Geography in Everyday Life

- Revision Package -

Topic 1: Thinking Geographically

Topic 2: Sustainable Development

Topic 3: Geographical Methods (Page 43 onwards)

Name: _____ ( )

Class: _____

Revision Checklist

TOPICS	☐
TOPIC 1: THINKING GEOGRAPHICALLY	
1.1 What is the relationship between people and nature in their neighbourhoods?	
1 Relationship between people and nature (a) local communities and nearby nature areas are dependent upon each other (b) local communities and nearby nature areas mutually affect each other	☐ ☐
2 Benefits enjoyed by people and nature (a) nature areas lower air temperatures, remove pollutants and provide space for recreation (b) community activities promote the importance of environmental protection	☐ ☐
3 Disadvantages to people and nature (a) wildlife from nearby nature areas may harm people and environmental protection limits development (b) visitors to nature areas cause soil erosion, damage vegetation, worsen pollution and disturb wildlife	☐ ☐
1.2 How do people acquire a sense of place in their neighbourhoods?	
1 Sense of place (a) people associate importance, meanings and memories with specific locations in their neighbourhoods (b) people's experiences with natural and built environments, and interaction with others at these locations	☐ ☐
2 Acquiring a sense of place (a) individuals repeatedly encounter people and objects along familiar paths or roads during regular travel (b) individuals experience significant or memorable events at local landmarks and gathering places	☐ ☐
3 Representing a sense of place (a) individuals and organisations use different forms and types of media to express people's sense of place (b) individuals' sense of place could be enhanced or contradicted by these different representations	☐ ☐
1.3 What is the relationship between locations in a neighbourhood?	
1 Regions (a) areas with similar physical and/or human characteristics or are known for something (b) spheres of influence of services, events and objects on other locations in the area	☐ ☐

2 Spatial patterns (a) non-random arrangement of services, events and objects in an area (b) services, events and objects arranged in recognisable shapes, geometry, clusters or at regular intervals	☐ ☐
3 Spatial associations (a) tendency of a pair of services, events and objects to locate near each other (b) tendency suggests a connection between a service, event or object and another service, event or object	☐ ☐
1.4 How are neighbourhoods organised in Singapore?	
1 Spatial scales in Singapore (a) more than 20 towns spread across the country, catering to different lifestyles (b) each town has a town centre, serving as commercial and social hubs for residents living in its neighbourhoods	☐ ☐
2 Spatial hierarchies in Singapore (a) nested areas of different sizes beginning with a single residential unit (b) clusters of residential units form a precinct, which in turn forms neighbourhoods that combine into a town	☐ ☐
3 Town planning in Singapore (a) serve residents and provide for nature at distinct levels of the precinct, neighbourhood and town (b) create connections and synergies across precincts, neighbourhoods and towns	☐ ☐
<u>TOPIC 2: SUSTAINABLE DEVELOPMENT</u>	
2.1 What are sustainable urban neighbourhoods?	
1 Sustainable development (a) meet the needs of the present population by achieving high standards of living for all (b) ensure the ability of future generations to meet their own needs	☐ ☐
2 Economic and social sustainability in urban neighbourhoods (a) high enough population density to support local businesses, and keep transport and infrastructure costs low (b) small population size to enable regular interaction among residents and to discuss decisions affecting the neighbourhood	☐ ☐
3 Environmental sustainability in urban neighbourhoods (a) ample protection for nature and facilities that support waste minimisation and recycling (b) adopts energy and water efficient design approaches for buildings and landscapes	☐ ☐
2.2 What ecosystem services are found in urban neighbourhoods?	
1 Urban neighbourhoods as ecosystems	☐

(a) ecosystems consist of living communities and the non-living environment interacting with one another (b) aquatic and terrestrial ecosystems in neighbourhoods including ponds, lakes, parks and forests	☐
2 Provisioning and regulating services (a) provisioning services available in neighbourhoods include fresh water and food (b) regulating services in neighbourhoods include microclimate regulation, flood mitigation, air and water quality control	☐ ☐
3 Cultural and supporting services (a) cultural services in neighbourhoods include aesthetics, education and recreation (b) supporting services in neighbourhoods include soil formation, pollination and photosynthesis	☐ ☐
2.3 What are common hazards in urban neighbourhoods?	
1 Fire hazards (a) fires in neighbourhoods are commonly caused by faulty electrical appliances and wiring, and unattended cooking fires (b) negative consequences of fires include burn injuries, smoke inhalation and property damage	☐ ☐
2 Air pollution hazards (a) air pollution in neighbourhoods is commonly caused by burning vegetation and industrial and motor vehicle emissions (b) negative consequences of air pollution include respiratory infections, heart disease and lung cancer	☐ ☐
3 Traffic hazards (a) traffic accidents in neighbourhoods are commonly caused by speeding, red-light running and drink driving (b) negative consequences of traffic accidents include serious injury and loss of life	☐ ☐
2.4 How to build sustainable urban neighbourhoods?	
1 Environmental stewardship (a) promote volunteerism among neighbourhood residents to share knowledge with others about the importance of healthy ecosystems (b) partner public and private stakeholders in environmental stewardship efforts	☐ ☐
2 Disaster risk management (a) reduce neighbourhoods' exposure to hazards and the vulnerability of people and properties to hazards (b) improve residents' preparedness in responding to hazards and implement monitoring and warning systems	☐ ☐
3 Community resilience (a) strengthen relationships among residents and raise their awareness of potential hazards	☐ ☐

