex
- C exercising every day
- D having sex with virgins
- 17 What name is given to the energy that comes from natural resources and can be easily replaced.
- A untapped energy
- B energy in motion
- C non-renewable
- D renewable

- 18 Fig. 18.1 shows two animals, IV and V.



animal IV

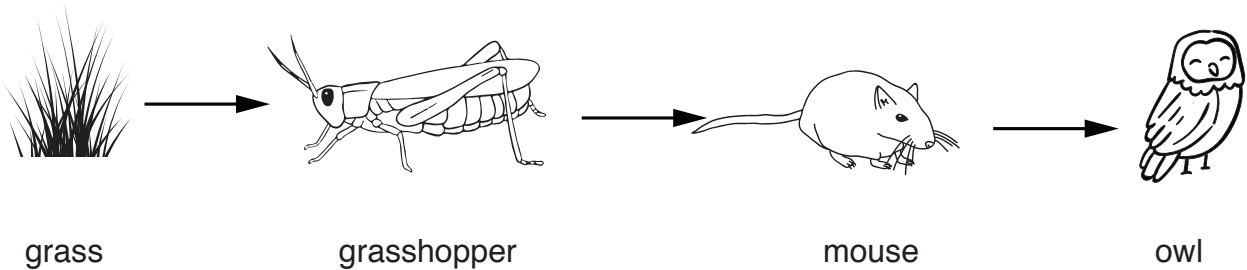


animal V

**Fig. 18.1**

Which statement best describes the two animals in Fig. 18.1?

- A** animal IV is a vertebrate and V is an invertebrate.  
**B** animal V is a vertebrate and IV is an invertebrate.  
**C** both animals IV and V are invertebrates.  
**D** both animals IV and V are vertebrates.
- 19 Fig. 19.1 shows a simple food chain.



**Fig. 19.1**

Which organism in Fig. 19.1 makes its own food?

- A** owl  
**B** grass  
**C** mouse  
**D** grasshopper



20 Which statement best describes a solid?

- A can be easily compressed.
- B has definite volume and shape.
- C has no definite shape and fills the entire space.
- D can flow into the shape of its container and has definite volume.

21 Fig. 21.1 shows a possible model for the solar eclipse.

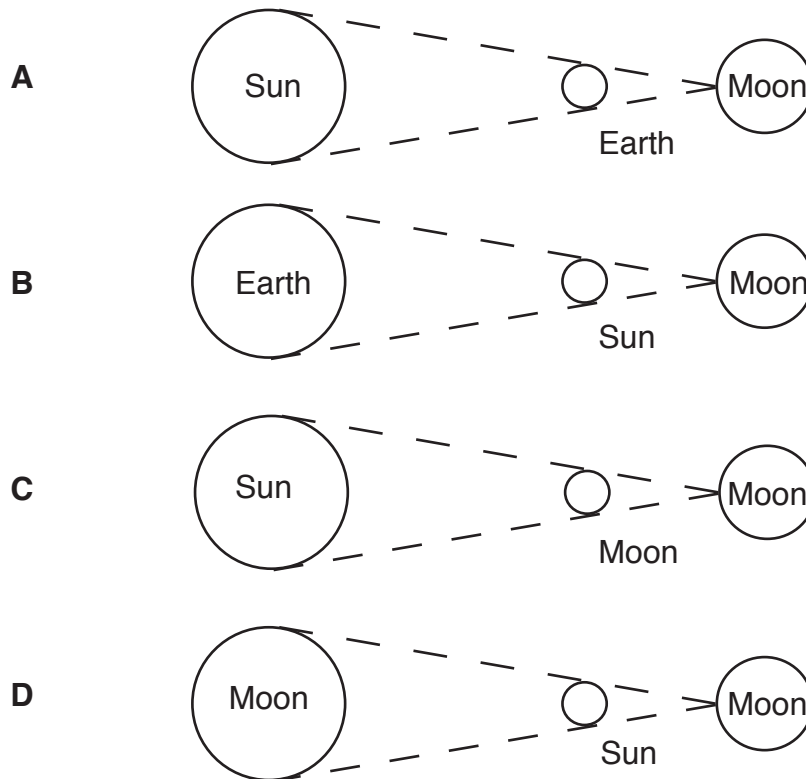


Fig. 21.1

Which diagram in Fig. 21.1 illustrates the correct position of the earth, moon and sun?

