

Name: _____ ()

Class: _____



MONTFORT SECONDARY SCHOOL
END-OF-YEAR EXAMINATION 2022

Secondary 1 Express
Geography

4 Oct 2022 (Tue)
1 hour 15 minutes

READ THESE INSTRUCTIONS FIRST

Write your name, class and register number in the space provided on the cover page, and on the work that you hand in.

Write in dark blue or black pen.

Write all your answers on the spaces provided.

Do not use staples, paper clips, glue or correction fluid.

Section A

Answer **all** questions

Section B

Answer **all** questions

The number of marks is given in brackets [] at the end of each question or part question.

The total mark for this paper is **36**.

Candidates should support their answers with the use of relevant examples.

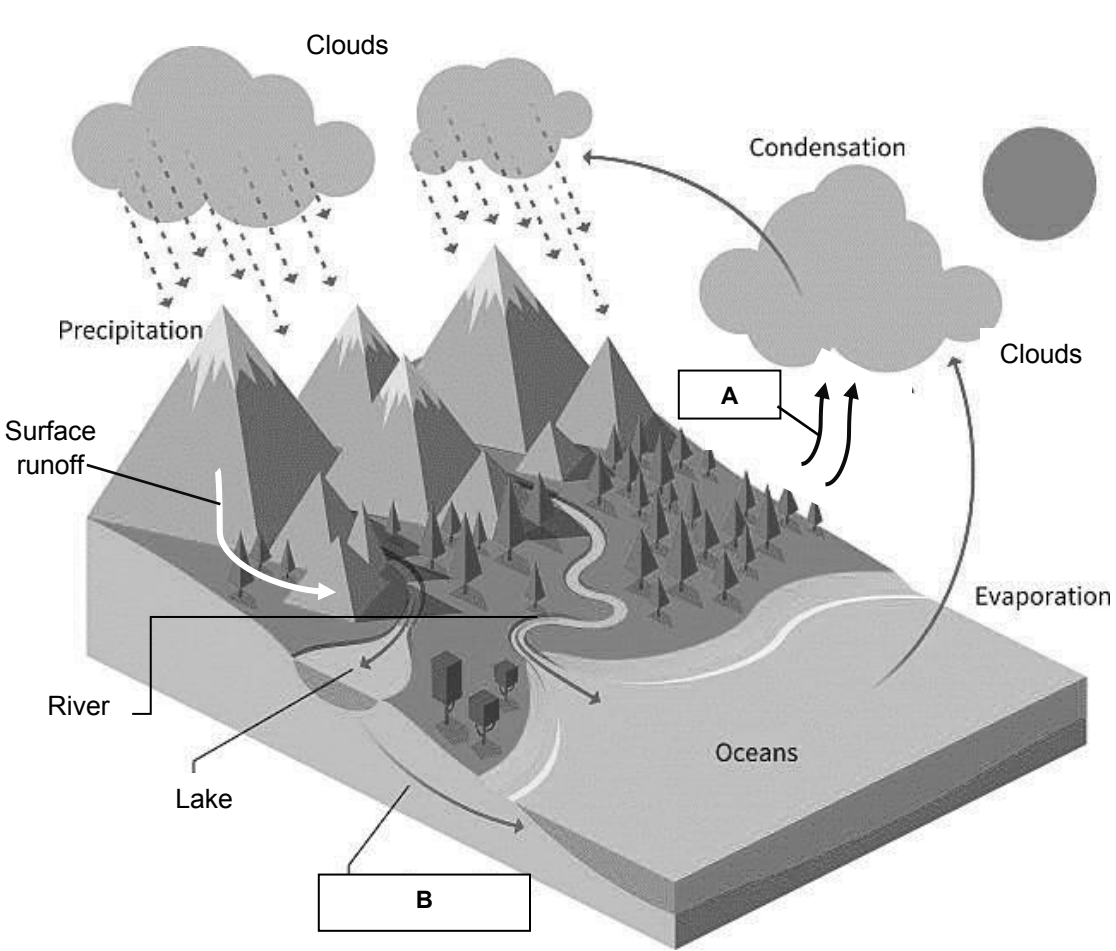
This document consists of **9** printed pages and **1** blank page.