(b) develop residents' ability to organise themselves and equip themselves with resources to resist, adapt and recover from a disaster	
TOPIC 3: GEOGRAPHICAL METHODS	
3.1 How to design fieldwork?	
1 Research questions and hypotheses (a) identify a topic or thesis from textbooks, news articles and websites (b) craft a question that outlines a specific scope and a measurable hypothesis about one or two variables	☐ ☐
2 Data collection sequence through primary and/or secondary sources (a) collect quantitative data then design qualitative data collection to examine patterns and trends (b) collect qualitative data then design quantitative data collection to verify observations	☐ ☐
3 Limitations and risks (a) adjust research aim, study area, sample size and timeframe according to available resources (b) implement measures to avoid harming oneself, other people and nature	☐ ☐
3.2 How to collect primary data?	
1 Sampling (a) use non-probability sampling methods including convenience and quota sampling (b) use probability sampling methods including simple random sampling and stratified random sampling	☐ ☐
2 Closed-ended questionnaire surveys (a) create pre-defined responses to questions that are limited to short phrases, single words or numbers (b) use rating scales to guide responses including the Likert scale, frequency scale and ranking scale	☐ ☐
3 Mental maps (a) visualise experiences by drawing features and adding labels onto the base map of a study area (b) conduct semi-structured interviews with open-ended questions exploring features and labels added to the map	☐ ☐
3.3 How to process and analyse data?	
1 Closed-ended questionnaire surveys (a) interpret responses using measures of frequency including counts and percentages (b) interpret responses using measures of central tendency including mean, mode and median	☐ ☐
2 Mental maps	☐

(a) analyse how well maps represent reality, and how features and labels are drawn or added (b) examine how memories of experiences are represented on maps and described during semi-structured interviews	☐
3 Relationships and patterns (a) visualise positive and negative correlations using scatter plots and best-fit lines (b) identify recognisable geometric shapes, clusters and repetition	☐ ☐
3.4 How to present findings?	
1 Maps (a) represent spatial information using dots, lines and polygons (b) provide title, date, orientation, scale, legend, author and source(s) on maps	☐ ☐
2 Graphs (a) use bar graphs and pie charts to show distributions (b) use line graphs to show trends and relationships between two variables	☐ ☐
3 Photographs and texts (a) use satellite and aerial images to display spatial information (b) use colour-coded quotations and word clouds to represent qualitative analyses	☐ ☐

GEOGRAPHICAL DATA SKILLS AND TECHNIQUES

Geographical data skills and techniques are essential to the work of geographers. They help geographers gather, analyse, present and interpret information about the characteristics, patterns and processes of the phenomenon/phenomena they are investigating. They also facilitate geographical thinking and decision making. As students learn about a range of geographical data types such as graphs, maps and images through the topics, they will acquire the skills necessary for them to read, construct, analyse and interpret the data in context.

You will be expected to interpret geographical data from the following resources:

1. Tabular data
2. Text extracts
3. Landscape photographs
4. Aerial photographs and satellite images •
5. Scatter graphs and best fit lines
6. Simple and comparative line graphs
7. Simple and comparative bar graphs
8. Pie charts
9. Sketch maps
10. Dot maps
11. Choropleth maps
12. Flow line maps
13. Proportional symbol maps
14. Isoline maps
15. Cartoons

16. Wind roses
17. Diagrams (schematics, block)

You should be able to:

- Calculate mean, median and mode
- Describe patterns, trends and relationships
- Describe natural and human characteristics shown in photographs
- Draw simple sketches of photographs and annotate them to illustrate the features
- Identify locations on map using compass direction, longitude and latitude
- Read map scales and symbols
- Plot scatter, line and bar graph

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TOPIC 1: THINKING GEOGRAPHICALLY & TOPIC 2: SUSTAINABLE DEVELOPMENT

1a Study Fig. 1, which shows the distribution of African Elephant sightings, in the African continent.

