Noah's Ark Independent Primary School

Subject: Natural Science	Examiner: Moyo, S
Type: End of Year Exam	Moderator: Rwizi, A
Date: 26 November 2019	Grade: 7
Marks: 100 Marks	Time: 2 hr 30 minutes

Name: _____

Instructions:

Answer ALL the questions in the spaces provided.

Write neatly and legibly.

Carefully read all questions before answering.

Section A: Matter and materials

1. Circle only the correct letter to complete the following sentences. (4x1)

1.1 Salt dissolves in water. We use evaporation to separate the salt from the water again. The salt in the mixture is the _____.

a. Solvent

b. Solute

c. Filtration

d. Residue

1.2 An example of a base is _____.

a. Stomach juices

b. An ant bite

c. Washing powder

d. Orange juice

1.3 We know that a substance is an acid if it tastes _____.

a. Sour and feels rough on the skin.

b. Bitter and feels slippery on the skin.

c. Sour and feels slippery on the skin.

d. Bitter and feels rough on the skin.

1.4 Fluorine is the element _____.

a. Used to make matchstick heads.

b. Most common in the atmosphere.

c. Used to make cool drink cans.

d. Put in tooth paste to strengthen teeth.

2. Humans use a lot of plastic material. This leads to a lot of plastic being discarded as waste. We can reduce the amount of waste by reusing and recycling the plastic.

2.1 Plastic can be folded. What property of plastic allows it to be folded? (1x1)

_____

2.2 Compare the melting points of plastic to the melting point of metals. (1x1)

_____

_____

2.3 In which group of elements do you expect to find plastics in the periodic table based on your answer from question 2.2. (1x1)

_____

_____

2.4 List two problems caused by discarding plastics. (2x1)

_____

_____

3. Copper is an element on the periodic table.

3.1 Identify copper as a metal or non-metal. (1x1)

_____

3.2 Copper is used for electrical conducting wires. Give two reasons why copper is the preferred material for this purpose. (2x1)

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3.3 Small pieces of copper are mixed with the pieces of iron of about the same size. Describe the method of separation that can be used to separate the copper from iron. (3x1)

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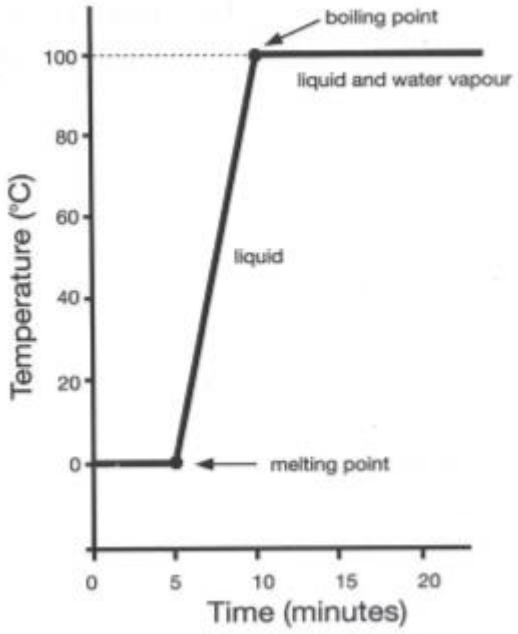
4. Use the diagram below to answer the following questions.



4.1 Explain the term boiling point. (1x2)

_____

_____

4.2 Explain the meaning of the horizontal line on the graph labelled liquid and water vapour. (3x1)

_____

_____

_____

4.3 Name the method of separating solutions according to boiling point. (1x1)

_____

_____

5. Your friend is frustrated because he learnt that materials with different colour pigment can have the colour pigments separated. He has been trying all day without getting results. Recommend what he should do and motivate your recommendation. (4x1)

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_____

_____

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_____

Section B: Life and living

1. Circle only the correct answer to each statement. (5x1)

1.1 Which of these statements about the biosphere is false?

a. All known life exists in the biosphere.

b. The biosphere extends from the earth's core t the atmosphere.

c. The hydrosphere is bigger than the lithosphere.

d. The atmosphere is not a habitat for living organisms.

1.2 Which of the following is not a condition?

a. Water

b. Energy source

c. Habitat

d. Moderate temperature

1.3 Which organism does the kingdom fungi include?

a. Mushrooms

b. Algae

c. Bacteria

d. Ferns

1.4 Identify one correct difference between gymnosperms and angiosperms.

a. Gymnosperms make seeds and angiosperms do not.

b. Gymnosperms have seeds with one cotyledon and angiosperms have seeds with two cotyledons.

c. Gymnosperms form fruits and angiosperms do not.

d. Gymnosperms have cones and angiosperms have flowers.

1.5 Identify the distinguishing characteristics of monocotyledons.

a. Long narrow leaves, flowers with five petals, shallow fibrous roots.

b. Network of leaf veins, non-woody stems, flowers with six stamens.

c. Paralleled leaf veins, fruits with three lobes, steams that do not branch.

d. Woody steams, flowers with six petals, long tap root.