Setter: Mr Marcus Tan

[Turn Over

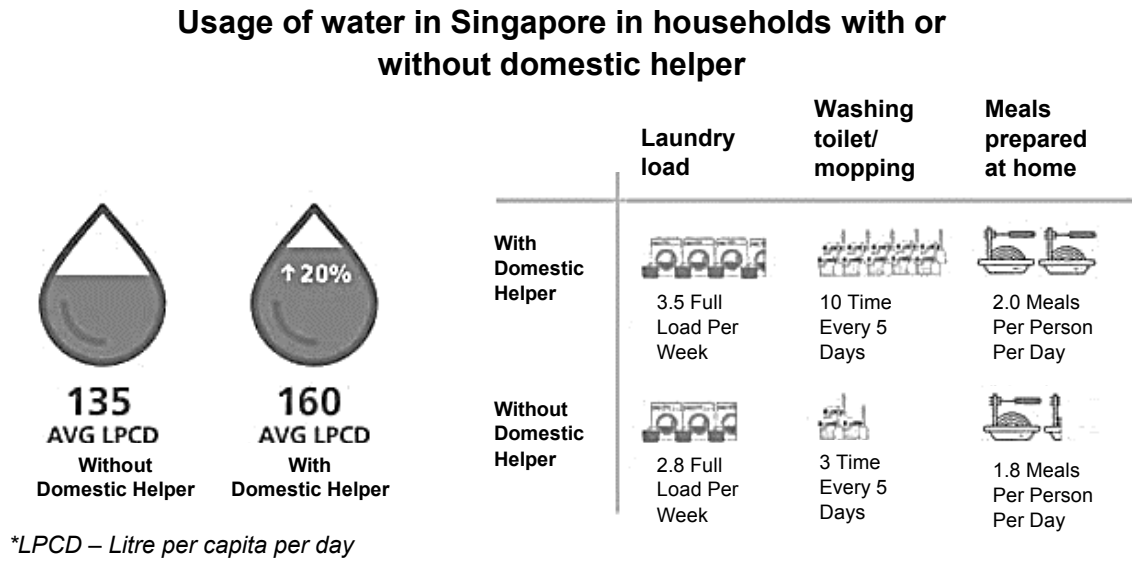
Section A

Answer **all** questions.

1	(a)	Study Fig. 1, which shows an illustration of the hydrological cycle.
		<p style="text-align: center;">The hydrological cycle</p> 
		Fig. 1
	(i)	Identify a type of water store shown in Fig. 1.
		<p>..... [1]</p>

	(ii)	With reference to Fig. 1, identify and describe the hydrological processes labelled A and B.
		<p>A:</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>B:</p> <p>.....</p> <p>.....</p> <p>..... [4]</p>

Study Fig. 2, which shows the usage of water in Singapore with or without a domestic helper.



With reference to Fig. 2, describe the differences in usage of water for households with domestic helpers and households without domestic helpers.

[4]

	(c)	<p>Explain why water is important for agriculture and industries.</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>..... [2]</p>
	(d)	<p>Explain why certain regions experience droughts.</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>..... [3]</p>
	(e)	<p>Describe the advantages and disadvantages of reducing water consumption as a strategy to manage the water supply in a country.</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>..... [4]</p> <p style="text-align: right;">[Total: 18 marks]</p>

Section B

Answer **all** questions.

