

NANYANG PRIMARY SCHOOL

PRIMARY 5 SCIENCE

**SEMESTRAL ASSESSMENT 1
2010**

BOOKLET A

Date : 11 May 2010

Duration : 1 h 45 min

Name : _____ ()

Class: Primary _____ ()

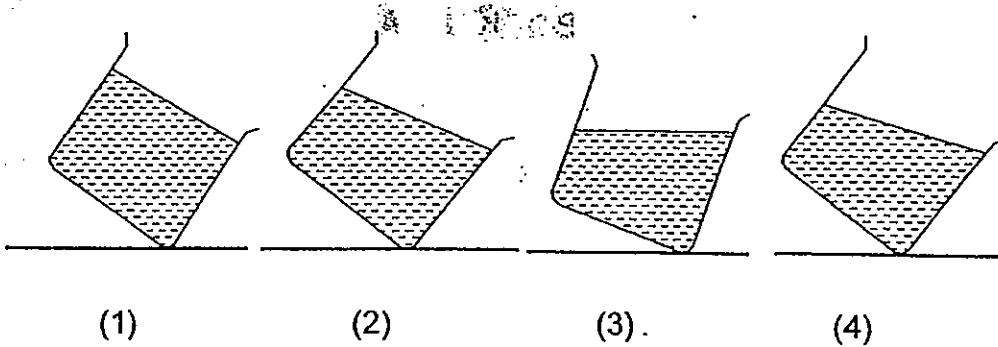
**DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.
FOLLOW ALL INSTRUCTIONS CAREFULLY.**

Booklet A consists of 14 printed pages including this cover page.

Section A (30 x 2 marks = 60 marks)

For each question from 1 to 30, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). **Shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet provided.**

1. A glass half-filled with water is tilted sideways. Which one of the diagrams below shows the correct water level?



2. Which of the following are solids?

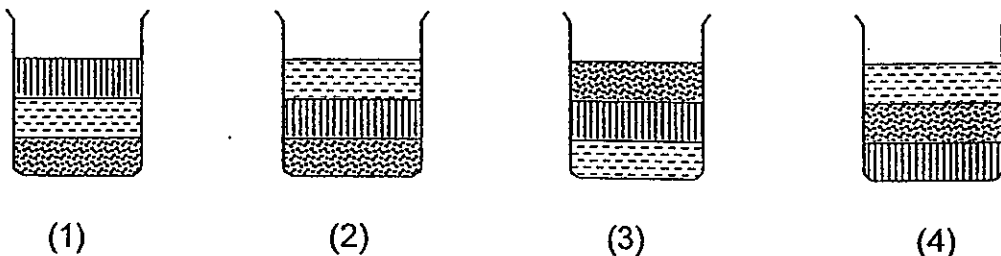
A: Sponge
B: Melted wax
C: Plasticine

- (1) A and B only (2) A and C only
(3) B and C only (4) All of the above

3. When some sand is added into a beaker of water, the sand will sink to the bottom of the beaker. When the same volume of oil is poured into the same beaker of water, the oil will float.

Which options shows what would happen if the same amount of sand, oil and water were placed in a beaker and allowed to stand for 5 min?

 Water  Sand  Oil



6. Zi Leng saw an organism with the following characteristics as she went for a walk in the forest.

- It is not green
- It produces spores
- It does not move freely on its own.

Which one of the following organisms could be an example of the organism that Zi Leng found?

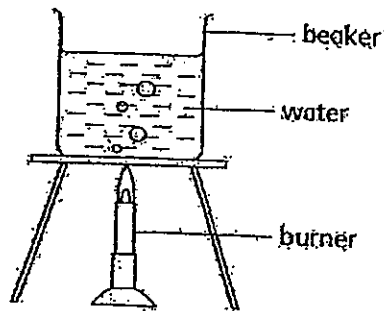
- | | |
|-----------|--------------|
| (1) Fern | (2) Yeast |
| (3) Snail | (4) Mushroom |

7. Which of the following action(s) will cause the boiling point of water to be greater than 100° C?

- A Add some sugar to the water
 B Heat lesser amount of water
 C Use a strong flame to heat the water
 D Heat the water for a longer period of time

- | | |
|---------------------|----------------------|
| (1) A only | (2) A and B only |
| (3) B, C and D only | (4) All of the above |

8. The following diagram shows a beaker of water being heated. Bubbles were observed when the temperature of the water reached 60°C and 100°C



What could the bubbles observed at 60°C and 100°C most likely contain?

	60°C	100°C
(1)	air	air
(2)	steam	steam
(3)	air	steam
(4)	steam	air

9. Which of the following does **not** make its own food?

- (1) bread mould (2) maize plant
 (3) hydrilla (4) cactus

10. Some animals were classified into Group A and B in the classification table below.

A	B
beaver, penguin, frog, platypus	tortoise, horse, man, lion

Which of the following characteristics had been used to classify them into the two groups?

	A	B
(1)	Carnivore	Omnivore
(2)	Lay eggs	Give birth to young alive
(3)	Webbed feet	Non-webbed feet
(4)	Does not have hair	Have hair

11. Which of the following describe the similarities between moss and fungi?

- A They photosynthesise
 B They reproduce by spores
 C They do not have roots and stem

