NAN HUA PRIMARY SCHOOL
TERM REVIEW 2021
PRIMARY SIX
SCIENCE

MARKS	
Sect A:	/ 16
Sect B:	/ 9
Total :	**/ 25**

Name : _____( )

Class : Primary 6 / ____

Date : _____ Duration : 30 minutes

Parent's Signature : _____

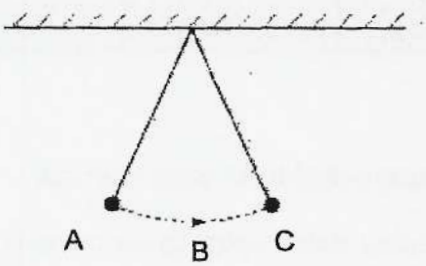
Section A: (8 x 2 marks = 16 marks)
For each question from 1 to 8, four options are given. One of them is the correct answer. Write your answer (1, 2, 3 or 4) in the brackets provided.

1. Which of the following statements about energy is **false**?

(1) Energy can be stored.
(2) Energy can change forms.
(3) Non-living things do not need energy to do work.
(4) Energy can be transferred from one object to another.

( )

2. In the diagram below, a pendulum released from position A swings freely to position C.

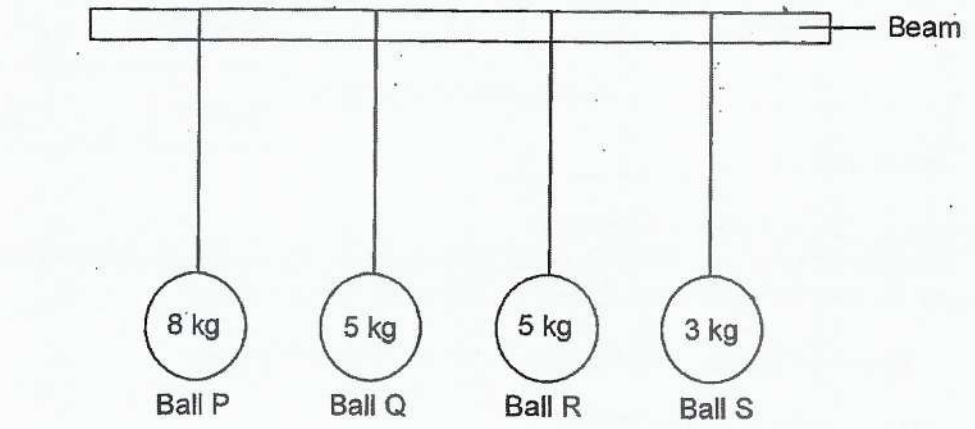


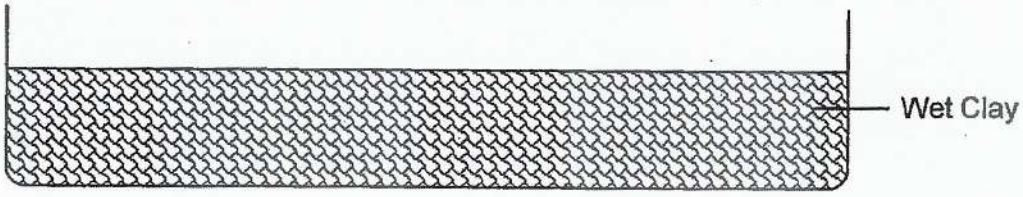
As the pendulum swings from A to C, what are the changes to its gravitational potential energy and kinetic energy from A to B and from B to C respectively?

	Gravitational potential energy		Kinetic energy	
	A to B	B to C	A to B	B to C
(1)	Increases	Decreases	Decreases	Increases
(2)	Increases	Decreases	Increases	Decreases
(3)	Decreases	Increases	Increases	Decreases
(4)	Decreases	Increases	Decreases	Increases

( )

3. The diagram below shows 4 balls, P, Q, R and S, which are of the same size being hung from a beam.





The strings that suspended them were then cut.

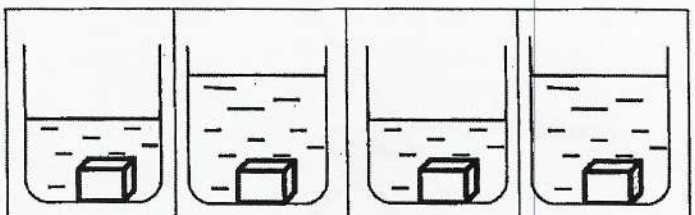
Which of the following statement(s) is/are correct?

A Ball Q and R created dents of similar depths.
B Ball S has the least mass so it created the deepest dent.
C All the balls had similar gravitational potential energy since they were suspended at the same height.
D Ball P possessed the greatest amount of gravitational potential energy when it was still suspended in the air.

