



## Natural Science and Technology



### Memo

### Term 2

**Examiner: MISS.D.NAIDOO**

**Moderator: MRS.V.PILLAY**

**Instructions:** \*Read all questions carefully before answering

\*Write your name and grade in the space provided below

\*All answers must be written in blue pen

Name: \_\_\_\_\_

Grade 5: \_\_\_\_\_

Date: \_\_\_\_\_

Total: /50

#### **Question 1**

**1. Match column A with column B. Write ONLY the correct matching letter in column C. (5)**

<b>A</b>	<b>B</b>	<b>C</b>
1.1 Metals	A. Various combinations of metals or combinations of metals and non-metals.	1.1 <b>E</b>
1.2 Shearing Force	B. Ability to be hammered or pressed into shape without breaking or cracking.	1.2 <b>C</b>
1.3 Insulator	C. Happens when compressive forces that are not acting along the same lines are put in opposite directions.	1.3 <b>D</b>
1.4 Malleable	D. A substance or device which does not readily conduct electricity.	1.4 <b>B</b>
1.5 Alloys	E. A solid material, which is typically hard, shiny, malleable, fusible, and ductile, with good electrical and thermal conductivity	1.5 <b>A</b>

## **Question 2**

**Briefly define the following terms:**

**(5)**

### **2.1 Ductile:**

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Able to be deformed without losing toughness; pliable, not brittle. (Any other acceptable answer)

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### **2.2 Non-metal:**

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An element or substance that is not a metal. A non-metal is typically brittle when solid and usually has poor thermal conductivity and electrical conductivity. (Any other acceptable answer)

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### **2.3 Conductor:**

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To act as a medium for transmitting an electrical charge. (Any other acceptable answer)

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### **2.4 Brittle:**

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Hard but liable to break easily. (Any other acceptable answer)

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### **2.5 Properties:**

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Include any traits that can be measured, such as an object's density, colour, mass, volume, length, malleability, melting point, hardness, odour, temperature, and more. (Any other acceptable answer)

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### Question 3

State whether the following statements are true or false






(5)

3.1 Mercury is a metal.	True
3.2 Non-Metals can be hammered into shape.	False
3.3 Gold is an example of a metal.	True
3.4 Glass is an example of a non-metal.	True
3.5 You can see through a metal.	False

### Question 4

Identify whether the following pictures are metals or non-metals. Tick your answer the correct column.

(5)

	Image	Metal	Non-Metal
4.1			<input checked="" type="checkbox"/>
4.2		<input checked="" type="checkbox"/>	
4.3			<input checked="" type="checkbox"/>
4.4		<input checked="" type="checkbox"/>	
4.5			<input checked="" type="checkbox"/>

## **Question 5**

### **5.1 List any 3 properties of metals**

**(3)**

- 
- Lustrous (shiny)
  - Good conductors of heat and electricity.
  - High melting point.
  - High density (heavy for their size)
  - Malleable (can be hammered)
  - Ductile (can be drawn into wires)
  - Usually solid at room temperature (an exception is mercury)
  - Opaque as a thin sheet (can't see through metals)

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**(ANY OTHER ACCEPTABLE ANSWER)**

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### **5.2 List any 3 properties of non-metals**

**(3)**

- 
- Poor thermal conductors.
  - Poor electrical conductors.
  - Brittle solids—not malleable or ductile.
  - Little or no metallic luster.
  - Gain electrons easily.
  - Dull, not metallic-shiny, although they may be colorful.

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**(ANY OTHER ACCEPTABLE ANSWER)**

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## **Question 6**

### **Answer the following questions**

#### **6.1 Why is plastic a good insulator?**

**(2)**

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They can't conduct heat and electricity which gives them a property of good insulators.

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The insulators stop us having an electric shock because they don't conduct electricity as we use them to insulate metal wires and other metallic things.

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**(ANY OTHER ACCEPTABLE ANSWER)**

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#### **6.2 Why do we use plastic for household pans and pots handles?**

**(2)**

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They do not conduct heat and are good insulators of heat. For instance, if we use a conductor of heat like metals instead of an insulator there it will absorb the heat and it will be too hot to handle. This is why we use plastic handles which will be easy to handle.

They are cheap, easily available, more durable and does not react with any food content easily.