- (1) A and B only (2) A and C only
 (3) B and C only (4) All of the above

12. Which one of the following organisms breathe through gills?

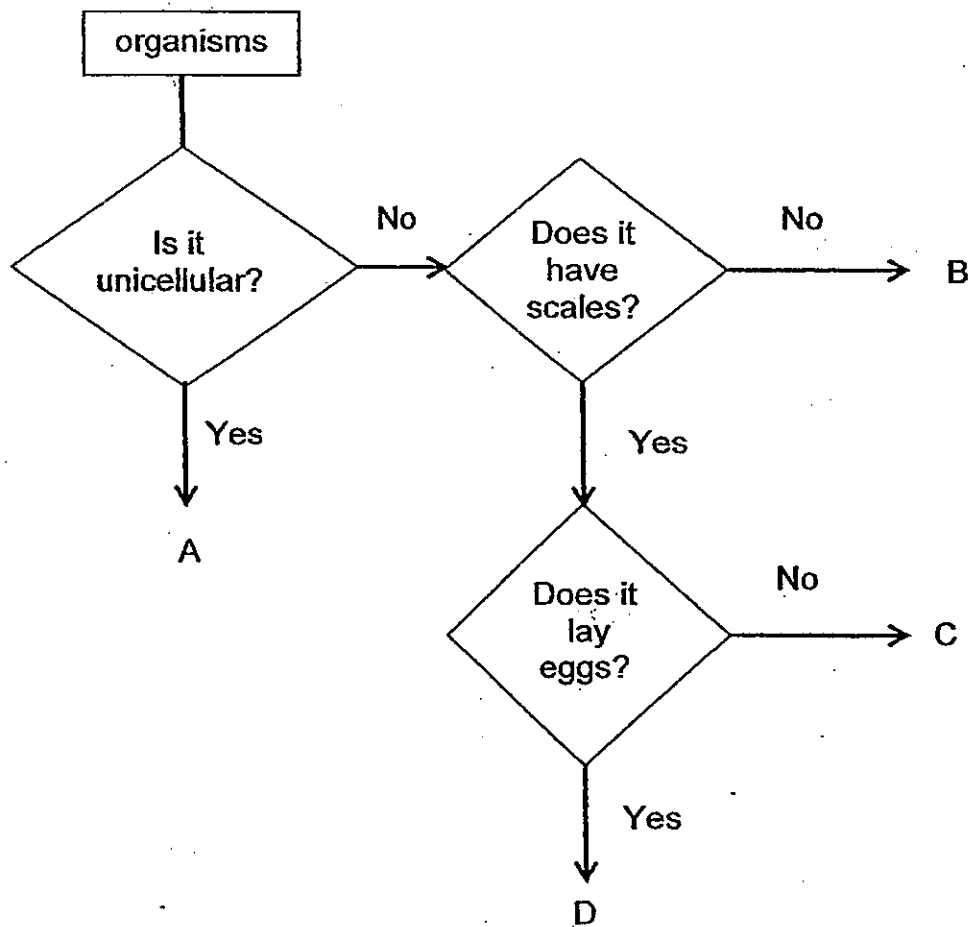
- (1) Seal (2) Frog
 (3) Whale (4) Guppy

13. Samuel saw a praying mantis and a dragonfly in his garden. He wanted to find out whether they are insects. Which of the following activities would help him to find out whether they are insects?

- A Observe how they move
 B Count the number of legs of each animal
 C Find out whether the animals have wings
 D Find out whether the animals have three body parts

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

14. Study the flow chart below.



Which of the following organisms best represent A, B, C and D?

	A	B	C	D
(1)	bacteria	eagle	shark	mosquito
(2)	moss	frog	whale	Sparrow
(3)	algae	mealworm	ant	dolphin
(4)	bacteria	rabbit	guppy	goldfish

15. Which of the following statements about water are true?

- A About $\frac{3}{4}$ of the Earth is covered with water.
- B There is more salt water than fresh water on Earth.
- C Water helps to keep our bodies at a suitable temperature.

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

16. Which of the following ways help to conserve water?

- A Fix a leaking pipe immediately.
- B Take baths instead of showers.
- C Use a half flush for flushing liquid waste.
- D Leave frozen food under running water to bring it to room temperature.

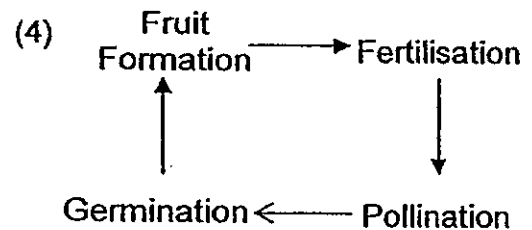
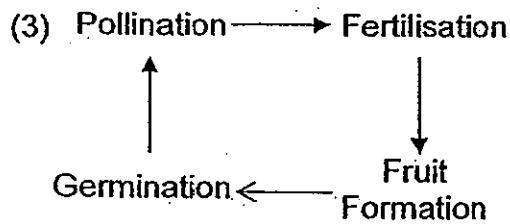
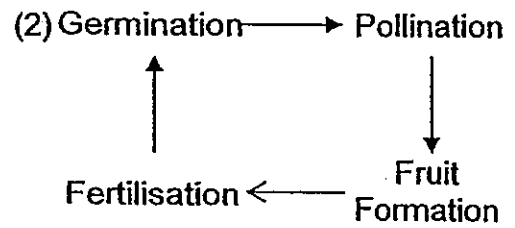
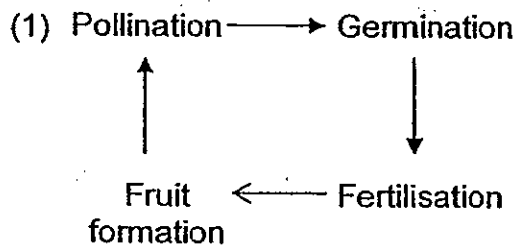
- (1) A and C only
- (2) A and D only
- (3) B and C only
- (4) B and D only

17. Which of the following statements are true about a staghorn fern and a mango tree?

- A They can make their own food.
- B They can reproduce by spores.
- C The staghorn fern is a non-flowering plant but the mango tree is a flowering plant.
- D The staghorn fern and the mango tree have the same method of dispersal to ensure that their young do not grow near the parent.

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

18. Which of the following shows the correct order in the process of plant reproduction?



19. Four pupils were discussing about reproduction and made the following statements.

Ally: Fruits are the result of sexual reproduction in plants.

Barry: All living things reproduce to ensure continuity of their own kind.