(1) A only
(2) A and D only
(3) B and C only
(4) B, C and D only

( )

4. Chris prepared 4 set-ups as shown below. The amount of water in each beaker and its temperature at the beginning of the experiment are shown in the table below.
Then he heated 4 identical metal cubes to a temperature of 80 °C.
He lowered each metal cube into a beaker of water as shown in the diagram below for 5 minutes.

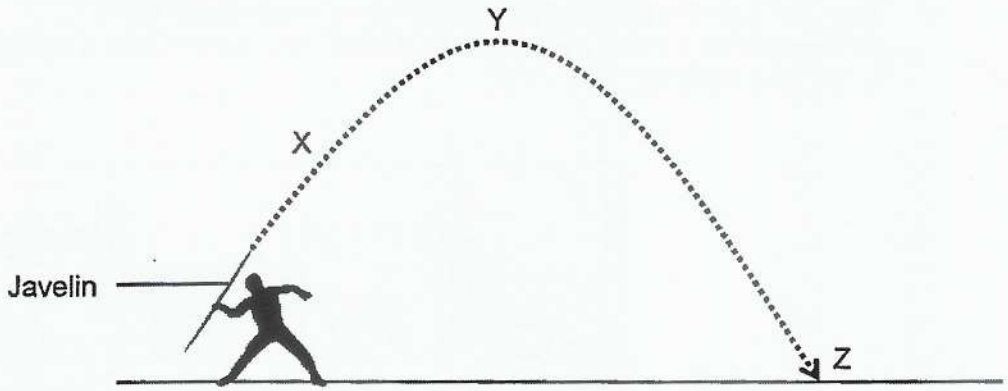
	 Beaker A	Beaker B	Beaker C	Beaker D
Amount of water (ml) at the beginning of the experiment	100	200	100	200
Temperature of water (°C) at the beginning of the experiment	40	40	80	80

Which beaker of water would show the greatest increase in temperature and which beaker of water would possess the greatest amount of heat energy at the end of 5 minutes?

	Greatest increase in temperature	**Greatest amount of heat energy**
(1)	Beaker A	Beaker C
(2)	Beaker C	Beaker B
(3)	Beaker B	Beaker D
(4)	Beaker A	Beaker D

( )

5. A man is throwing a javelin up into the air in a competition. The dotted line shows the path the javelin will travel through the air.



At which point(s) is gravitational force acting on the javelin?

(1) Y only
(2) X and Y only
(3) X and Z only
(4) X, Y and Z

( )

6. The diagram below shows a picture of a car crash.

Four students provided their responses to the effects of the force of the crash on the car.

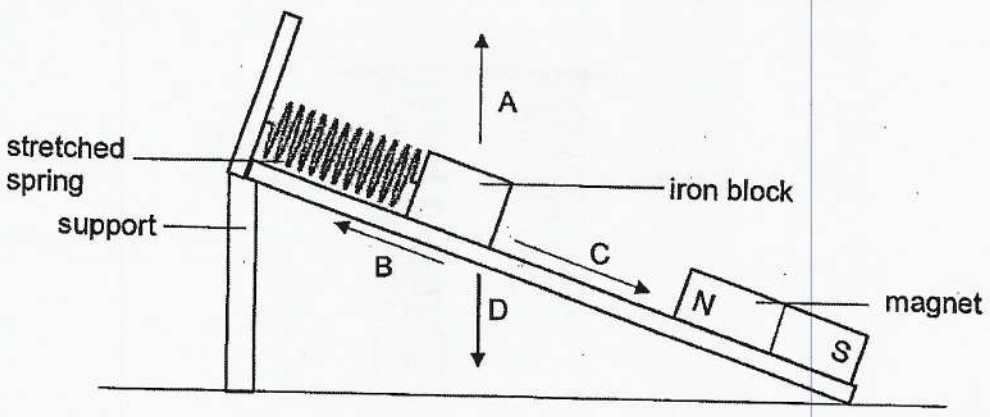
Jim	It stopped the moving car.
Aini	It changed the shape of the car.
Sam	It changed the mass of the car.
Citi	It changed the direction of the car.

Whose responses to the effects of the force on the car are correct?