2	(a)	Study Fig. 3, which shows the different species of mangrove trees found in each zone.
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Different species of mangrove trees found in each zone

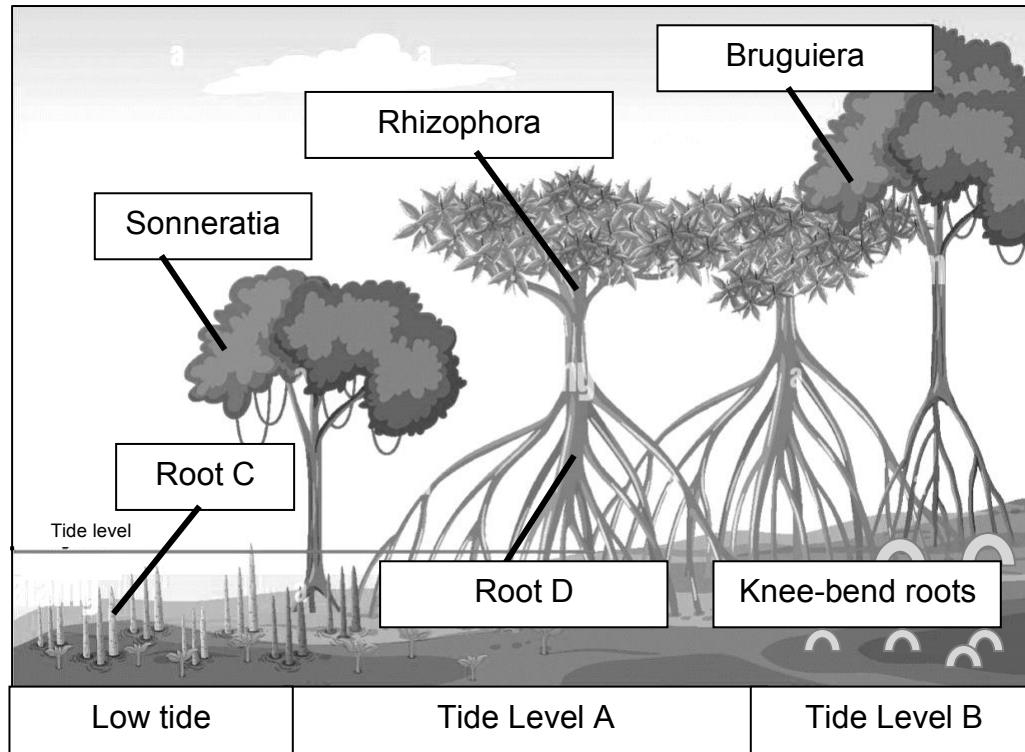


Fig. 3

	(i)	<p>With reference to Fig. 3, identify Tide Level B.</p> <p>Tide level B: [1]</p>
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- (ii) Identify the type of roots labelled C and D shown in Fig. 3 and describe how they help mangrove trees adapt to the environment.

Root C:

.....

.....

.....

Root D:

.....

.....

.....[4]

(b) Study Fig. 4, which shows the carbon cycle of a tree.