Distribution of African Elephant sightings

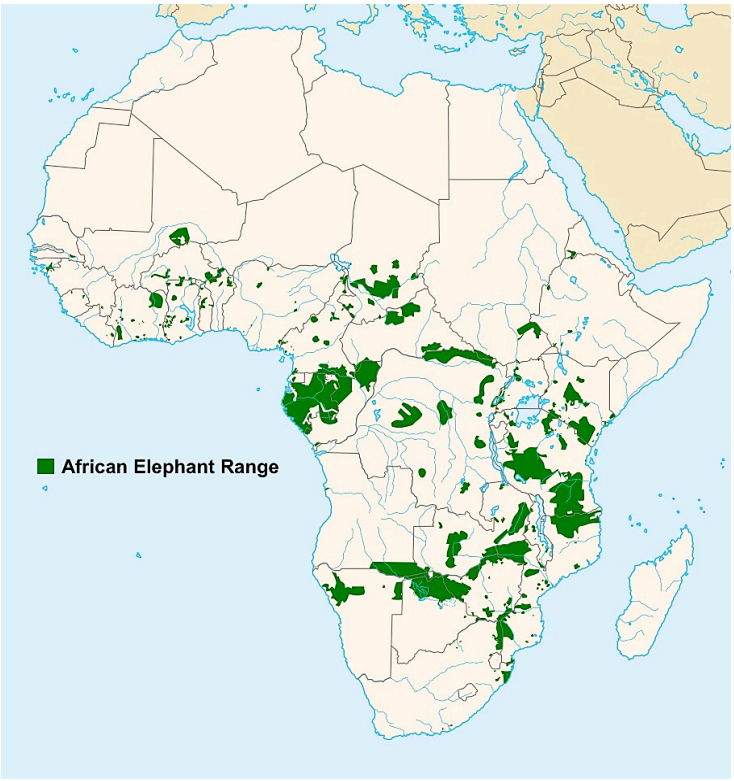

Fig. 1

Describe the distribution of African Elephant sightings in the African continent, as shown in Fig. 1. [3]

b Study Fig. 2, which shows a map of **two** precincts in the Bukit Panjang neighbourhood, Singapore.

Precincts in Bukit Panjang

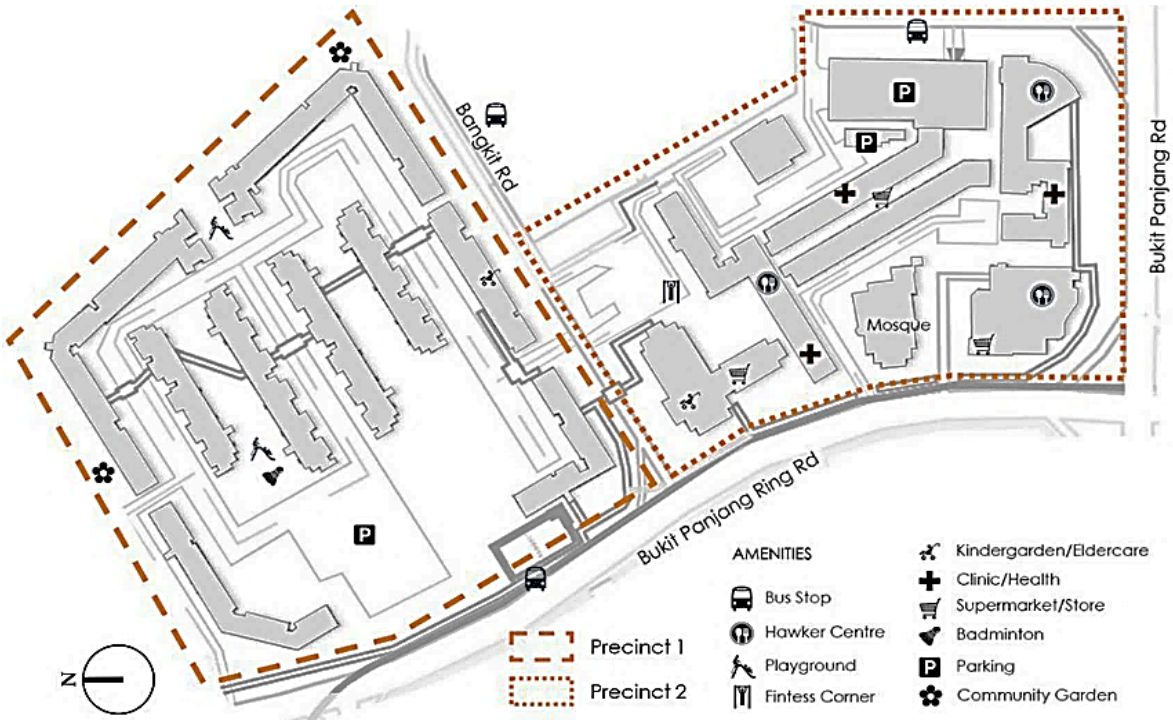

Fig. 2

i Using Fig. 2, describe the similarities and differences amongst the facilities in Precinct 1 (P1) and Precinct 2 (P2). [4]

ii With reference to Fig. 2, explain why **one** spatial association in Bukit Panjang is important for residents living there. [3]

c Study Fig. 3, which shows a park in Singapore.