Chloe: Traits of the parents are passed on to their young during reproduction.

David: Seeds of an apple are the results of asexual reproduction.

Which of the pupils have made a correct statement?

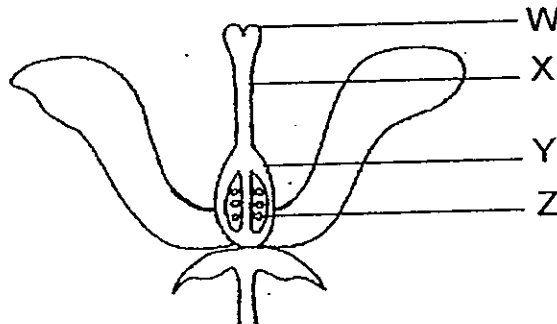
- (1) Ally, Barry and Chloe only
 (2) Ally, Barry and David only
 (3) Ally, Chloe and David only
 (4) Barry, Chloe and David only

20. Javas made the following observations about a pair of adult plants of the same type.

Adult plant J	Adult plant K
thick stem big leaves sweet fruits	thin stem small leaves sour fruits

If adult plant K undergoes asexual reproduction, what would most likely be the characteristics of its young?

- (1) thick stem, small leaves, sour fruits
 - (2) thin stem, big leaves, sweet fruits
 - (3) thin stem, small leaves, sour fruits
 - (4) thick stem, big leaves, sweet fruits
21. The diagram below shows the parts of a female flower labelled as W, X, Y and Z.



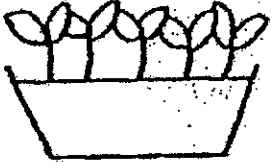
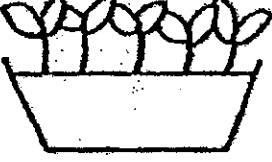
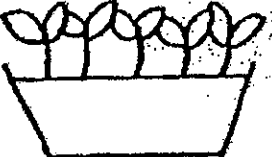
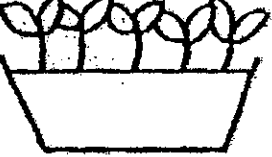

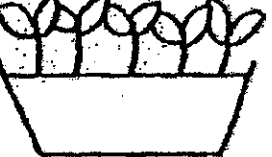

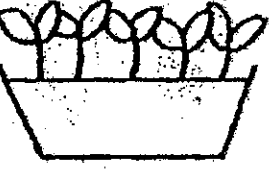
Which one of the following correctly identifies W, X, Y and Z?

	W	X	Y	Z
(1)	stigma	style	ovary	ovule
(2)	ovule	stigma	style	ovary
(3)	stigma	style	ovule	ovary
(4)	style	ovary	ovule	stigma

22. Which one of the following sets of statements about pollination, fertilisation and seed dispersal is true?

	Pollination	Fertilisation	Seed Dispersal
(1)	Pollen is only transferred from stigma to the anther by insects	Pollen moves down the style to fertilise the ovule	Wind-dispersed seeds must have hooks
(2)	Pollen that are transferred by wind is small and light	Pollen tube moves down the style to fertilise the ovule	Juicy fruits are dispersed by animals
(3)	Pollen is only transferred from anther to the stigma by wind	Male reproductive cells fertilise the stigma	Seeds with fibrous husks are dispersed by water
(4)	Pollen is transferred from anther to the stigma by either wind or insects	Male reproductive cells fertilise the female reproductive cells	Wind-dispersed seeds usually have wing-like structures

23. Shaun wanted to study the effects of overcrowding on plant growth. Which pair of set-ups should he use for his experiment to ensure a fair test?

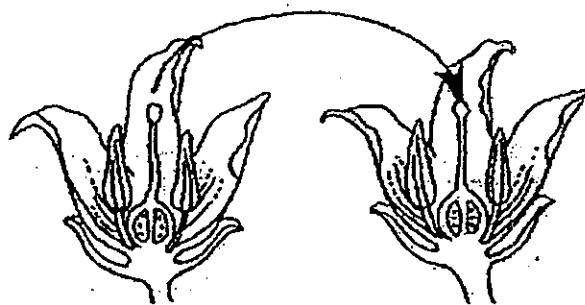
- (1)  
 Set-up A: Room temperature, Watered daily
 Set-up B: 10°C, Watered daily
- (2)  
 Set-up A: Room temperature, Watered daily
 Set-up B: Room temperature, Watered weekly
- (3)  
 Set-up A: Room temperature, Watered weekly
 Set-up B: 10°C, Watered daily
- (4)  
 Set-up A: Room temperature, Watered daily
 Set-up B: Room temperature, Watered daily

24. Which one of the following correctly pairs the parts of a flower with its function?

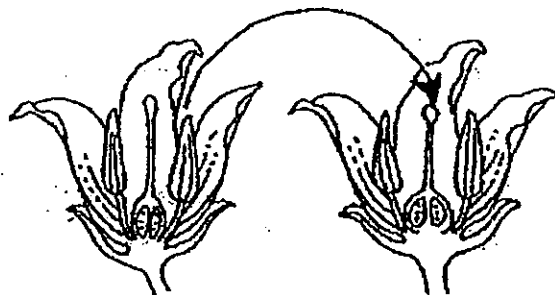
	Flower parts	Function
(1)	Style	Connects the anther to the ovary
(2)	Anther	Receives the pollen grains
(3)	Stigma	Produces pollen grains
(4)	Filament	Connects the anther to the flower

25. Which one of the following diagram correctly shows the cross-pollination of flowers?

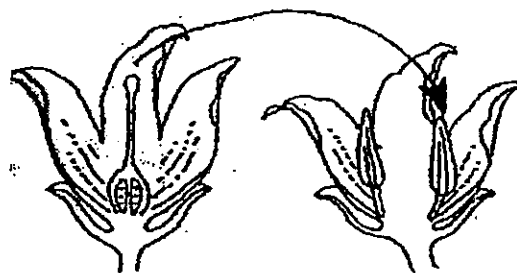
(1)



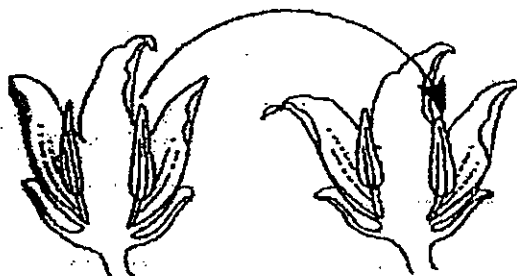
(2)



(3)



(4)



26. Some fruits/seeds are classified into group A, B and C based on their methods of dispersal, as shown in the table below.

