

THE KENYA NATIONAL EXAMINATION AND ASSESSMENT PREDICTION SERIES

Candidate's Name		Assessment Number	
School Name		School Code	
Candidate's Signature		Date	

KENYA JUNIOR SCHOOL EDUCATION ASSESSMENT

805/1: INTEGRATED SCIENCE (*Theory*)

PAPER 1

TERM 2 END-TERM 2025

TIME: 1 hour 30 minutes

INSTRUCTIONS TO CANDIDATES

1. Write your name and assessment number in the spaces provided above.
2. Write the name and code of your school in the spaces provided above.
3. Sign and write the date of the assessment in the spaces provided above.
4. This paper consists of two sections: A and B.
5. Section A comprises Multiple Choice Questions numbered 1 to 30.
6. Section B comprises short, structured questions number 31 to 40.
7. Answer ALL the questions in section A on the separate ANSWER SHEET provided.
8. Answer ALL the questions in section B in the spaces provided in this QUESTION PAPER.
9. Do NOT remove any page from this question paper.
10. Answer ALL the questions in English. For official use only

SECTION B

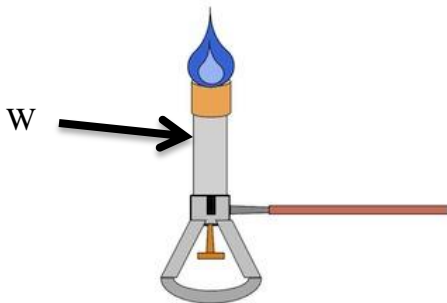
Task	Question	Score per question	Maximum score	Candidate's score
Task 1	31		03	
Task 2	32		13	
	33			
	34			
Task 3	35		16	
	36			
Task 4	37		08	
	38			
	39			
	40			
Total			40	

This paper consists of 12 printed pages. Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.

SECTION A (30 marks)

Answer ALL the questions in this section.

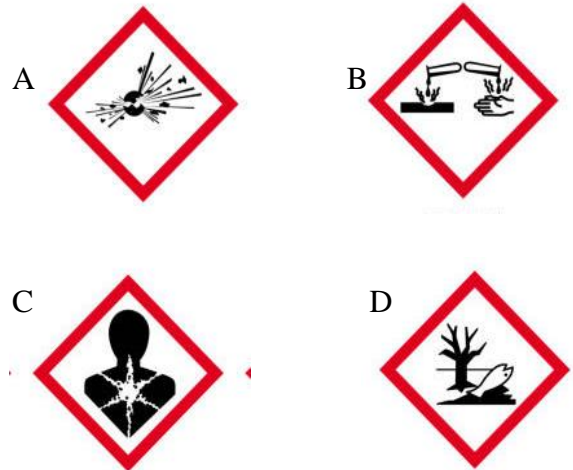
1. During a school science exhibition, learners presented projects on topics like 'photosynthesis in plants', 'how batteries produce electricity', and 'properties of different compounds'. Which component of Integrated Science was NOT clearly represented in these projects?
A. Biology
B. Physics
C. Chemistry
D. History
2. A local community faces recurring problems such as widespread waterborne diseases, soil erosion leading to poor harvests, and frequent power outages. How can the study of Integrated Science empower this community to address these issues effectively?
A. By teaching them only historical facts about past epidemics.
B. By focusing solely on memorizing scientific formulas without practical application.
C. By providing them with a comprehensive understanding of interconnected environmental, health, and energy solutions.
D. By encouraging them to rely only on external aid without understanding local resources.
3. While preparing for a laboratory practical, a learner observed the apparatus below.



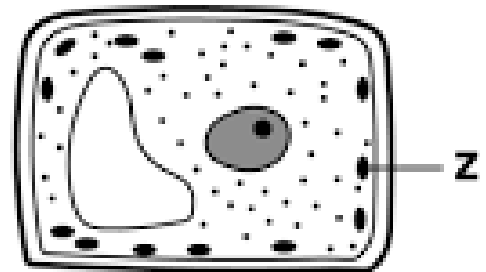
This part marked W is:

- A. Air hole B. Chimney
C. Colar D. Base

4. A laboratory assistant accidentally spills a highly acidic solution on the bench-top, causing it to sizzle and damage the surface. The hazard symbol that would have been on the bottle for this chemical is:



5. During a Biology lesson, learners were asked to identify the part of the cell marked m.:



The part marked Z is called?

