Rosyth School
Performance Task 2022
SCIENCE
Primary 4

Name: _____ Total Marks: /20

Class: Pr 4 _____ Register No. _____ Duration: 50 min

Date: 25 August 2022

Instructions to pupils:

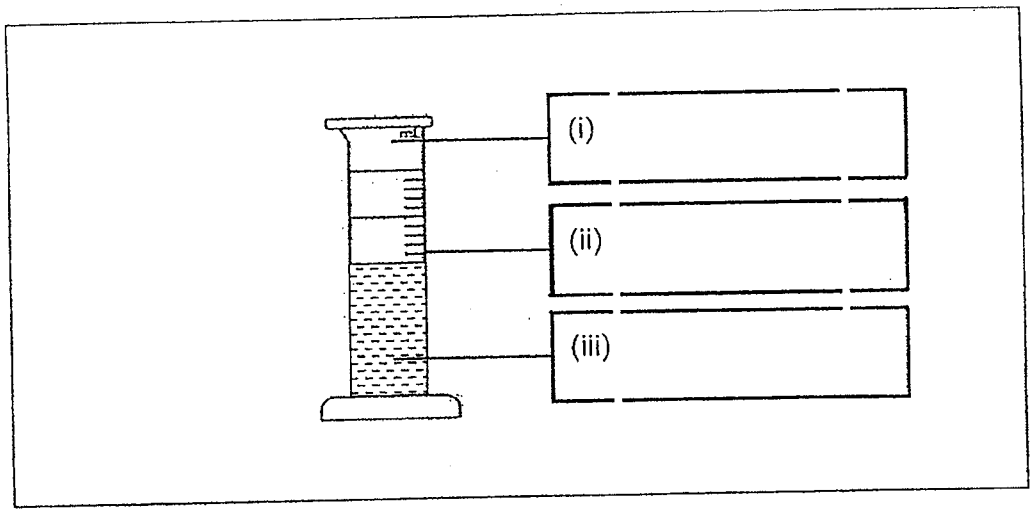
1. Do not open the booklet until you are told to do so.
2. Follow all instructions carefully.
3. Answer all questions in this booklet.
4. Write your answers in the spaces provided.

* This booklet consists of 7 printed pages (including cover page).

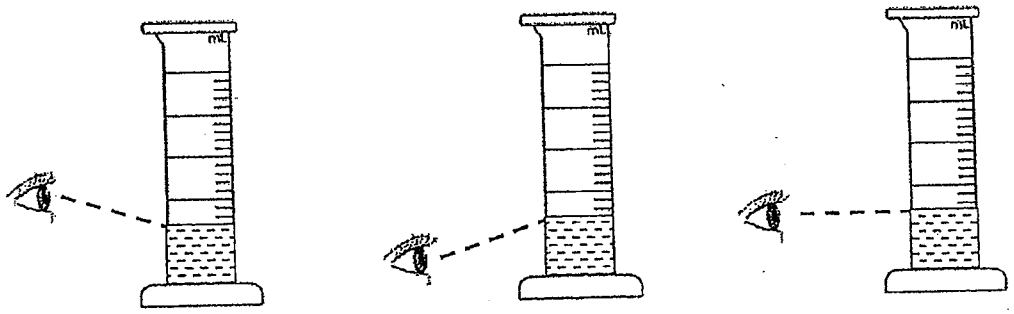
Part I (10 marks)
Read the instructions carefully and use the apparatus given to answer the questions below.

Part 1: Look at the measuring cylinder filled with water.

(a) Label the three different states of matter as indicated by the label lines. [3]



(b) Put a tick (✓) in the box that shows the correct way to read the volume of water in the measuring cylinder. [1]



Part II:

Aim of the experiment: To find out if the shape of a plasticine will affect its volume

Materials: rod-shaped plasticine, round-shaped plasticine and measuring cylinder with water

Procedure:

1. Find the volume of water in the measuring cylinder.
2. Record the volume of water in (a) as shown in the table below.
3. Place the round-shaped plasticine gently into the measuring cylinder.
4. Record the volume of water and volume of round-shaped plasticine in (b).
5. Find the difference in volume of (b) and (a) to find the volume of the round-shaped plasticine.
6. Record the volume of round-shaped plasticine in (c).
7. Place the rod-shaped plasticine gently into the measuring cylinder **without removing the round-shaped plasticine.**
8. Record the volume of water and volume of round-shaped plasticine and volume of rod-shaped plasticine in (d).
9. Find the difference in volume of (d) and (b) to find the volume of the rod-shaped plasticine.
10. Record the volume of rod-shaped plasticine in (e).