A	B	C
African tulip	Peach	Lotus
Angsana	Rambutan	Nipah

Which one of the following fruits/seeds is correctly classified into the same group A, B and C based on the table above?

	A	B	C
(1)	Mango	Sea almond	Shorea
(2)	Love grass	Shorea	Sea almond
(3)	Kapok	Apple	Coconut
(4)	Pong-pong	Cotton	Love grass

27. The table below gives a description of 2 unknown seeds, P and Q.

	Does it have wing-like structure?	Is it fleshy?	Is it light?
P	√	x	√
Q	x	√	x

Based on the characteristics of the 2 unknown seeds given above, what is the most likely mode of dispersal for seeds P and Q?

	P	Q
(1)	By water	By splitting
(2)	By animal	By water
(3)	By wind	By animals
(4)	By splitting	By wind

28. Which of the following statements about human reproduction are true?

- A Girls are born without eggs in their ovaries.
- B Egg cells and sperm cells are of equal sizes.
- C Boys only start to produce sperms after puberty.
- D Sperms are able to move on their own but not the eggs.

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

29. Which of the following traits will not change naturally as a child grows into an adult?

- A Eye colour
- B Fingerprint
- C Hair length
- D Type of earlobe
- E Ability to roll tongue
- F Length of fingernails

- (1) A, B, C and D only
- (3) A, B, D and E only

- (2) A, B, C and E only
- (4) B, D, E and F only

30. Which of the following correctly identifies the organs found in the male and female reproductive systems?

	Male reproductive system	Female reproductive system
(1)	Penis	Vagina
(2)	Uterus	Ovary
(3)	Fallopian tube	Uterus
(4)	Testis	Penis

NANYANG PRIMARY SCHOOL

PRIMARY 5 SCIENCE

SEMESTRAL ASSESSMENT 1
2010

SECRET

Date : 11 May 2010

Duration : 1 h 45 min

Name : _____ ()

Class: Primary _____ ()

Marks Scored:

Booklet A:		60
Booklet B :		40
Total :		100

Parent's signature:

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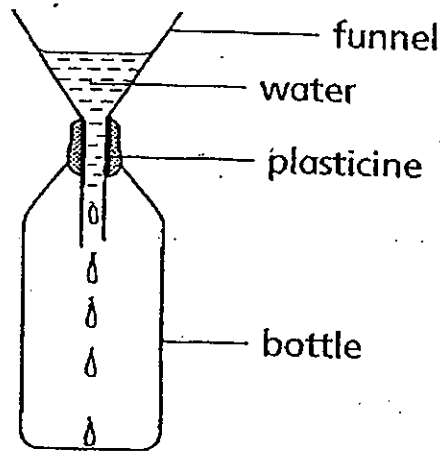
Booklet B consists of 13 printed pages including this cover page.

Section B (40 marks)

Write your answers to questions 31 to 44 in the spaces provided.

Marks will be deducted for misspelt key words.

31. In the experiment below, Shirley uses a piece of plasticine to hold the funnel in place at the mouth of a bottle. She notices that the water in the funnel is dripping very slowly into the bottle.



- (a) Explain why the water is dripping very slowly into the bottle. [1]

- (b) i) What can Shirley do to speed up the flow of water into the bottle? [1]

- ii) Explain your answer in (i). [1]

32. The box below consists of examples that can be classified using the classification table in part (a).

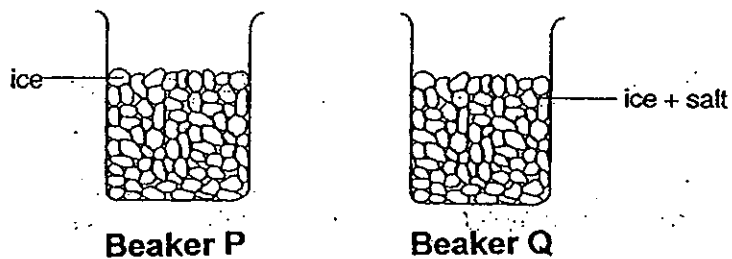
sound	milk	oil
oxygen	snow	light

- (a) Fill in the classification table below with the examples given. [3]