- A. Cytoplasm
B. Sap vacuole
C. Chloroplast
D. Nucleus

6. During a practical session, a learner accidentally slips on a wet floor and falls, twisting their ankle. The immediate first aid measure for a sprain would be to:
- A. Apply heat to the affected area.
 - B. Elevate the injured limb.
 - C. Force the learner to walk to check for mobility.
 - D. Ignore the injury and continue with the experiment.
7. While heating a liquid in a test tube, a learner holds the test tube too close to the flame and suffers a burn. The first aid for a minor burn involves:
- A. Applying ice directly to the burn.
 - B. Applying butter or oil to the burn.
 - C. Running the burned area under cool running water for at least 10 minutes.
 - D. Breaking any blisters that form.
8. Before starting an experiment involving chemicals, the teacher reminded the learners to wear eye protection. This safety measure is important to prevent:
- A. Falls B. Scalds
 - C. Cuts D. Eye injuries from chemical splashes
9. A Grade 8 learner is tasked with accurately measuring 50.0 mL of a liquid for an experiment. Which of the following laboratory apparatus would be most appropriate for this task?
- A. Beaker B. Conical flask
 - C. Measuring cylinder D. Test tube

10. A group of learners is studying the growth of a plant over several weeks. They regularly measure the plant's height and the number of leaves it develops. What basic science skill are they primarily using?
- A. Inferring
 - B. Predicting
 - C. Communicating
 - D. Measuring and Observing
11. A biologist wants to observe the internal structures of a plant cell in detail. Which laboratory instrument would provide the best magnification for this purpose?

A



B



C



D



12. A learner needs to heat a substance gently and evenly using a Bunsen burner. They should adjust the air hole to produce a:

- A. Roaring blue flame
- B. yellow flame
- C. Short, pale blue flame
- D. Tall, orange flame

13. Jane prepared a salad by mixing chopped tomatoes, onions, and cucumbers. She could easily distinguish each component in the mixture. This type of mixture is best described as:

- A. Homogeneous B. Solution
- C. Heterogeneous D. Colloid

14. During a chemistry lesson, a teacher demonstrates separating different pigments from a plant extract using paper. Which separation technique is being demonstrated?

- A. Filtration B. Distillation
- C. Chromatography D. Crystallization

15. A chemist needs to obtain pure water from seawater. Which separation technique would be most effective for this purpose?

- A. Filtration
- B. Simple distillation
- C. Sublimation
- D. Solvent extraction

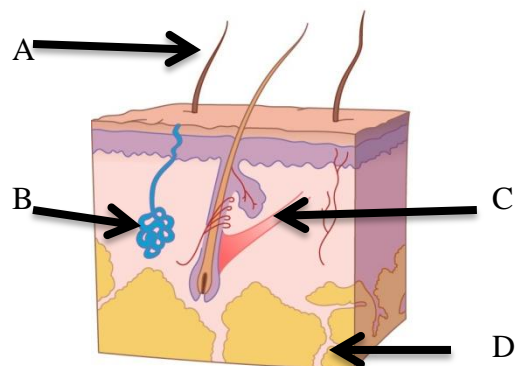
16. A learner tests a solution with red litmus paper, and it remains red. When tested with blue litmus paper, it turns red. This indicates the solution is:

- A. A base B. Neutral
- C. An acid D. An indicator

17. A gardener notices that his soil is very acidic and wants to raise its pH to make it more suitable for growing vegetables. Which common substance, known for its basic properties, could he add to the soil?