(1) Jim and Aini only
(2) Sam and Citi only
(3) Jim, Aini and Sam only
(4) Aini, Sam and Citi only

( )

7. Taulik set up the experiment as shown below.

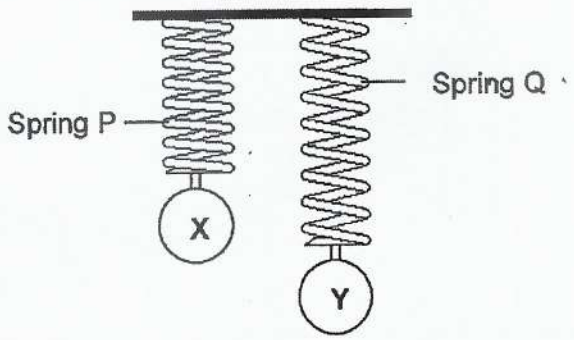


Which of the following correctly shows the direction of the different forces acting on the iron block?

	Gravitational Force	Frictional Force	Elastic Spring Force	Magnetic Force
(1)	A	C	B	B
(2)	A	B	C	C
(3)	D	B	B	C
(4)	D	B	C	C

( )

8. Two objects, X and Y, of the same material, shape and size are hung onto two different springs, P and Q, which have the same original length.



After some observations, Jamie wrote down four statements in her notebook.

A Spring Q is overstretched.
B Spring P is less stretchable than Q.
C Object X has less mass than Object Y.
D Spring Q has a longer extension than Spring P.

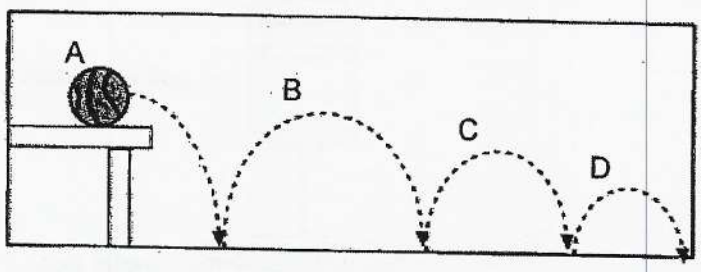
Which of the above statements made by Jamie are definitely correct?

(1) A and C only
(2) A and D only
(3) B and C only
(4) B and D only

( )

Section B: (9 marks)
For questions 9 to 12, write your answers in the spaces provided.
The number of marks available is shown in brackets [ ] at the end of each question or part question.

9. Jane dropped a ball from a table. The path it took is represented by the dotted lines in the diagram.

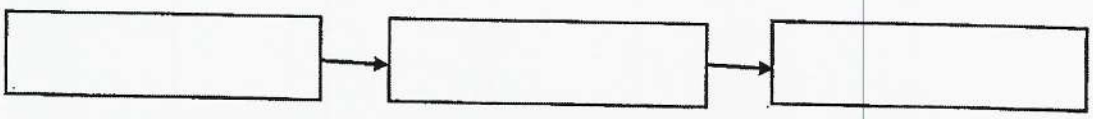


Jane repeated the above experiment three times and recorded the bouncing height of the ball, B, C and D, in the table as shown below.

Number of tries	Height (cm)		
	B	C	D
1	77	59	43
2	74	58	39
3	80	63	38
Average	77	60	40

(a) Why did Jane conduct the experiment three times? [1]

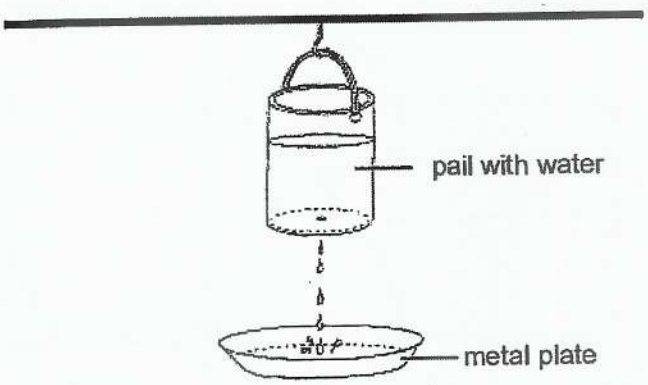
(b) Write down the energy conversion from Position A to B. [1]



(c) Why did the ball not bounce back to the original height? [1]

Score 3

10. Bala filled a pail with water. He hung it above a metal plate. A hole was made at the base of the pail for the water in it to drip out. When each drop of water hit the metal plate, a sound was heard.