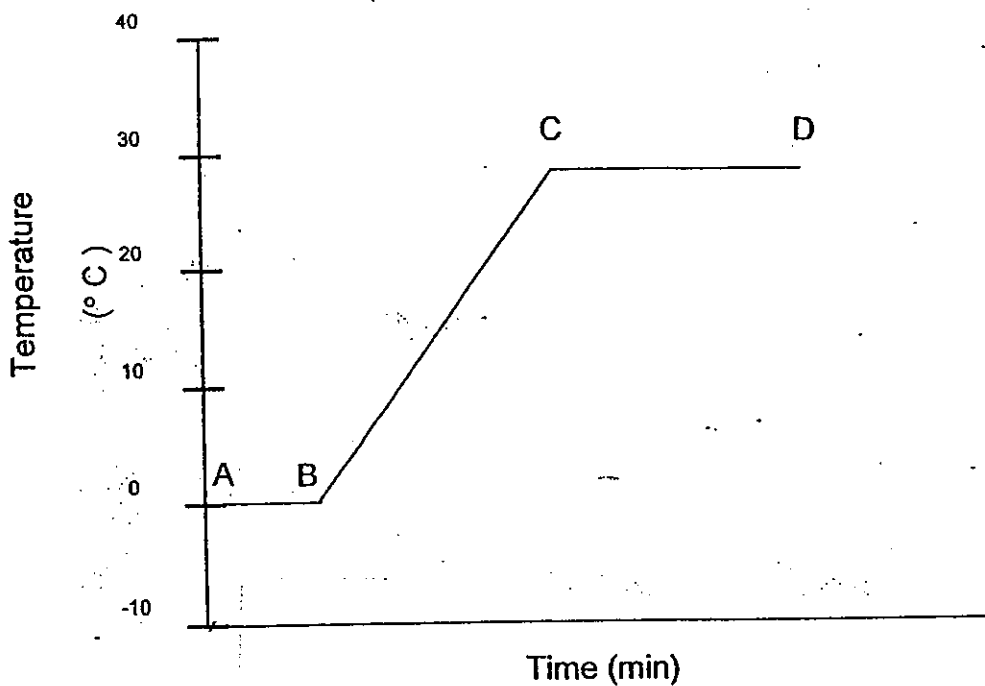
<u>X</u>	Matter		
	Solid	Liquid	Gas

- (b) Give a suitable heading for 'X'. [1]

33. Beakers P and Q contain an equal amount of ice. Some salt is added to the ice in Beaker Q. Both beakers are left undisturbed on a table.



The graph below shows the changes in temperature for ice in Beaker P over time. A, B, C and D represent the temperature of ice/water at different points of the curve.



- (a) Between which two points was the ice melting? [1]

- (b) What caused the ice to melt? [1]

- (c) Mark the point on the graph with an 'X' to represent the temperature of the ice in Beaker Q immediately when salt was added. [1]

34. Danny wants to find out if sea water or tap water evaporates faster. He uses two evaporating dishes of the same material, size and colour.

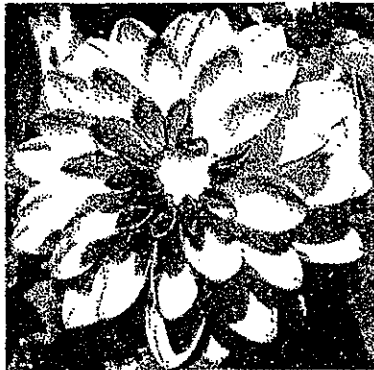
(a) Write down two other variables that he must keep the same so that his investigation is a fair one. [2]

(i) _____

(ii) _____

(b) What observation would he make if he concluded that tap water evaporates faster than sea water? [1]

35. Lin Hui looked at the following flowers found at her school compound as shown in the diagrams below.



Flower A



Flower B

She told her friends that both the flowers must be pollinated by insects since they look very attractive. Her teacher overheard her conversation and said that she was wrong about one of the flowers.

(a) State what Lin Hui had told her friends wrongly. [1]

(b) Predict which flower would most likely be sweet-scented. Explain your answer. [1]

36. The table below shows the characteristics of three organisms, X, Y and Z.

Characteristics	Organism X	Organism Y	Organism Z
The way it moves	walks and runs	swims	swims
Where it lives	land	water	water
How it reproduces	lays eggs	gives birth to its young	lays eggs
Part of body that helps it to move	legs	flippers	fins
How it breathes	through lungs	through lungs	through gills

(a) Write the **group** that organisms X, Y and Z belongs to. [1 ½]

Organism X: _____

Organism Y: _____

Organism Z: _____

(b) Complete the table below by giving an example each for X, Y and Z. [1 ½]

Organism X	Organism Y	Organism Z

37. Study the picture below.



Micro-organisms, such as fungi can be found in the above environment.

(a) Name another micro-organism that can be found in the above environment. [1]

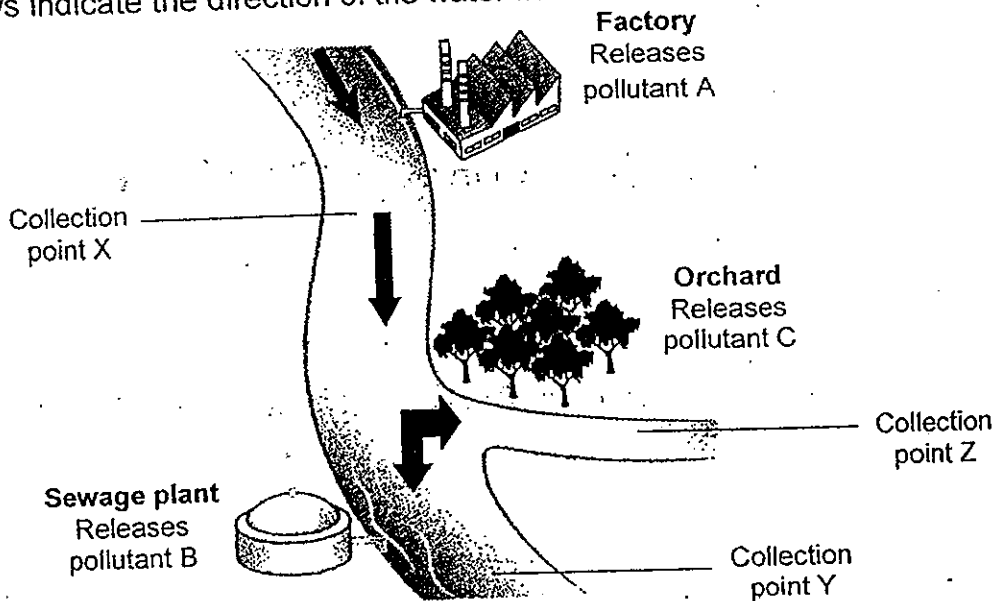
(b) Explain why the organism you have named in (a) is harmful to humans. [1]

(c) The organism you have named in (a) can also be found in our digestive system. State a way in which it obtains food. [1]

38. Yu Lin collected some water, sample J and sample K, from two different parts of a river. She tested it for pollutants and recorded the results in the table below.