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(ANY OTHER ACCEPTABLE ANSWER)

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**6.3 List at least any 2 properties of glass.**

**(2)**

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Glass is:

- Transparent
- Heat resistant
- Pressure and breakage resistant
- Chemical resistance.
- Solid/hard

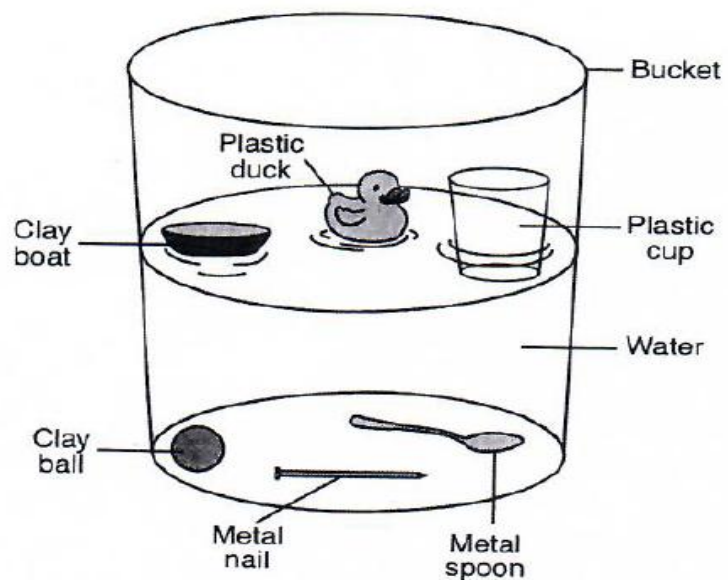
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(ANY OTHER ACCEPTABLE ANSWER)

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**Question 7**

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



**7.1 Name the objects that are GOOD conductors of heat and electricity.**

**(2)**

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Metal Nail, metal spoon

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7.2 Name two of the non-metal objects that are floating?

(2)

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Plastic cup, plastic duck

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7.3 If I take the plastic cup and fill it with water would the diagram change (answer yes or no)? Explain what would happen to the plastic cup. (3)

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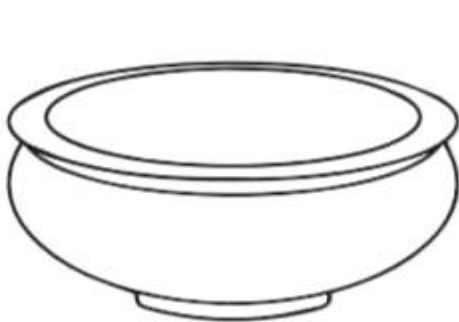
Yes, due to the weight of the plastic cup now it would either topple over as it is not steady enough. However, if the plastic cup is filled up and held steady in the bucket it would not topple over or sink.

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(ANY ACCEPTABLE ANSWER)

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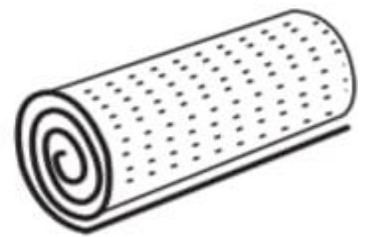
**Question 8**



A clay pot



A grass basket



A grass mat

Rewrite the following sentences by choosing the correct word from the list below:

clay, strong, cultures, adobe, straw, hard, kiln, waterproof.

1. \_\_\_\_ bricks are dried in the sun.
2. These bricks are made from a mixture of \_\_\_\_ and \_\_\_\_.
3. The straw makes the bricks \_\_\_\_.
4. Many \_\_\_\_ around the world build using these bricks.
5. Clay bricks are fired in an oven called a \_\_\_\_.
6. Firing bricks makes them \_\_\_\_ and \_\_\_\_.

Rewrite the sentences in the space provided below.

(6)

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8.1 **Adobe** bricks are dried in the sun.

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8.2 These bricks are made from a mixture of **clay** and **straw**.

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8.3 The straw makes the bricks strong.

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8.4 Many cultures around the world build using these bricks.

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8.5 Clay bricks are fired in an oven called a kiln.

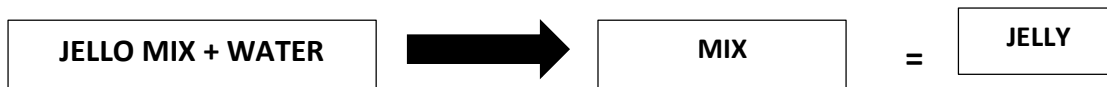
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8.6 Firing bricks makes them hard and waterproof.

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**Question 10**

Look at the illustration below and answer the questions that follow



**10.1 List the raw materials. (2)**

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Jello mix and water

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**10.2 Identify the product created. (1)**

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Jelly

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**10.3 List 2 things in that people in Africa make using traditional processing methods. (2)**

- 
- Clay pots
  - Straw baskets
  - Harden wood and bone for making tools and hunting weapons
  - Mud huts
  - Grass mats
  - Grass baskets
- 

**(ANY OTHER ACCEPTABLE ANSWER)**

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