

SIGNAL CBC ASSESSMENT
FOURTH TRIAL

AE: 1 hr 30 min

Learner's Name: _____

 Grade: _____

 School Name: _____

 Assessment No: _____

Instructions for Learners:

1. Write down your name, name of your school and assessment number in the spaces provided.
2. This paper consists of 30 questions.
3. Ensure you check the question paper to ascertain that all the pages are printed and that no questions are missing.
4. Answer all the questions in the answer booklet provided.
5. Be sure to sign the honour pledge below at the end of this

SCORE					
Question	Score	Question	Score	Question	Score
1- 20		27.			
21.		28.			
22.		29.			
23.		30.			
24.					
25.					
26.					
Total Score					
Assessed out of			50		

Honour pledge: "I swear on my honour that I have not violated the honour code before or during this assessment".

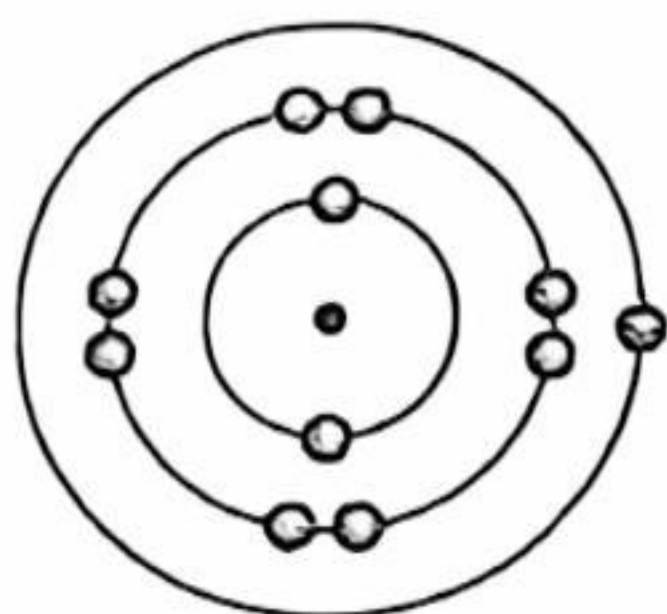
Signature or Initial: _____ Date: _____

ASSESSMENT RUBRICS

Learning area	Performance	Exceeds Expectations (4)	Meets Expectations (3)	Approaching Expectations (2)	Below Expectations (1)
Integrated Science					

SECTION A

1. While doing her research on determining the mass number of elements, Jackline came across an element with an atomic number of 11 and a mass number of 23. How many neutrons did the element had?
 A. 16
 B. 4
 C. 24
 D. 12
2. The figure below shows the electronic arrangement of an element.