	Pollutant A	Pollutant B	Pollutant C
Sample J	√	x	x
Sample K	√	x	√

She then looked at a map of the buildings near the river as shown below. The arrows indicate the direction of the water flow.



- (a) At which 2 of the following collection points, X, Y or Z, did she collect samples J and K from?

(i) Sample J: Collection point _____

(ii) Sample K: Collection point _____

[1]

- (b) It was found that pollutant A could cause the water in the river to turn cloudy. Explain how pollutant A could affect the growth of water plants found in the river.

[1]

- (c) Explain why fruits grown at the orchard shown above might not be safe for eating.

[1]

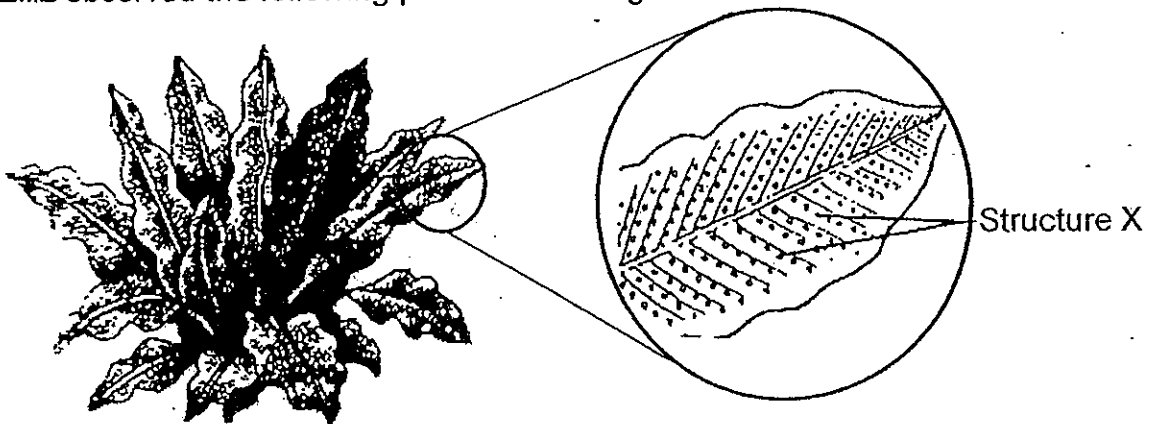
39. Maggie was given a few identical seeds by her teacher. She placed the following set-ups in her classroom to try growing the seeds. All the set-ups were placed on the same table beside the window.

Set-up A	Set-up B	Set-up C	Set-up D
Dry cotton wool 26°C Covered tightly	Moist cotton wool 26°C Covered tightly	Dry cotton wool 26°C Uncovered	Moist cotton wool 26°C Uncovered

- (a) If she did not add any more water to the set-ups throughout her experiment, in which set-up(s) would she observe the seeds germinating? Explain your choice(s). [1]

- (b) What was the aim of her experiment? [1]

40. Elliz observed the following plant at the Ecogarden.

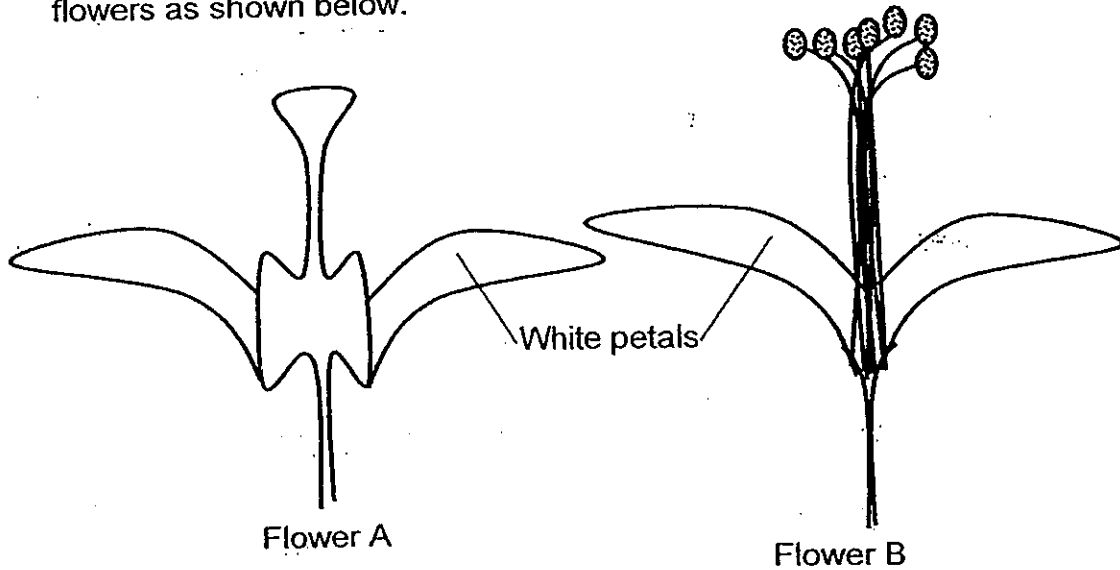


She noticed that the plant has structure X under each leaf. This structure felt powdery when she touched it. It also left a brown stain on her fingers.

- (a) What could structure X be? [1]

- (b) Would this plant be able to produce fruits and seeds? Explain your answer. [1]

41. An Lai discovered an interesting new plant that bears two different types of white-coloured flowers. One flower has male reproductive parts only and the other has female reproductive parts only. He noticed that the reproductive parts of each flower stick out of the petals. He made drawings of the two flowers as shown below.