22 Which disease is transmitted through sexual intercourse?

- A typhoid
- B cholera
- C malaria
- D gonorrhoea

23 Fig. 23.1 shows some similarities and differences among animals.

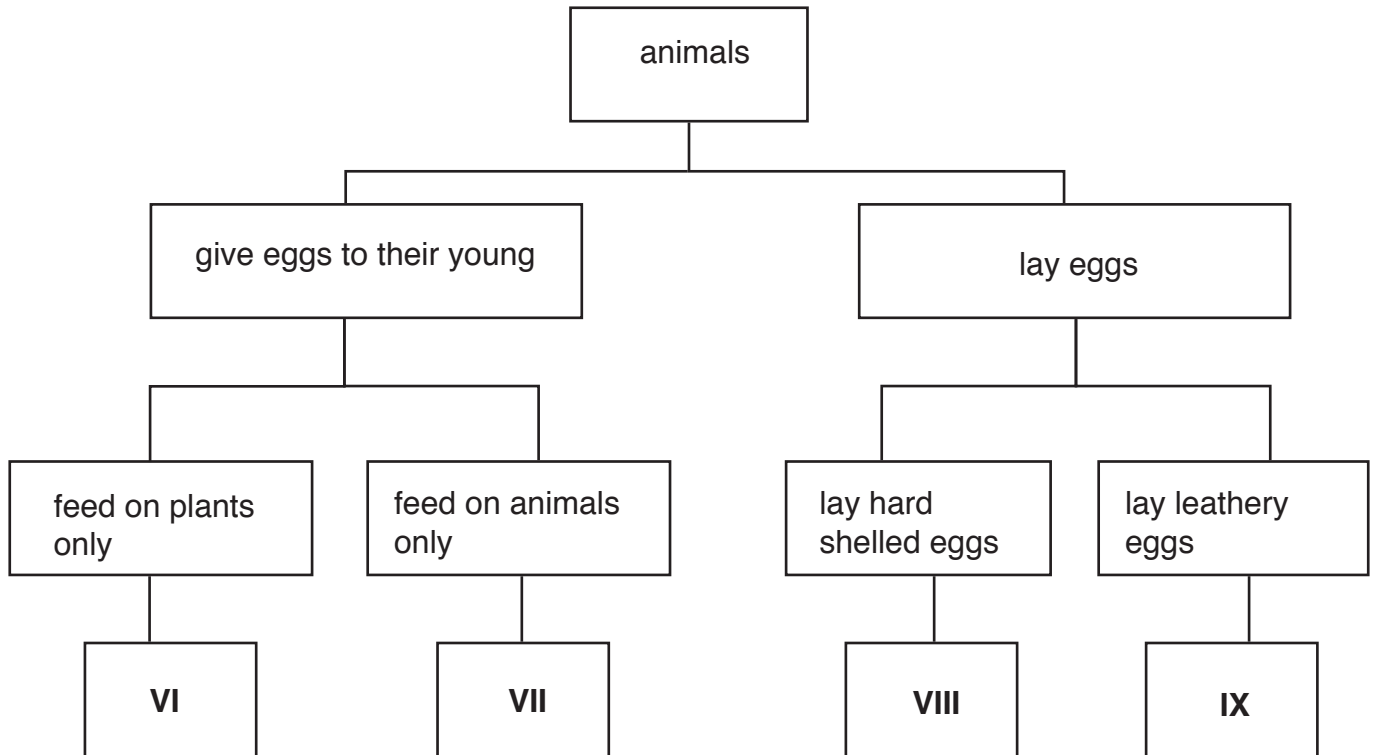


Fig. 23.1

What conclusion can be drawn from Fig. 23.1?

- A animal VIII is a fish.
- B animal VI is a reptile.
- C animals VI and VII are mammals.
- D animals VIII and IX are amphibians.