2. Match the groups of organisms in column A to the correct characteristics in column B. (4x1)

Column A	Answer	Column B
Amphibians		a) Soft bodies, move with a muscular foot.
Insects		b) Scaly skin, can not regulate own body temperature, have lungs.
Reptiles		c) Moist skin, no scales, can not regulate own body temperature, adults have lungs.
Molluscs		d) Lay eggs with waterproof shell, regulate own body temperature.
		e) Segmented bodies with six jointed legs.

3. We can tell whether or not an organism is alive by looking for signs of one or more of the seven life processes which are feeding, growth, reproduction respiration, excretion, sensitivity to stimuli and movement. For each of that follows, identify the life process and explain the benefit to the underlined organism.

3.1 A flower opens when sunlight falls on it. (2½)

_____

_____

_____

3.2 A zebra runs away from a lion. (1½)

_____

_____

4. The key step in sexual reproduction is when a male sex cell fuses with a female sex cell. After fusion, further steps occur: These steps are listed below. Arrange them in the correct order. (4x1)

a. The ovary grows to form a fruit.

b. The seed survives and are passed out in the animal faeces.

c. The ripe fruit contains many ripe seeds.

d. The ovary swells up and the petals and stems begin to dry out.

e. The fruit is distributed, usually being eaten by an animal.

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5. Explain why people have different colour hair but are still part of the same species. (2x1)

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6. Describe what happens to a human egg after it is fertilized. (4x1)

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_____

_____

7. Give two examples of contraceptives that can be used by a sexually active young woman to prevent pregnancy. (2)

_____

_____

Section C: Planet Earth and beyond

1. Circle only the correct answer to each of the following statements. (3x1)

1.1 The sun provides energy to the earth by...

a. Conduction

b. Convection

c. Radiation

d. Insulation

1.2 The Earth revolves around the sun because...

a. The Earth is a planet and the sun is a star.

b. The Earth was once part of the sun.

c. The sun is the centre of the solar system.

d. There is a force of attraction between the Sun and the Earth.

1.3 Our power stations use coal, that ...

a. Was deposited by the Sun.

b. Formed when the moon formed.

c. Is the remains of dead plants.

d. Is a renewable source.

2. Give one scientific term for each of the following descriptions. (3x1)

2.1 The imaginary line around the Earth between the hemispheres.

_____

_____

2.2 The experience of having no weight when you travel into space.

_____

_____

2.3 The process used by plants to make food.

_____

_____

3. Explain the orbit patterns of the moon, Earth and Sun in relation to each other. (2x1)

_____

_____

4. Explain why the Sun can hold all bodies in the solar system in their orbit. (2x1)

_____

_____

5. Most coastal areas will experience two high tides and two low tides everyday. Describe how this occur. (3x1)

_____

_____

6. The Earth tilts on its axis. The tilt of the Earth means different Parts of the Earth get heated differently at different times of the year.

6.1 How large is the angle of tilt of the earth's axis. (1x1)

_____

6.2 Is the South pole tilted towards or away from the sun in June? (1x1)

_____

6.3 In December the Southern hemisphere experience winter. Use a diagram that is clearly labelled to show this scenario. (6x1)

7. Differentiate between the lunar year and the solar year. (4x1)

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Section D: Energy and change

1. Give one word or term for each of the following descriptions. (3x1)

   1.1 A source of energy that is constantly replenishable by an on going natural process. _____

   1.2 A power station that uses uranium fuel. _____

   1.3 The type of energy that an object has because of its position. _____

2. Circle only the correct answer to each of the following statements. (4x1)

   2.1 Energy is transformed from potential to kinetic energy when...

   a. Thunder follows lightning.

   b. Cindy switches on a light.

   c. A charger recharges the battery in a cell phone.

   d. A bird swoops down on its prey.

2.2 The following form of energy is not present in a burning candle...

a. Electrical potential

b. Chemical potential

c. Light

d. Heat

2.3 The method of heat transfer when smoke goes up a chimney is...

a. Conduction

b. Convection

c. Radiation

d. Insulation

2.4 The coolest house in summer will have ...

a. Thatched roof with no ceiling, painted green and North facing windows.

b. Corrugated iron roof with no ceiling, painted dark blue and East facing windows.

c. Corrugated iron roof with a ceiling, painted white and West facing windows.

d. Thatched roof with ceiling, painted white and north facing windows.

3. A kettle uses 250 joules of energy to heat a sample of water. The water only absorbs 200 joules. Calculate the percentage efficiency of the kettle. (3x1)

4. The Eastern Cape used to have many forests which have long since disappeared. People cut down the trees for fuel and timber faster than the trees could grow.

4.1 Give the scientific term for wood used as fuel. (1x1)

_____

4.2 Is this fuel source renewable or non-renewable? (1x1)

_____

4.3 Quote evidence from the above paragraph to justify your answer to Question 4.2. (1x1)

_____

4.4 Suggest two alternative fuels that can be used by the Eastern Cape people. (2x1)

_____

_____

5. Explain how a convection current is created in the air. (3x1)

_____

_____

_____

6. Describe how heat transfer by radiation occurs. (2x1)

_____

_____

7. Explain what a dynamo is and give two examples of how dynamos are used. (4x1)

_____

_____

_____

_____

8. Outline one way of conserving energy. (1x1)

_____

_____

_____ / 100 Marks