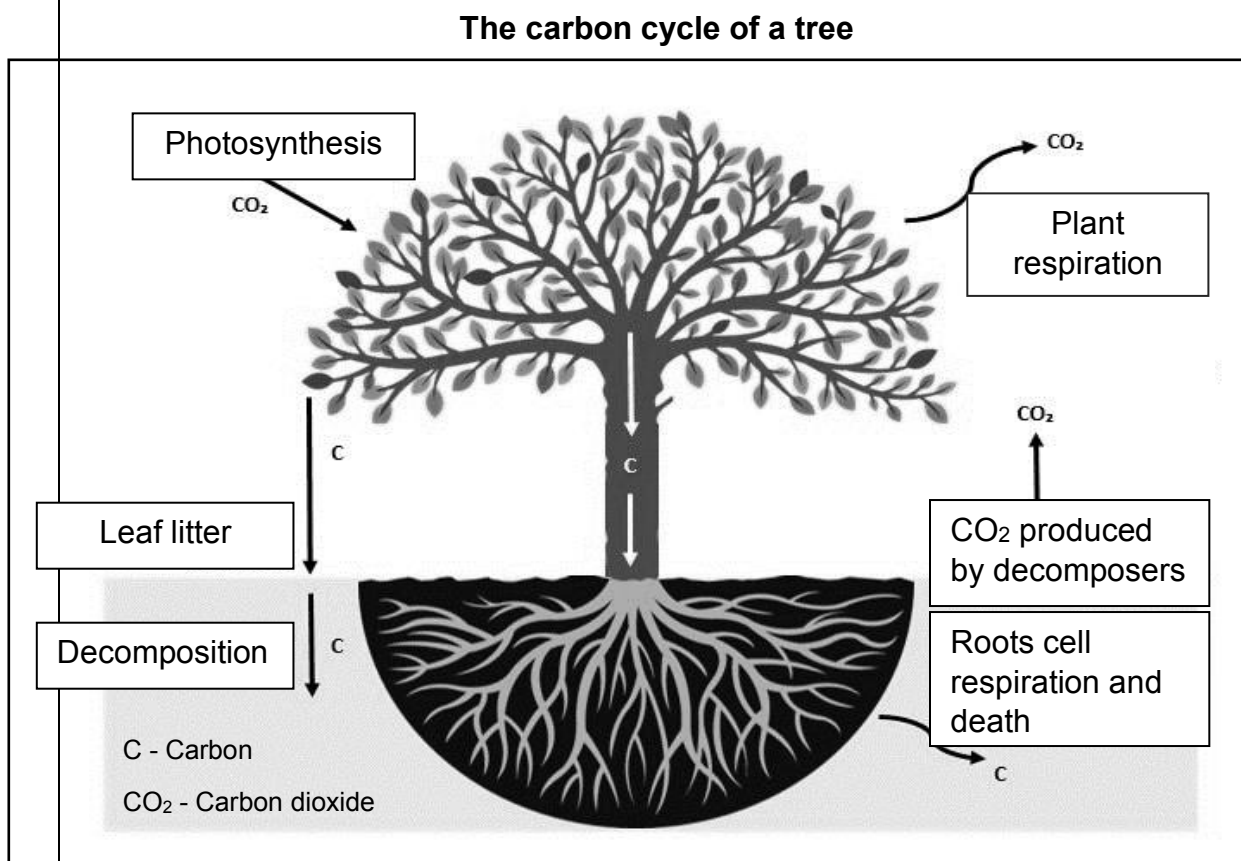


Fig. 4

With reference to Fig. 4, identify and describe **two** ways a tree contributes to carbon storage.

.....

.....

		<p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>..... [4]</p>
	(c)	<p>The tropical rainforest is used by people for recreation. Describe other ways people make use of the tropical rainforest.</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>..... [3]</p>
	(d)	<p>Describe the process of deforestation and explain its consequences on the environment.</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>..... [3]</p>
	(e)	<p>Describe the advantages and disadvantages of establishing protected areas as a strategy to manage tropical rainforests.</p>

		<p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>..... [3]</p>
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[Total: 18 marks]

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Copyright Acknowledgements:

Question 1	Fig. 1	https://www.istockphoto.com/illustrations/water-cycle
	Fig. 2	https://smartwatermagazine.com/news/pub-singapores-national-water-agency/make-every-drop-count-continuing-singapores-water-success
Question 2	Fig. 3	https://c8.alamy.com/comp/2G4KF27/structure-of-mangrove-forest-with-three-zones-diagram-illustration-2G4KF27.jpg
	Fig. 4	https://www2.deloitte.com/za/en/pages/tax/articles/is-carbon-sequestration-a-viable-option-for-reducing-carbon-tax.html

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ANSWER SCHEME

This document consists of **8** printed pages.