After a few weeks, he noticed that the petals had dropped off from both flowers. The base of flower A also started to enlarge.

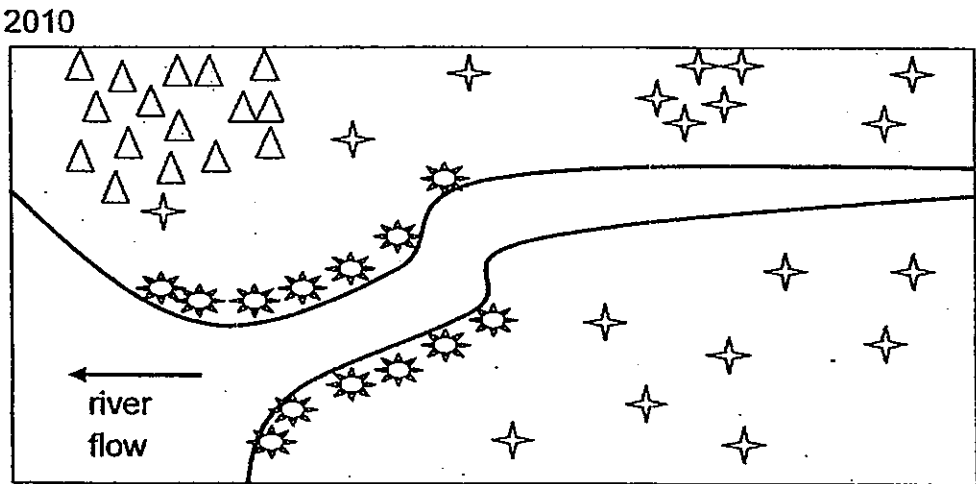
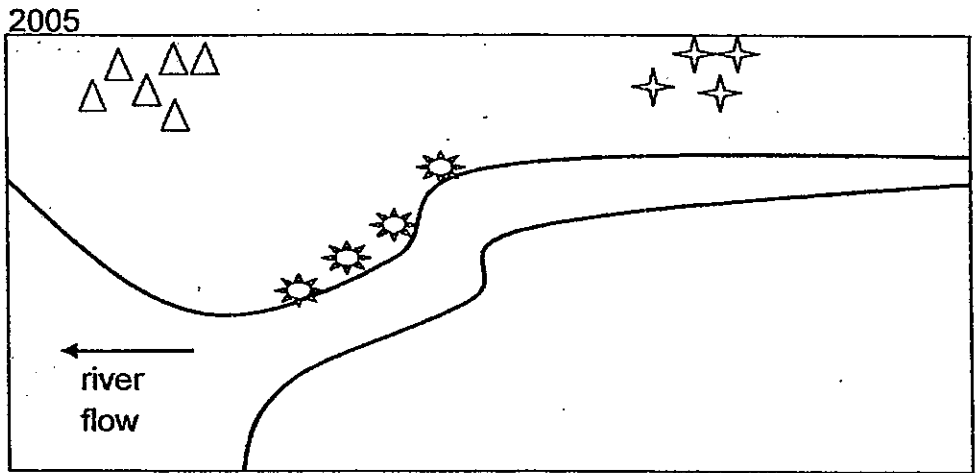
- (a) Which flower has the female reproductive parts? Explain your choice.

[1]

- (b) How are these flowers pollinated? Explain your answer.

[1]

42. The diagrams below show the distribution of 3 types of plants, P, Q and R, near the NYPS river in the year 2005 and 2010.

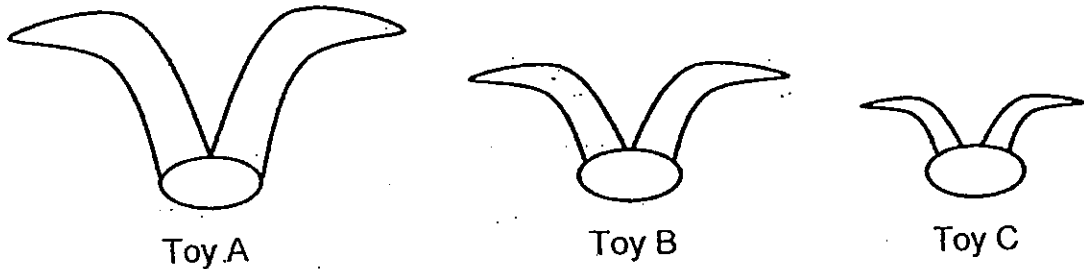


Key: Plant P
 Plant Q
 Plant R

(a) State the method of dispersal for plant R. [1]

(b) Give an example of plant P and describe its characteristic that enables it to be dispersed as shown in the diagram above. [1]

43. Christopher created the following toys to model a wind-dispersed seed. He wanted to study the effect of the length of the wing-like structure and the time it takes to reach the ground. He dropped each toy from a height of 2 metres above the ground and used a stopwatch to measure the time it took to reach the ground.