Result Table [5]

(a)	Volume of water	_____ cm^3
(b)	Volume of water + volume of round-shaped plasticine	_____ cm^3
(c)	Volume of round-shaped plasticine (b) - (a) = (c)	_____ cm^3
(d)	Volume of water + volume of round-shaped plasticine + volume of rod-shaped plasticine	_____ cm^3
(e)	Volume of rod-shaped plasticine (d) - (b) = (e)	_____ cm^3

(f) Which variable must be kept the same when plasticine of different shapes is prepared for the experiment? [1]

_____ of the plasticine

Part III (10 marks)

For questions 1 to 3, four options are given. One of them is the correct answer. Write your choice in the given brackets. Each question carries 2 marks.

1. Peter filled a syringe with some air as shown below. Then he covered the tip using some plasticine. He pushed the plunger of the syringe inwards as shown in diagram 1. However, he was not able to push the plunger in fully as shown in diagram 2.

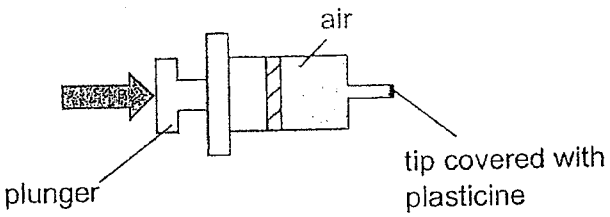


diagram 1

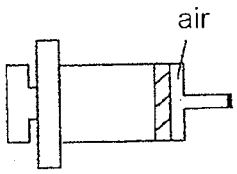


diagram 2

Why was Peter **not** able to push the plunger in fully?

(1) Air has mass.
(2) Air occupies space.
(3) Air has definite volume.
(4) Air can be compressed.

( )

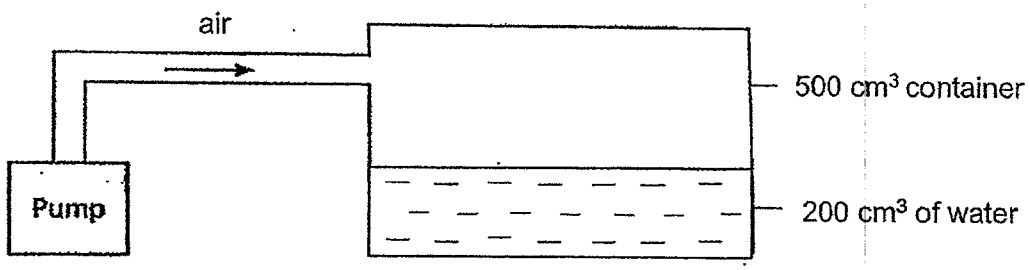
2. Sarah observed the properties of objects, C, D and E. She recorded her observations in the table below.

	Object		
Property	**C**	**D**	**E**
Does it have mass?	Yes	Yes	Yes
Does it occupy space?	Yes	Yes	Yes
Does it have a definite shape?	No	Yes	No
Does it have a definite volume?	Yes	Yes	No

Which of the following objects are matter?

(1) C and D only
(2) D and E only
(3) C, D and E
(4) None of the above ( )

3. Jenny filled a 500 cm^3 container with 200 cm^3 of water. She then pumped 100 cm^3 of air into the container.

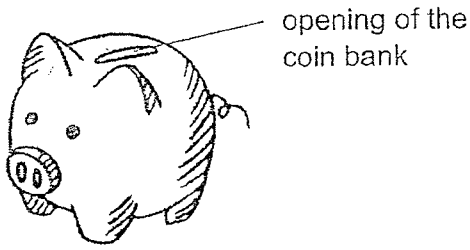


What is the volume of air in the container now?

(1) 100 cm^3
(2) 200 cm^3
(3) 300 cm^3
(4) 400 cm^3 ( )

Read questions 4 and 5 carefully. Write the answers in the space provided.

4. Ken wanted to find out the volume of his coin bank.



(a) Describe one way to find the volume inside the coin bank. [2]

5. Mr Lee put a pillow in a bag and sealed it up as shown in diagram 1. The mass of the bag with the pillow was 400g. Then he used a pump to remove the air from the sealed bag. The bag was flattened as shown in diagram 2.