Setter: Mr Marcus Tan

1a		AO 1+2	AO 1+3
	<p>(i) Identify a type of water store shown in Fig. 1.</p> <p>Answer: <i>Accept any one of the following:</i></p> <ul style="list-style-type: none"> - River - Lakes - Oceans - Clouds 		1
	<p>(ii) With reference to Fig. 1, identify and describe the hydrological processes labelled A and B.</p> <p>Answer: <i>Award 2m for identify, 2m for matching description. Total 4m.</i></p> <ul style="list-style-type: none"> - A – Transpiration - Water flows from the highlands/over the ground surface into streams/rivers/water bodies. - B – Groundwater/Groundwater flow - Water that is seeped into the ground and stored as groundwater. 		4
Strengths:			
Weaknesses:			
Suggestions for Improvements:			

1b	<p>With reference to Fig. 2, describe the differences in usage of water for households with domestic helpers and households without domestic helpers.</p> <p>Answer: <i>Award 1m for each of the following points. Differences must be made between the different type of households. Max. 3m if no clear description of differences is made.</i></p> <ul style="list-style-type: none"> - There was a higher usage of 160 LCPD in households with domestic helpers. - There was a lower usage of 135 LCPD in households without domestic helpers. - Households with domestic helpers has a higher laundry load of 3.5 full load per week. - Household without domestic helpers have a lower laundry load of 2.8 full load per week. - Households with domestic helpers use more water as they mop the floor 10 times in every 5 days. - Households without domestic helpers use less water at 3 times every 5 days. - Households with domestic helpers prepares more meals at 2 meals per person per day. - Households with domestic helpers prepares less meals at 1.3 meals per person per day. 		4
Strengths:			
Weaknesses:			
Suggestions for Improvements:			
1c	<p>Explain why water is important for agriculture and industries.</p> <p>Answer: <i>Accept any 2 of the following uses. Total 2m. No marks awarded for domestic use or recreational uses.</i></p> <p>Agriculture</p> <ul style="list-style-type: none"> - Water is used to water the crops so that it can grow. - Water is used to for cattle farming/animal farming/products to drink or make products of water. <p>Industry</p> <ul style="list-style-type: none"> - Water is used to cool equipment in factories and power plants due to the heat generated. 	2	

	<ul style="list-style-type: none"> - Water is also used for maintenance of these machinery/cleaning agent in wafer fabrication. - Water is a source of energy as it used to generate electricity when it passes through turbines installed in dams. <p><i>Accept any plausible answers.</i></p>		
Strengths:			
Weaknesses:			
Suggestions for Improvements:			
1d	<p>Explain why certain regions experience droughts.</p> <p>Answer:</p> <ul style="list-style-type: none"> - A drought is a long period of little or no rainfall in a specific area. - When the climate is too hot/dry, - there is too little rainwater to replenish the river/water body. - Water level in the river/water body drops gradually/decreases until it eventually runs dry. 	3	
Strengths:			
Weaknesses:			
Suggestions for Improvements:			
1e	<p>Describe the advantages and disadvantages of reducing water consumption as a strategy to manage the water supply in a country.</p> <p>Answer: Award 2m for advantages, 2m for disadvantages. Total 4m.</p> <p>Advantages:</p> <ul style="list-style-type: none"> - Water-saving measures/water rationing can be quickly implemented in times of crisis. - A mindset and behaviour change has the potential to make long lasting positive impact in people's use of water. <p>Disadvantages:</p> <ul style="list-style-type: none"> - Success of strategy depends on whether people are willing to change their mindset and behaviour. - Some people may not respond positively and not practice water saving habits or reduce consumption. <p><i>Accept any plausible answers.</i></p>	4	