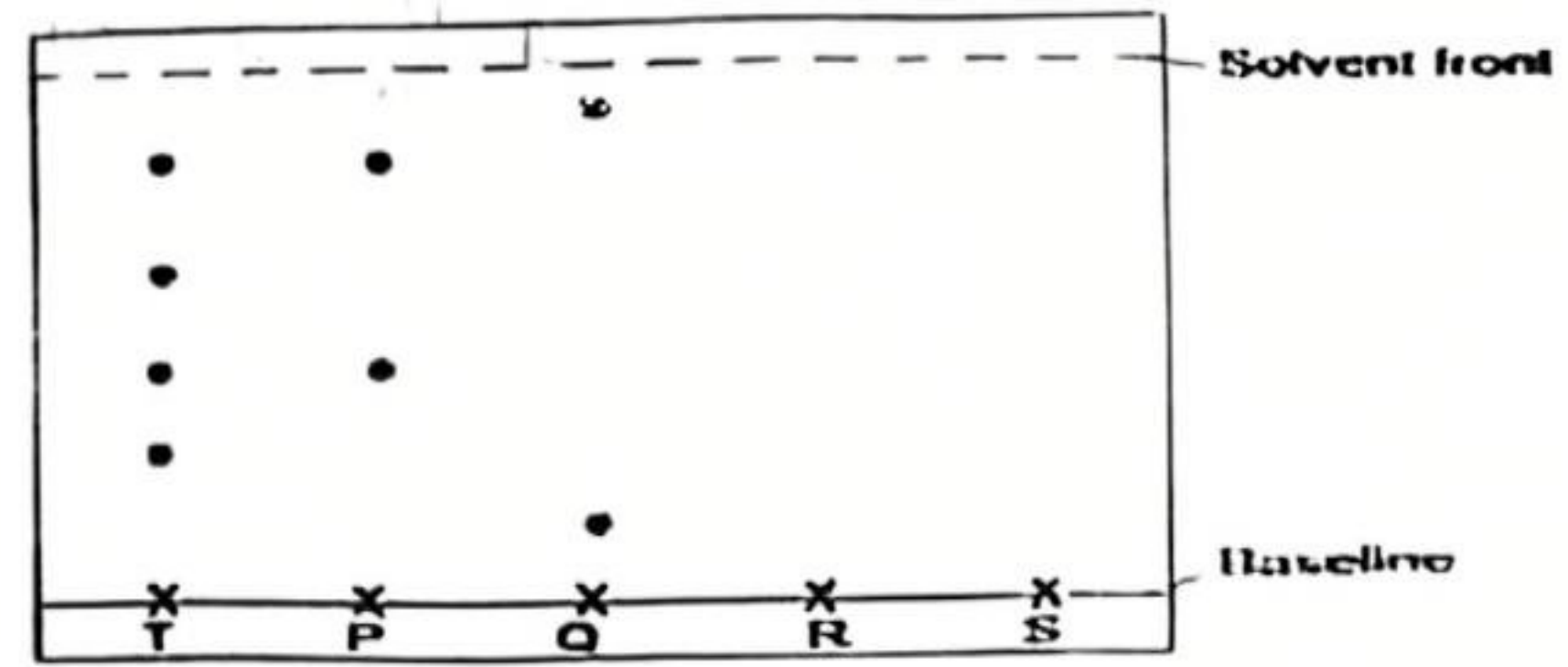


Which one of the following elements correctly matches the element illustrated?

- A Sodium
 B. Chlorine
 C. Silicon
 D. Aluminium

3. You have been selected by your group members to illustrate on the chalkboard the electron arrangement in Neon. How many electrons would you place in its outer shell?
 A. 10
 B. 8
 C. 2
 D. 12
4. All the following statements are correct about pressure in liquids **except** that it
 A. decreases with increase in depth
 B. increases with increase in depth
 C. is equal at the same depth
 D. is exerted in all directions.
6. Which one of the following groups consists of magnetic materials only?
 A. Steel wool, aluminium foil, wood.
 B. Razor blade, spoon, scissors.
 C. Plastic, wood, leaf.
 D. Tin, copper coin, silver plate.

7. All the following are safety measures to be observed when handling electricity **except**
- avoid leaning on walls when it is raining
 - do not go near a pole with the danger sign
 - do not put many appliances in a socket
 - avoid touching electrical switches with wet hands.
8. Dorothy and Daniel were asked by their Integrated Science teacher to classify the first 20 elements into metals and non-metals based on their electron arrangement. Which one of the following elements did the learners classify as a metal?
- Carbon
 - Aluminium
 - Neon
 - Phosphorous
9. A Grade 9 learner used a digital device to identify a certain element in the periodic table. If the element had an atomic number of 19, how many electrons are in its outermost energy level?
- 3
 - 9
 - 2
 - 1
10. Learners observed that water obtained from a nearby stream was not lathering easily with soap. They suggested the following as methods of making the water to lather easily:
- Boiling the water;
 - Filtering the water
 - Adding washing soda.
- Which of the methods suggested by the learners could be used to make the water lather easily?
- (i) and (ii).
 - (ii) only.
 - (i) and (iii).
 - (iii) only.
11. Which one of the following consists only of substances that have no definite shape but have definite volume?
- Toothpaste, glue, oil.
 - Clay, flour, cement.
 - Oxygen, milk, glue.
 - Nitrogen, salt, clay.
12. Which one of the following should be done when carrying out an experiment to show that pressure in liquids is exerted equally in all directions?
- Making holes vertically on one side of the tin.
 - Covering a tin with four holes on its side with a tight lid.
 - Filling a glass with water and inverting it on a stiff card.
 - Making two equal holes at equal depth on the side of the tin.
13. Grade 9 learners set up an experiment to determine the presence of substances P, Q, R and S in mixture. They later obtained the following results.