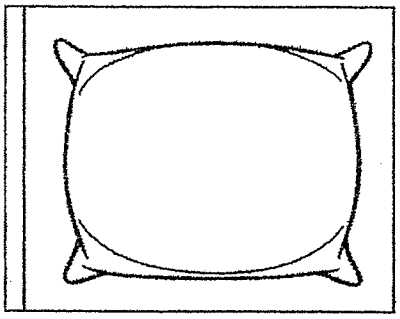


diagram 1

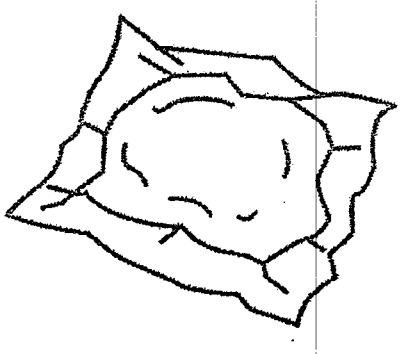


diagram 2

(a) What was likely to be the mass of the flattened bag in diagram 2? Put a tick (✓) in the correct box. [1]

Mass of the flattened bag	Tick (✓)
Less than 400g	
400g	
More than 400g	

(b) Explain your answer in (a). [1]

_____

_____

End of Paper

SCHOOL : ROSYTH PRIMARY SCHOOL
LEVEL : PRIMARY 4
SUBJECT : SCIENCE
TERM : 2022 CA2

PART I

a) i) gas
ii) solid
iii) liquid

b) ☐ ☐ ☑

PART II

(a)	$30cm^3$
(b)	$35cm^3$
(c)	$5cm^3$
(d)	$39cm^3$
(e)	$4cm^3$
(f)	Mass

PART III

Q 1	Q2	Q3
2	3	3

Q4)	Pour water into the coin bank till it is full. Pour the water into a measuring cylinder. Find the volume of the water.
Q5)	a) Less than 400g ☑ b) Air have mass so when the air was sucked out, its mass will be less.

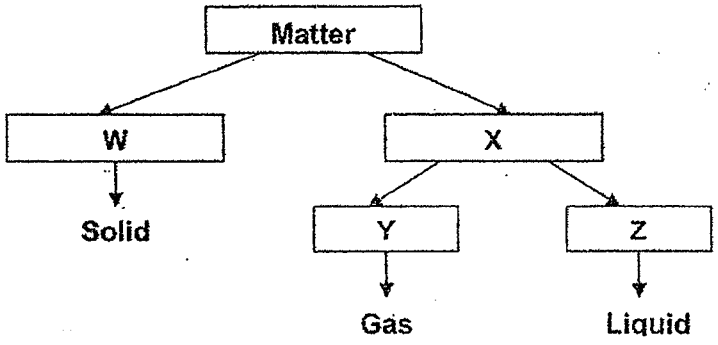
Rosyth School
P4 WA3 Science Revision
Topic: Matter

Name: _____ Date: _____

Class: P4 _____

For questions 1 to 3, four options are given. Make your choice (1, 2, 3 or 4) and write your answer in the bracket provided. **[3 x 2m = 6m]**

1. Look at the chart below.



Which of the following describe W, X, Y and Z respectively?

	W	X	Y	Z
(1)	Has no definite volume	Has definite shape	Has no definite shape	Has definite volume
(2)	Has definite shape	Has no definite shape	Has no definite volume	Has definite volume
(3)	Has no definite shape	Has no definite volume	Has definite volume	Has definite shape
(4)	Has no definite volume	Has no definite shape	Has definite shape	Has definite volume

( )

2. Kelly described four types of matter based on their properties as shown in the table below.

Matter	Has a definite shape?	Has a definite volume?
air	yes	no
oil	yes	yes
milk	no	no
pencil	yes	yes

Based on Kelly's observations above, which matter has its properties correctly stated?

(1) air
(2) oil
(3) milk
(4) pencil

( )

3. The table below shows the properties of A, B, C and D. A tick (✓) means that the object has the property and a cross (X) means that it does not have the particular property.

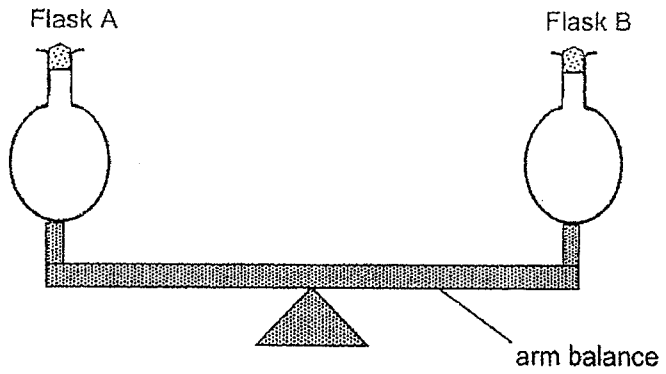
	A	B	C	D
It occupies space.	✓	✓	x	✓
It has a fixed shape.	x	✓	x	x
It has a fixed volume.	✓	✓	x	x

Based on the information in the table above, which one of the following conclusions is **incorrect**?