- A. Vinegar B. Lemon juice
- C. calcium hydroxide D. Sulphuric acid

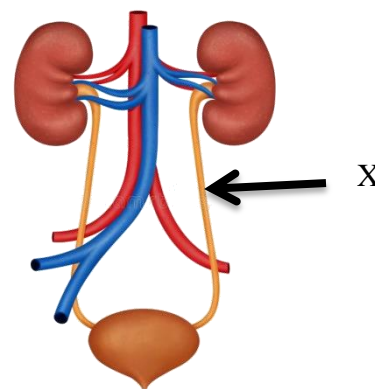
18. During a hot afternoon, a learner notices their skin is wet with sweat.



Which part of the human skin is primarily responsible for producing and secreting sweat?

- A. A B. B C. C D. C

19. A patient is diagnosed with an infection in the tube labelled X.



Which part of the urinary system is affected?

- A. Ureter B. Urethra C. Kidney D. Bladder

20. A person consumes a diet very high in protein and does not drink enough water. This habit increases their risk of developing which common kidney disorder?

- A. Urinary tract infection
- B. Kidney failure
- C. Kidney stones
- D. Bladder cancer

21. A solar panel installed on a house roof is an example of a device that converts light energy from the sun into:

- A. Heat energy
- B. Sound energy
- C. Mechanical energy
- D. Electrical energy

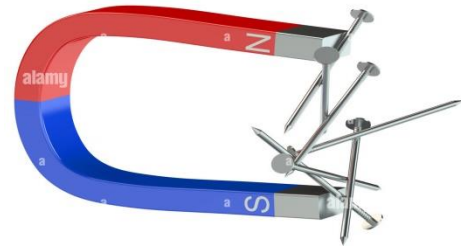
22. A learner sets up a simple electric circuit with a battery, a switch, and a light bulb. When the switch is closed, the circuit is:

- A. Open, and the bulb will not light.
- B. Closed, and the bulb will light.
- C. Short-circuited, and the bulb will not light.
- D. Overloaded, and the bulb will burn out.

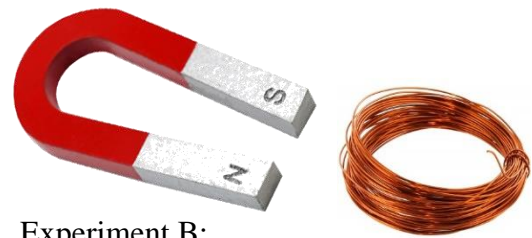
23. Which of the following is a critical electrical safety measure to prevent electrocution when handling electrical appliances?

- A. Using damaged power cords if the appliance still works.
- B. Overloading power sockets with many appliances.
- C. Always ensuring your hands are dry before touching electrical switches or plugs.
- D. Inserting metallic objects into electrical sockets to test them.

24. A learner observed that a bar magnet attracted small iron nails but had no effect on a copper wire.



Experiment A



Experiment B:

This demonstrates that iron nails are:

- A. Non-magnetic materials.
- B. Magnetic materials.
- C. Electromagnets.
- D. Temporary magnets.

25. When a bar magnet is freely suspended, it always aligns itself in a specific direction. This property is known as the:

- A. Repulsive property.
- B. Inductive property.
- C. Attractive property.
- D. Directive property.

26. An atom of a certain element has 10 protons and 10 neutrons. What is its atomic number?

- A. 20
- B. 10
- C. 0
- D. 5

27. Which of the following elements is correctly represented by its chemical symbol?

- A. Hydrogen - H
- B. Sodium - So
- C. Aluminium - Al
- D. Nitrogen - Ni

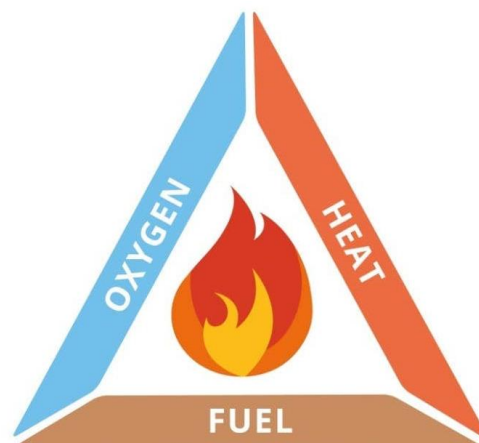
28. A learner observes water boiling in a kettle, producing steam.