- Identify the method of separation illustrated in the figure above.
- Sublimation
 - Chromatography
 - Evaporation
 - Crystallisation

14. The picture below shows a common item we use in our day to day lives.



Which of the following elements is used in making the outer case of the items shown in the picture above?

- Iron
 - Copper
 - Magnesium
 - Zinc
15. Some learners were asked to describe the physical properties of metals. The following are the responses they gave.

Hassan – All metals conduct heat.
 Sarah – All metals conduct electricity.
 Juma – Most metals have a shiny appearance.
 Joyce – All metals have a high density.

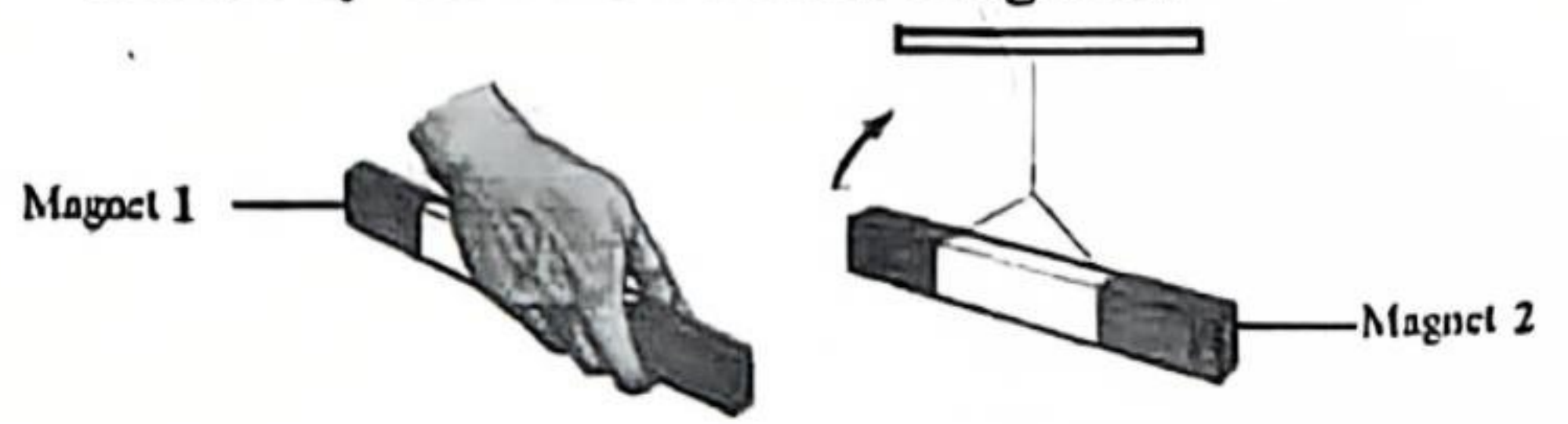
Who gave the wrong response?

- Juma
 - Joyce
 - Sarah
 - Hassan
16. An alloy was found to be having the following characteristics:

It is corrosion resistant
 It is highly malleable
 It is used in making plumbing fixtures.

Which one of the following best refers the alloy described above?

- Steel
 - Copper
 - Bronze
 - Brass
17. When carrying out an experiment on properties of magnets, James brought magnet 1 close to the N-pole of magnet 2 as illustrated below. James observed that magnet 2 moved in the direction shown by the arrow in the diagram.



Identify the likely pole of magnet 1 that was brought close to magnet 2.

- A. North pole
- B. South pole
- C. Both north and south pole
- D. None of the above.

18. An alloy is a mixture of two or more elements with at least one of it being a metal. Which one of the following alloys is correctly matched with its composition?