(1) C does not have mass.
(2) D can be compressed.
(3) A and D will take the shape of the container.
(4) A, B, C and D are all different states of matter. ( )

For questions 4 and 5, write your answers in the space provided. **[7m]**

4. Two identical glass flasks, A and B were each filled completely with 100 cm^3 of air. The two flasks were balanced as shown in the diagram below.



(a) If another 50 cm^3 of air is pumped into flask A, what would be the total volume of air in flask A now? [1]

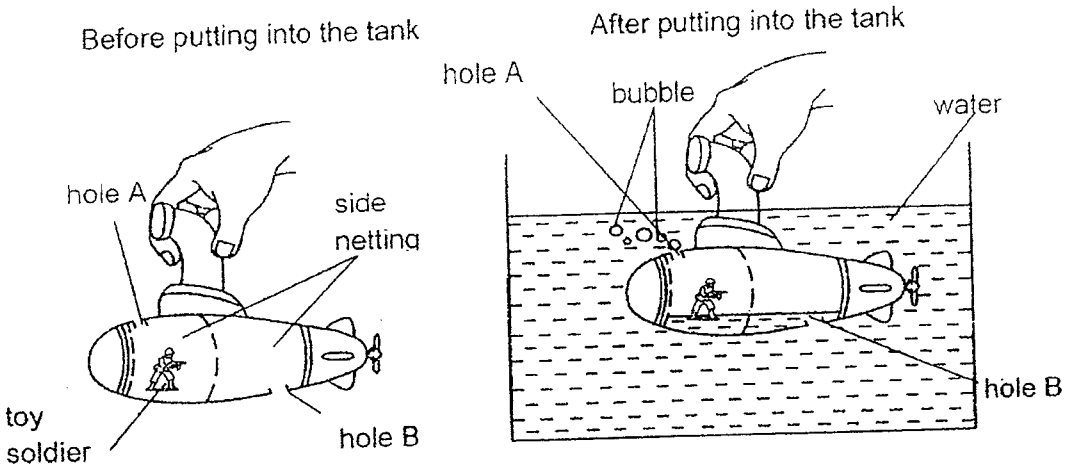
_____

(b) Predict what will be observed to the arm balance when the 50 cm^3 of air is pumped into flask A. Explain your answer. [2]

_____

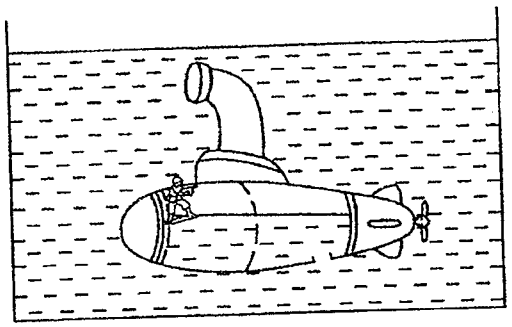
_____

5. Ayden put a toy soldier in his submarine with clear sides. There were two holes A and B on the submarine. When he pushed the submarine into a tank of water, the toy soldier floated upwards and bubbles were seen coming out from hole A.



(a) Explain why bubbles could be seen coming out from hole A when the submarine was pushed into the water. [2]

When the submarine was pushed deeper into the water, the toy soldier rose and blocked hole A completely. Ayden observed that the water level in the submarine stopped rising.



(b) Give an explanation for Ayden's observation [2]

End of Worksheet

SCHOOL : ROSYTH PRIMARY SCHOOL
LEVEL : PRIMARY 4
SUBJECT : SCIENCE
TERM : 2022 WA3

Q 1	Q2	Q3
2	4	4

Q4)	a) It will still have $100cm^3$ b) The balance will be tilted downwards on the side of flask A. Air has mass. The total mass of air in flask A will be greater than the mass of air in B.
Q5)	a) There is an opening for the air to escape as the water enters hole B. b) The air in the submarine is unable to escape and the water is unable to take over the space taken by the air in the submarine.