This change is an example of:

- A. A chemical change and is temporary.
- B. A physical change and is permanent.
- C. A physical change and is temporary.
- D. A chemical change and is permanent.

29. A fire started in a rubbish bin filled with paper and cloth.



The fire triangle components present were fuel (paper, cloth), heat (from ignition), and oxygen (from air). To control this fire by removing the fuel, one could:

- A. Pour water on it.
- B. Cover it with a fire blanket.
- C. Remove other flammable materials nearby.
- D. Use a CO₂ extinguisher.

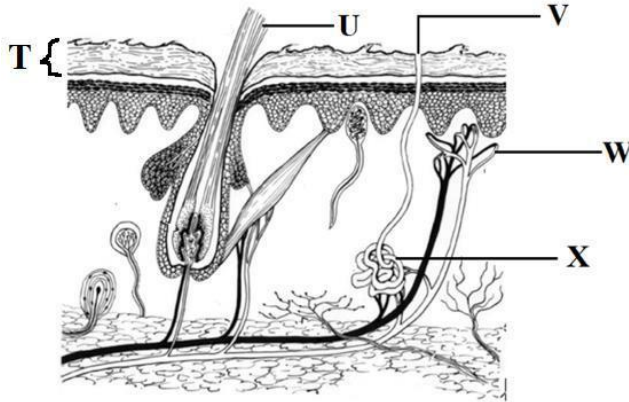
30. During a biology practical, a learner prepared a temporary slide of an onion epidermal cell. When observing it under the microscope, they noted the presence of a cell wall and a distinct nucleus. Which other basic component of a cell would also be clearly visible?

- A. Chloroplasts
- B. Mitochondria
- C. Cytoplasm
- D. Endoplasmic Reticulum

SECTION B (40 marks)

Answer ALL the questions in this section.

31. During a science lesson, learners were asked to identify different parts of the human skin.



(a) Name the parts of the human skin. (2 marks)

U: _____

V: _____

(b) State the primary function of the sweat glands in the human skin. (1 mark)

32. A group of learners is tasked with separating a mixture of sand, salt, and iron filings.

(a) Describe how the learners can separate the iron filings from the mixture. (2 marks)

(b) After removing the iron filings, describe a step-by-step procedure to obtain pure salt from the remaining mixture of sand and salt. (4 marks)

(c) State one difference between a homogeneous mixture and a heterogeneous mixture. (1 mark)

33. (a) A farmer tested his soil and found it was too acidic for optimal crop growth. He decided to add a basic substance to neutralize the soil.

(i) State one characteristic physical property of acids that makes them dangerous. (1 mark)

(ii) Explain the purpose of adding a basic substance to acidic soil. (2 marks)

(b) Describe how you would prepare a natural acid-base indicator using hibiscus flower petals. (3 marks)

34. (a) A learner prepared a temporary slide of a plant cell and observed it under a light microscope.



(i) Name two major differences a plant cell has compared to an animal cell when viewed under a light microscope. (2 marks)

(ii) If the eyepiece lens of the microscope is 10x and the objective lens is 40x, calculate the total magnification of the cell. (1 mark)

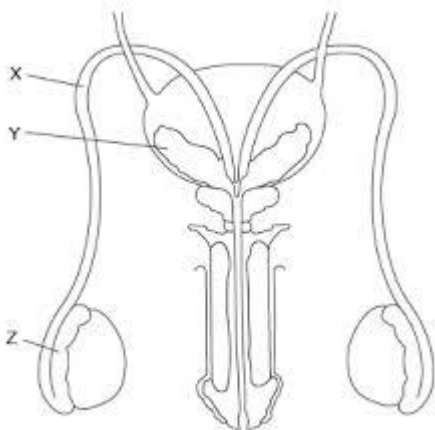
(b) A tea bag is placed in a cup of hot water. After some time, the colour from the tea bag spreads throughout the water.