- A. Brass – Iron and carbon
- B. Duralumin – Sulphur, iron and carbon
- C. Bronze – Copper and tin
- D. Steel – Copper and zinc

19. Which of the following particles are found in the nucleus of an atom?

- A. Protons and Neutrons.
- B. Neutrons and Electrons.
- C. Protons and Electrons.
- D. Electrons and Protons.

20. The following are advantages of using soft water in our day to day life **except**

- A. prevents scale buildup
- B. better for laundry
- C. efficient for cleaning purposes
- D. contains essential minerals for bone and strong teeth.

Section B (30 marks)

21. Some learners used print and non-print media to search for information on symptoms of gonorrhoea and how it can be prevented. What information are they likely to find? (3 marks)

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22. Differentiate between elements and compounds. (2 marks)

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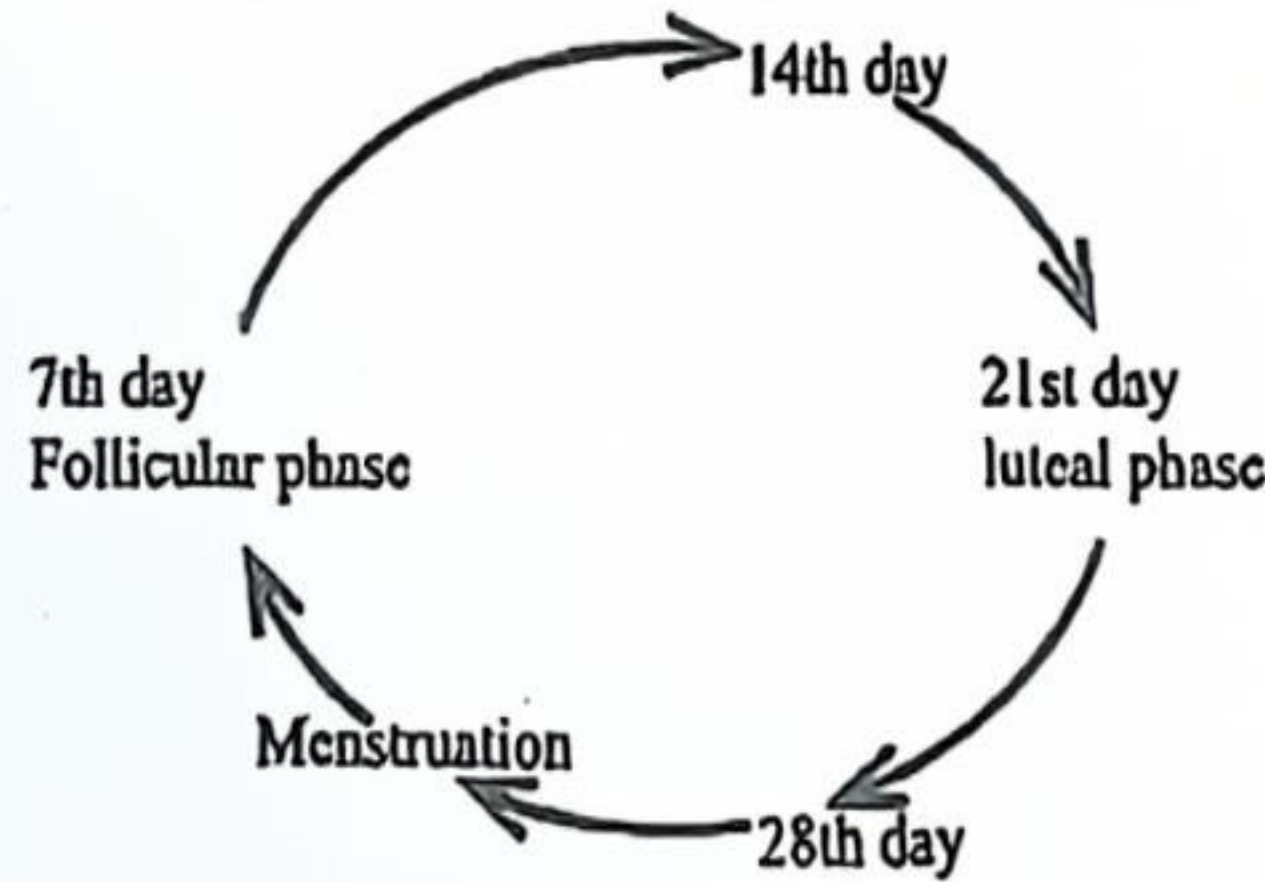
23. Maureen placed a tea bag into a cup of hot water. After a short while, she observed that the contents of the tea mixed well with the hot water.