24 Which instrument is used to measure the speed of wind?

- A wind vane
- B rain gauge
- C thermometer
- D cup anemometer

25 Which statement describes the correct function of Vitamin A in the human body?

- A helps with healing wounds.
- B carries oxygen in the blood
- C supports the development of vision.
- D supports development of healthy bones.

26 Which of these processes help plants to cool down?

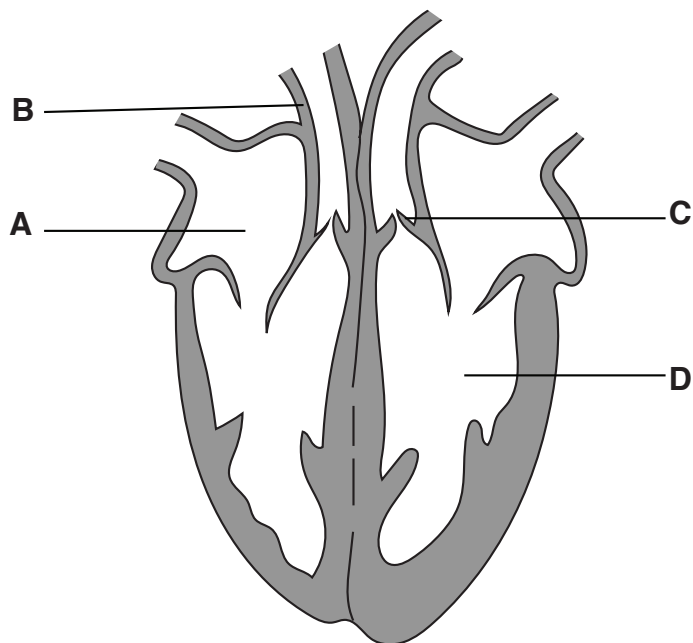
- A excretion
- B transpiration
- C translocation
- D photosynthesis

27 A healthy plant has been in the sunlight for five hours. A leaf is taken from the plant, decolourised and tested with iodine solution.

What colour does the iodine solution change to?

- A red
- B yellow
- C pale blue
- D blue black

28 Fig. 28.1 shows a section of the heart.



**Fig. 28.1**

Which letter in Fig. 28.1 represents a ventricle?

29 What is the importance of irritability in animals?

- A growth
- B health
- C defense
- D reproduction

30 Which row describes the colour of blue litmus paper in cooking soda solution?

- A turns red
- B turns green
- C turns yellow
- D turns blue

- 31 A block of cheese measures 2.0 cm x 5.0 cm x 10.0 cm.

What is the volume of the cheese?

- A 100 cm<sup>3</sup>  
B 25 cm<sup>3</sup>  
C 17 cm<sup>3</sup>  
D 4 cm<sup>3</sup>
- 32 A plastic ruler can be charged by friction. This happens after some particles are added or removed from the ruler.

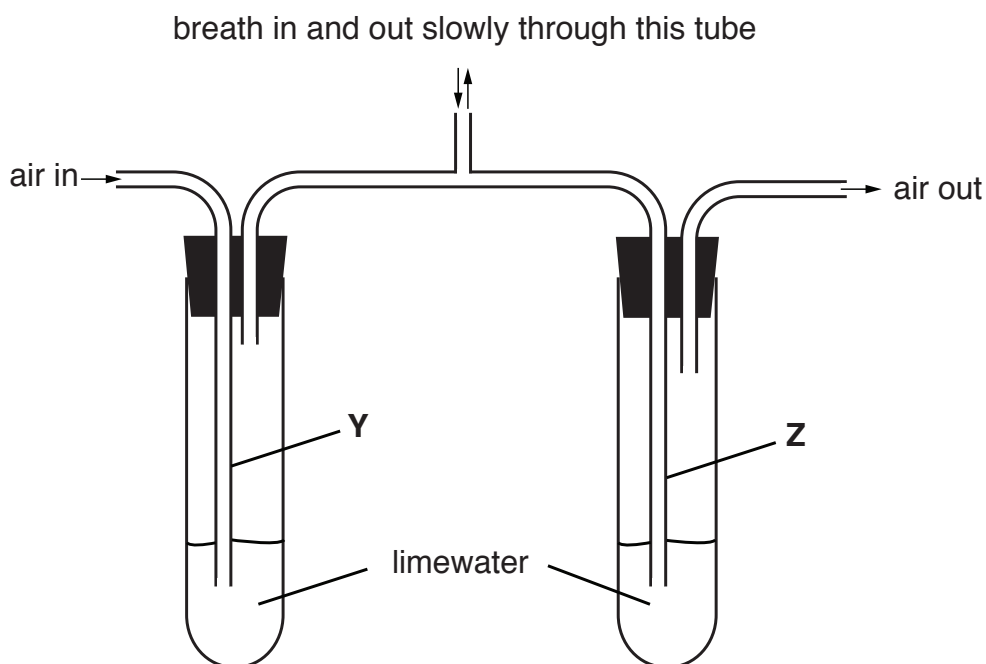
Which particles are added or removed?