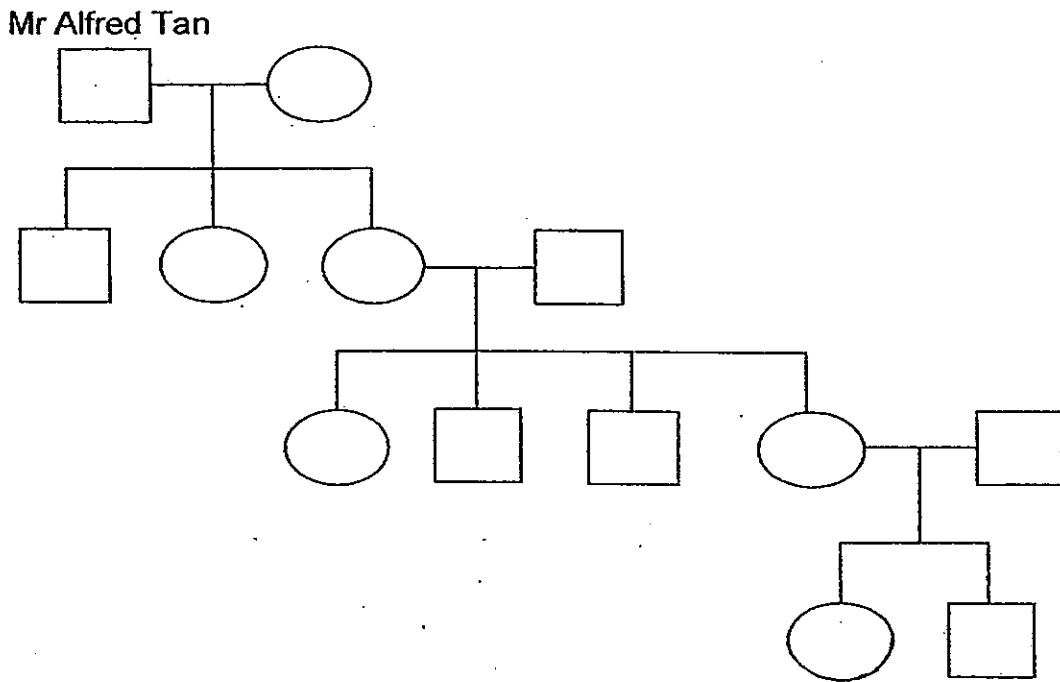


He drew the following table based on the results of his experiment.

Toy	Time taken to reach the ground (seconds)
A	8
B	4
C	(a) _____

- (a) Predict and fill in the value for Toy C in the table above. [1]
- (b) What should Christopher do in his experiment to ensure that his results are reliable? [1]
- _____
- _____
- (c) What is the relationship between the length of the wing-like structure and the time the toy takes to reach the ground? [1]
- _____
- _____
- (d) State one variable that should remain constant in his experiment to ensure a fair test. [1]
- _____

44. The diagram below shows Mr Alfred Tan's family tree.



(a) How many generations are shown in the family tree above? [1]

(b) How many grandchildren does Mr Alfred Tan have? [1]

(c) Clara is Mr Alfred Tan's great-grand daughter. Label 'Clara' in the family tree above. [1]

(d) Mr Alfred Tan suffers from colour blindness. This trait affects all of his male descendents only. In total, how many people in the tree above suffer from colour blindness? [1]

—————END OF PAPER—————

Setters: Mdm Sunnie Tang
Ms Yasmeen Mohamad

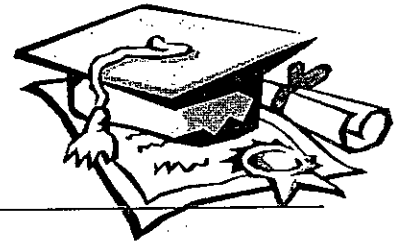


ANSWER SHEET

EXAM PAPER 2010

**SCHOOL : NANYANG PRIMARY
SUBJECT : PRIMARY 5 SCIENCE**

TERM : SA1



Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17
3	2	1	3	2	4	1	3	1	3	3	4	2	4	4	1	1

Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
3	1	3	1	4	4	4	2	3	3	4	3	1

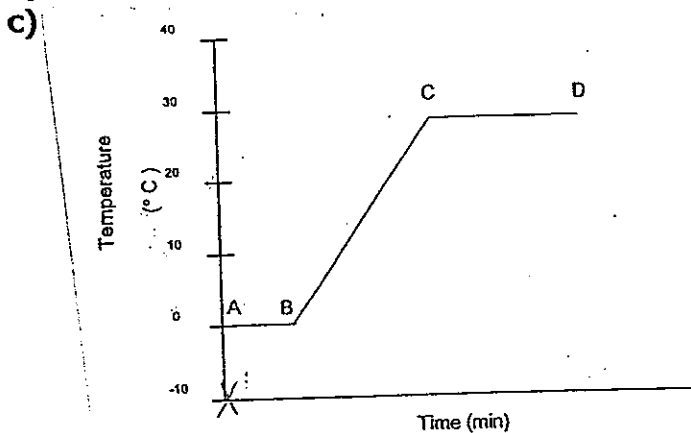
- 31)a) Air is occupying the space in the bottle.
 b)i) Lift the funnel up the empty space.
 ii) This allows the air to escape so the water can.

32)a)

X	Matter		
	Solid	Liquid	Gas
Light			
Sound	Snow	Milk	Oxygen
		Oil	

b) non-matter.

- 33)a) A-B
 b) The ice gains heat from the surroundings.



34)a)i)The amount of water. ii)The temperature of the water.
b)The volume of tap water left is less than the volume of sea water.

35)a)Flower B is pollinated by wind.
b)Flower A. It is pollinated by insects and has to be sweets-scented to attract insects.

36)a)X: bird Y: mammals Z: fish
b)ostrich, whale, goldfish

37)a)Bacteria.
b)It makes us sick.
c)It takes some nutrients from the food we eat.

38)a)i)X ii)Z
b)Less light would reach the water plants so they cannot photosynthesis much.
c)The fruit trees would take in water contain pollutant A so the fruit might contain it too. Pollutant C might be pesticides, sprayed on the plants, which is harmful when eaten.

39)a)Seed need water, oxygen and warmth to germinate and only set-up D has all 3 factors.
b)To find out the factors needed for germination.

40)a)Spore bags.
b)No, it is a non-flowering plant as it reproduce by spores.

41)a)Flower A, as it is starting to enlarge to form a fruit and only female flowers enlarge to become a fruit.
b)By wind. The flowers are dull and thus do not attract insects.

42)a)By wind.
b)coconut, it has a fibrous husk that trap air and a waterproof covering.

43)a)2
b)Repeat the experiment at least 3 times.
c)The longer the wing-like structure the slower the time taken to reach the ground.
d)Presence of wind.

44)a)4 generations. b)4 grand children.
d)5 people.