(a) The hole at the base of the pail was enlarged.
Describe the change in the loudness of the sound heard. [1]

_____

_____

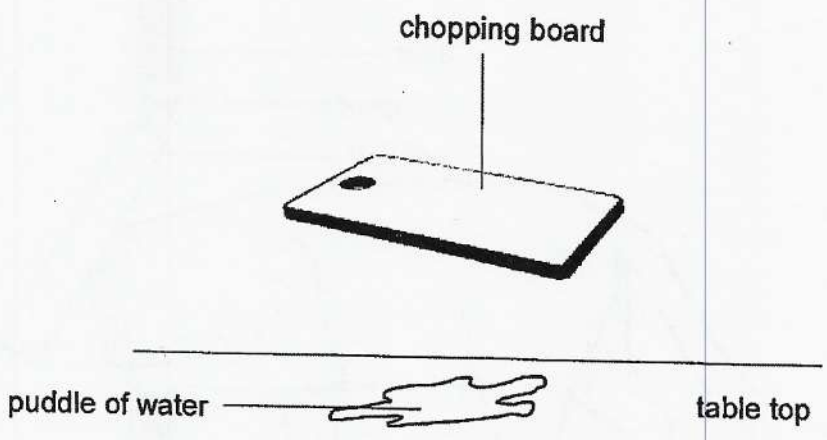
(b) Explain how enlarging the hole caused a change in the loudness of the sound heard as described in your answer in (a). [1]

_____

_____

Score	/ 2

11. Mrs Tan washed some meat and started chopping it on a chopping board. She realised that the chopping board kept sliding around the table top as she chopped the meat. She lifted the chopping board and saw a puddle of water underneath it.



(a) Explain, in terms of forces, why did the chopping board slide around the table top?

[1]

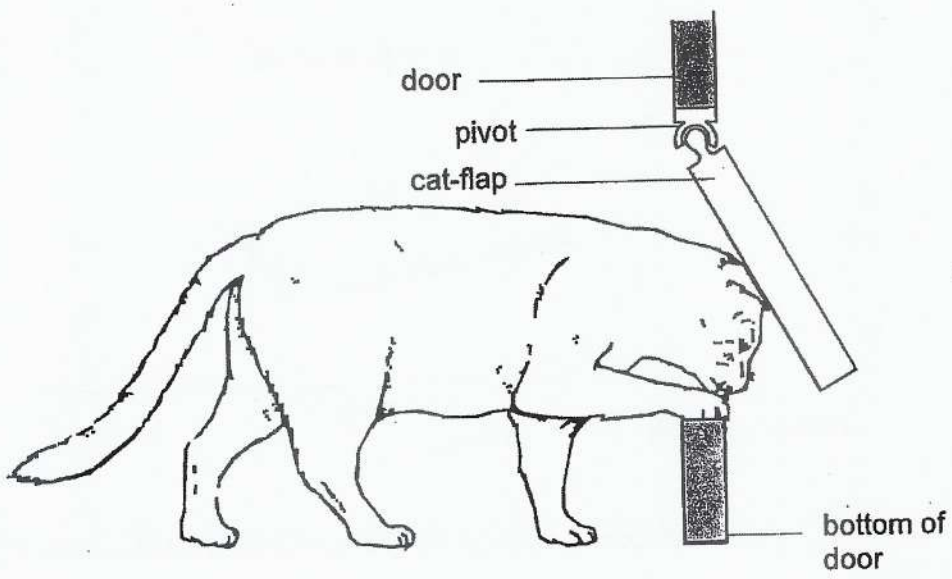
Her husband wiped away the water and suggested putting a piece of towel underneath the chopping board to prevent it from sliding around. Mrs Tan did that and found that it worked.

(b) Explain why putting the piece of towel underneath the chopping board helps to prevent it from sliding around.

[1]

Score	2

12. Ali made a cat-flap to fit into a door.



(a) On the diagram above, draw an arrow to show the direction of the force of the cat's head on the cat-flap. [1]

(b) When the cat has gone through the cat-flap, the flap closes on its own. Explain why. [1]

_____

_____

End of paper

Score	/ 2

NHPS P6 Science Term Review 2021
ANSWER
Section A

(1)	3	(5)	4
(2)	3	(6)	1
(3)	2	(7)	3
(4)	4	(8)	4

Section B

Qn	Answer	Marks
9a	She wanted to ensure the **reliability/consistency** of the results.	1m
9b	GPE ⟶ KE ⟶ GPE	1m
9c	**Some** of the energy has been **converted to heat and sound energy.**	1m
10a	The sound made became louder/ The volume increased	1m
10b	When the hole was enlarged, the mass of water flowing out increased/ more water. [1/2]. Hence there was more/greater gravitational potential energy converted to kinetic energy of the water and then converted to (more) sound energy. [1/2]	1m
11a.	The **puddle of water reduced the friction between the chopping board and the tabletop**, making it harder for the chopping board to stay put in one place.	1m
11b	The towel was **rough [1/2]** and **increased the friction between the chopping board and the towel [1/2].** This helped the chopping board to stay put in one place.	1m
12a	→	1m
12b	The weight of the cat-flap pulls it downwards. OR Gravity pulls the cat-flap downwards.	1m

END