Strengths:				
Weaknesses:				
Suggestions for Improvements:				
			AO 1+2	AO 1+3
2a	(i)	<p>Study Fig. 3, which shows the different species of mangrove trees found in each zone.</p> <p>With reference to Fig. 3, identify Tide Level B</p> <p>Answer:</p> <ul style="list-style-type: none"> - High tide/inland 		1
Strengths:				
Weaknesses:				
Suggestions for Improvements:				
2a	(ii)	<p>Identify the type of roots labelled C and D shown in Fig. 3 and describe how they help mangrove trees adapt to the environment.</p> <p>Answer:</p> <p>Award 2m for identify, 2m for description of its adaptation. Award max 1m for description if repeated.</p> <ul style="list-style-type: none"> - Root C: Pencil/Cone roots - Helps to take in oxygen from the air when exposed at low tide as the soil is waterlogged. - Anchor the mangrove plants to prevent being uprooted/washed away by strong waves. - Root D: Prop roots - Helps the plant take in oxygen as the soil is waterlogged. - Provide it support with a broader base. 		4
Strengths:				
Weaknesses:				
Suggestions for Improvements:				

2b	<p>With reference to Fig. 4, identify and describe two ways a tree contributes to carbon storage.</p> <p>Answer: Award 1m for each identification, 1m for each supporting description. Total 4m. Reference must be made from Fig. 4.</p> <p>Identify (Accept any 2 of the following):</p> <ul style="list-style-type: none"> - Photosynthesis - Leaf litter - Decomposition - Roots cell respiration and death - Carbon stored in stems/leaves/roots <p>Description (Accept any 2 supporting description):</p> <ul style="list-style-type: none"> - Carbon dioxide is used by plants to make food during photosynthesis. - Leaf litter add carbon to soil after decomposing. - Decomposition breaks down leaves, branches into carbon and is absorbed into the soil. - Roots cells add carbon into the soil during respiration and when it dies and decomposes. - Carbon dioxide that is absorbed by trees are stored in solid form in the plants/stem/leaves/branches/roots. 		4
Strengths:			
Weaknesses:			
Suggestions for Improvements:			
2c	<p>The tropical rainforest is used by people for recreation. Describe other ways people make use of the tropical rainforest.</p> <p>Answer: <i>Accept one point from each of the following. Award max 2 marks if points are not from different categories:</i></p> <p>Food</p> <ul style="list-style-type: none"> - They use it as a source for food such as bananas, mangoes, Brazil/cashew nuts and cacao trees to make chocolate. OR - Indigenous people make use of it to hunt animals or harvest plants for food. 	3	

	Habitation <ul style="list-style-type: none"> - They make use of the physical environment to meet their basic needs such as food, water, shelter and clothing. Raw materials <ul style="list-style-type: none"> - Materials are also used to build houses or houseboats. - Materials such as teak/mahogany are used to make furniture/musical instruments/other specific wooden products. - Mining for raw materials such as iron/diamond. 		
Strengths:			
Weaknesses:			
Suggestions for Improvements:			
2d	<p>Describe the process of deforestation and explain its consequences on the environment.</p> <p>Answer: Award 1m for description, 2m for explanation. Total 3m</p> <ul style="list-style-type: none"> - Deforestation is the permanent removal of trees/tropical rainforest. - It has led to about 20% of the total amount of carbon dioxide added to the atmosphere. OR - There are fewer trees to absorb the amount of carbon dioxide in the atmosphere. OR - Carbon that is stored in the trees and soil are released as carbon dioxide which lead to the enhanced greenhouse effect. 	3	
Strengths:			
Weaknesses:			
Suggestions for Improvements:			

2e	<p>Describe the advantages and disadvantages of establishing protected areas as a strategy to manage tropical rainforests.</p> <p>Answer: Award 1-2m for advantage, 1-2m for disadvantages. Total 3m</p> <p>Advantage:</p> <ul style="list-style-type: none"> - Ensures people do not damage the protected areas. - Enforced through laws where offenders will get heavy fines or jail sentences. <p>Disadvantages:</p> <ul style="list-style-type: none"> - Difficult to implement strong enforcement in less developed countries as there is a lack of funding. - Protected areas are too large and it is difficult to monitor. <p><i>Accept any plausible answers.</i></p>	3	
Strengths:			
Weaknesses:			
Suggestions for Improvements:			