(i) Name the process responsible for the spreading of the tea colour in water. (1 mark)

(ii) Explain how increasing the temperature of the water would affect the rate of this process. (2 marks)

35. (a) During a reproductive education lesson, learners learned about the male reproductive system and its functions.



(i) Name the parts labelled X, Y and Z. (3 marks)

X: _____.

Y: _____.

Z: _____.

(ii) A person experiences painful urination and urges to urinate frequently. Name a common kidney disorder that could cause these symptoms. (1 mark)

(b) A health worker visited a school to talk about adolescence and reproductive health.



(i) State two challenges that adolescent girls may face during menstruation. (2 marks)

(ii) Explain the process of fertilization in human beings. (2 marks)

36. (a) A small fire started in a classroom due to flammable liquids catching fire.

(i) State the class of fire and suggest one appropriate method to extinguish it, other than water. (2 marks)

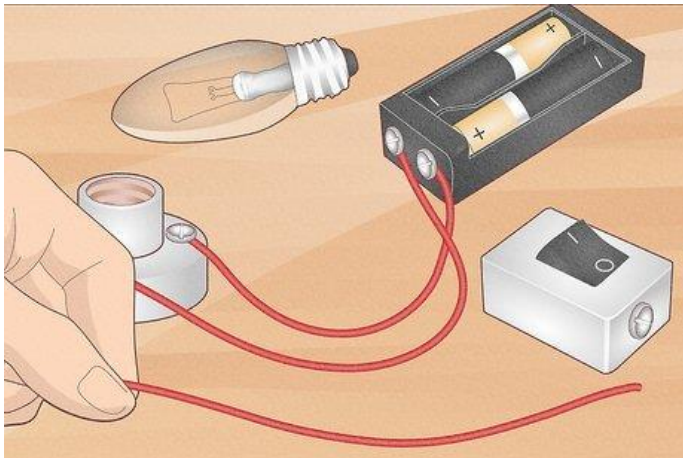
(ii) Explain one danger associated with using water to extinguish a fire caused by flammable liquids. (1 mark)

(b) During a fire safety drill, learners were taught about the fire triangle.



Name the three components of the fire triangle. (3 marks)

37. (a) A learner is setting up a simple electric circuit to light a bulb using a dry cell.



(i) Name the source of electricity in this circuit. (1 mark)

(ii) State one electrical safety measure the learner should observe while working with electrical circuits. (1 mark)

(b) Describe how magnets are used in everyday life. (2 marks)

38. A curious learner observed that when a piece of ice is placed in water, it floats, but when salt is added to the water, the ice melts faster.

(a) Name the physical change that occurs when ice turns into water. (1 mark)

(b) Explain the effect of impurities on the melting point of water. (2 marks)

(c) An atom of Neon has an atomic number of 10 and a mass number of 20. How many neutrons does this atom have? (1 mark)

39. (a) A learner is learning about elements and compounds.

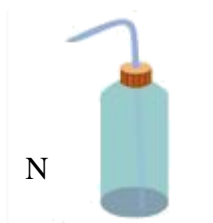
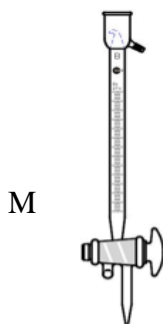
(i) Write a word equation for the reaction between Hydrogen gas and Oxygen gas to form Water. (1 mark)

(ii) Name two uses of the element Carbon. (2 marks)

(b) Differentiate between a physical change and a chemical change in matter, giving one example for each. (2 marks)

40. (a) A learner wanted to measure the mass of a substance. Name the SI unit for mass. (1 mark)

(b) Name the apparatus shown below. (2 marks)



M: _____

N: _____

(c) During a field trip, learners were asked to classify animals based on their modes of nutrition. They identified an animal that feeds on both plants and animals. What is the mode of nutrition for this animal? (1 mark)

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