- A ions  
B protons  
C neutrons  
D electrons

- 33 Which row shows the correct arrangement of particles in a solid and liquid?

	<b>solid</b>	<b>liquid</b>
<b>A</b>	regularly	regularly
<b>B</b>	regularly	not regularly
<b>C</b>	not regularly	regularly
<b>D</b>	not regularly	not regularly

- 34 Fig. 34.1 shows an apparatus used to investigate the composition of inhaled and exhaled air.



**Fig. 34.1**

What is the appearance of the limewater in Fig. 34.1 after a minute of breathing in and out?

	tube Y	tube Z
<b>A</b>	clear	clear
<b>B</b>	clear	milky
<b>C</b>	milky	clear
<b>D</b>	milky	milky

- 35 What is the main use of reproductive cloning?
- A** to create medicines
  - B** to create work slaves
  - C** to produce healthy livestock
  - D** to create organisms which grow quicker

- 36 Which of these technological gadgets are used for safety at school?
- A surveillance cameras
  - B data projectors
  - C photocopiers
  - D electric bell
- 37 What would be the effect of pollution on the numbers of different organisms living in the environment?
- A only numbers of herbivores will increase
  - B numbers of different types of animals will increase
  - C numbers of different types of animals will decrease
  - D numbers of different types of animals will remain the same
- 38 Which statement correctly describes the differences between a red blood cell and a palisade cell?
- A a red blood cell does not have chloroplasts but a palisade cell has chloroplasts.
  - B a red blood cell has a cell wall but a palisade cell does not have a cell wall.
  - C a red blood cell has a large vacuole but a palisade cell does not have a vacuole.
  - D a red blood cell has a regular structure but a palisade cell does not have a regular structure.
- 39 Which gas of these gases is a greenhouse gas?
- A oxygen
  - B nitrogen
  - C ammonia
  - D carbon dioxide

40 Fig. 40.1 shows sitting postures for different people in their office chairs.

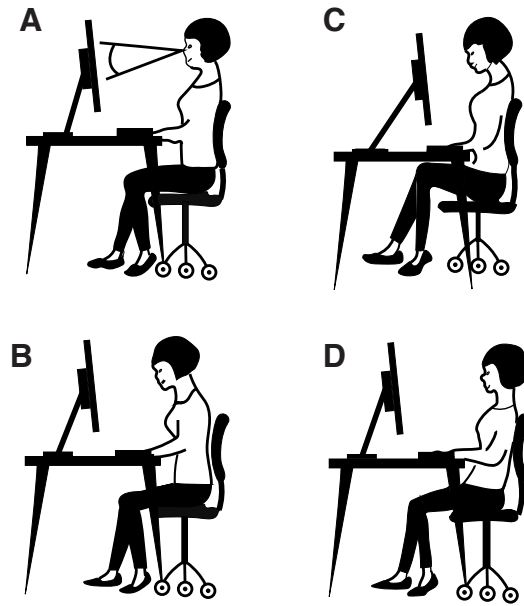


Fig. 40.1

Which picture shows the correct sitting position?