(a) Which process was responsible for the observation made? (1 mark)

(b) Account for the observations made in the above experiment. (2 marks)

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24. The illustration below shows a summary of the main phases of the human menstrual cycle.



(a) Name the process that takes place around the 14th day. (1 mark)

(b) Under which two conditions would the cycle be interrupted? (2 marks)

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(c) Apart from pain and irregular periods, name one other challenge related to the menstrual cycle. (1 mark)

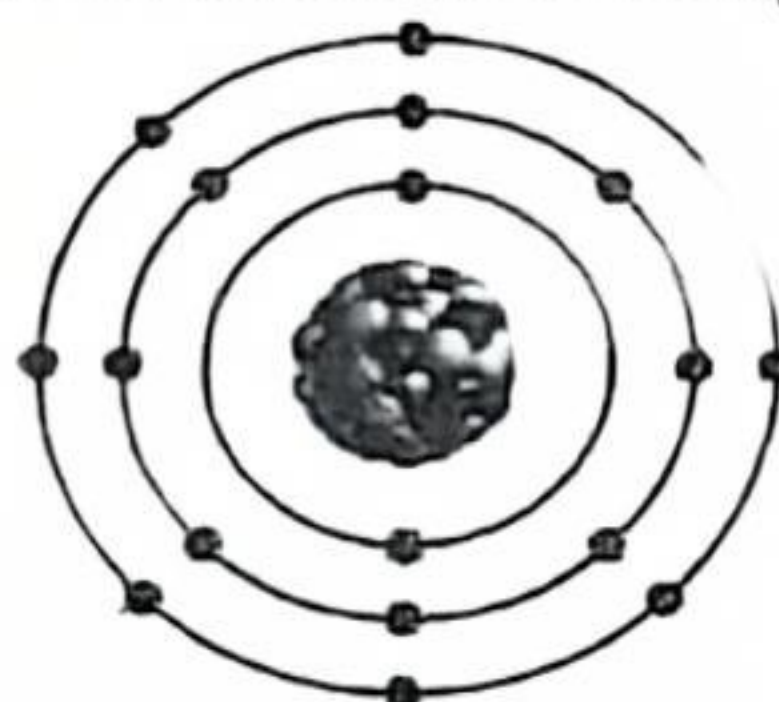
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25. During an integrated Science practical lesson, a learner heated a piece of magnesium ribbon in air as shown below.



- (a) What observation did the learner make?..... (1 mark)
- (b) Write two word equations of the reaction that likely took place. (2 marks)
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- (c) State one use of magnesium in everyday life. (1 mark)
26. While helping their parents with general cleaning at home, James and Maria came across some nails that had rusted. What were some of the possible causes of rusting? (3 marks)
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27. Walter was asked by his teacher to show the electron arrangement of an atom with 6 protons, 6 neutrons and 6 electrons. Draw a dot or cross diagram to represent the atom. (2 marks)

28. The figure below shows the structure of an atom illustrated by one of grade 9 learners.



- (a) What is the atomic number of the atom illustrated? (1 mark)
- (b) Which element in the periodic table does the element illustrated above represent in the periodic table? (1 mark)
- (c) If the element named in (b) above has a mass number of 35, how many neutrons does the element have? (1 mark)
29. Nancy is curious about why atoms are considered electrically neutral. She knows that atoms contain both positive and negative particles.
- (a) Explain to Nancy why atoms are electrically neutral despite having positive and negative charges. (2 marks)
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- (b) What is the relationship between these charges? (1 mark)
30. A group of learners used their print media resources to search for information on the uses of Sodium. Mention three points they listed. (3 marks)
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