A park in Singapore

Fig. 3

With reference to Fig. 3, describe **one** ecosystem service in the park. [3]

d Study Fig. 4, which shows a hazard in Hanoi, Vietnam.

Hazard in Hanoi, Vietnam

Fig. 4

i Identify the hazard shown in Fig. 4. [1]

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ii With reference to Fig. 4, explain how the hazard could have a negative impact on human health. [2]

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2a Study Fig. 1, which shows an article about the Singapore National Stadium.

Article about National Stadium

Singapore recognised as Asian concert hub

Prominent artists like Coldplay and Taylor Swift have chosen Singapore as a concert tour stop at the National Stadium in Singapore. Factors like state-of-the-art event facilities, easy connectivity to other Southeast Asian cities, stable governance, promotion and branding efforts by the Singapore Tourism Board positions Singapore well as a regional concert hub.

Fig. 1

With reference to Fig. 1, suggest why events like concert tours could affect people's sense of place towards the National Stadium. [4]

b Study Fig. 2 and Fig. 3, which shows people and activities found at a park in Singapore.

People at a park

Fig. 2

Activities at a park

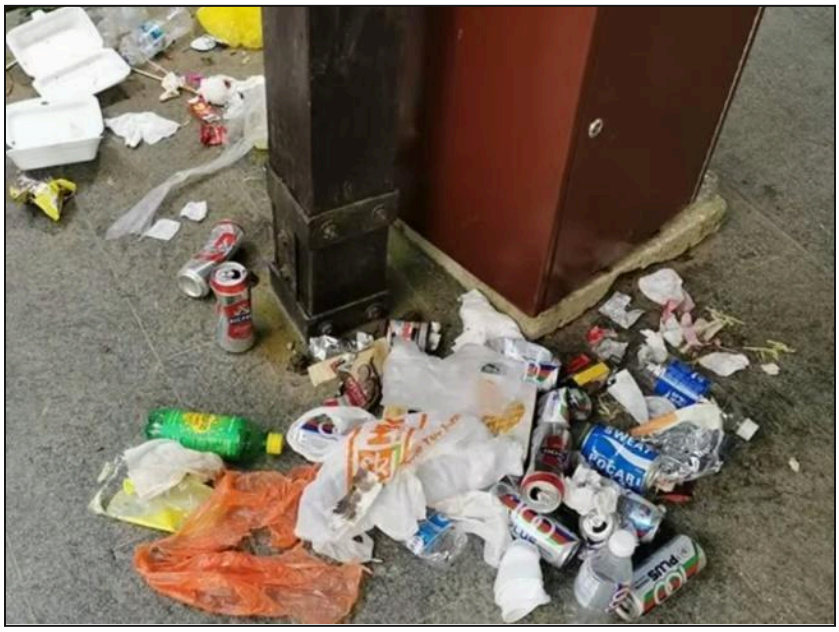

Fig. 3

With reference to Fig. 2 and Fig. 3, evaluate the relationship between people and the natural environment. [4]

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c Study Fig. 4, which shows a Bloobox, a free portable recycling bin available for all households in Singapore to collect.

Bloobox

Fig. 4

With reference to Fig. 4, explain how environmental sustainability can be achieved in urban neighbourhoods in Singapore. [2]

d Explain two ways in which fire hazards affect people's health and properties. [4]

c Table 1 shows a list of areas classified according to their characteristics.

Jurong East and Jurong West	Industrial area
MacRitchie Nature Reserve	Commercial area

Table 1

With reference to Table 1, match the correct area to the characteristics given below. Each area should only be used once.

Human characteristic: ……..…….. [1]
Geographical location: ……..…… [1]

4a Describe the ways to classify a region. [3]

b With the use of example(s), explain how people bring benefits to nature. [4]

c Describe how urban neighbourhoods can achieve economic sustainability. [3]

d Traffic hazards are one of the common hazards in urban neighbourhoods. Suggest some common cause(s) and impact(s) of traffic hazards. [3]

Cause(s):

Impact(s):_____

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e Study Fig. 1, which shows the focus areas by the Housing Development Board (HDB) Green Towns Programme that aims to achieve environmental sustainability in the neighbourhoods.

An initiative to achieve environmental sustainability

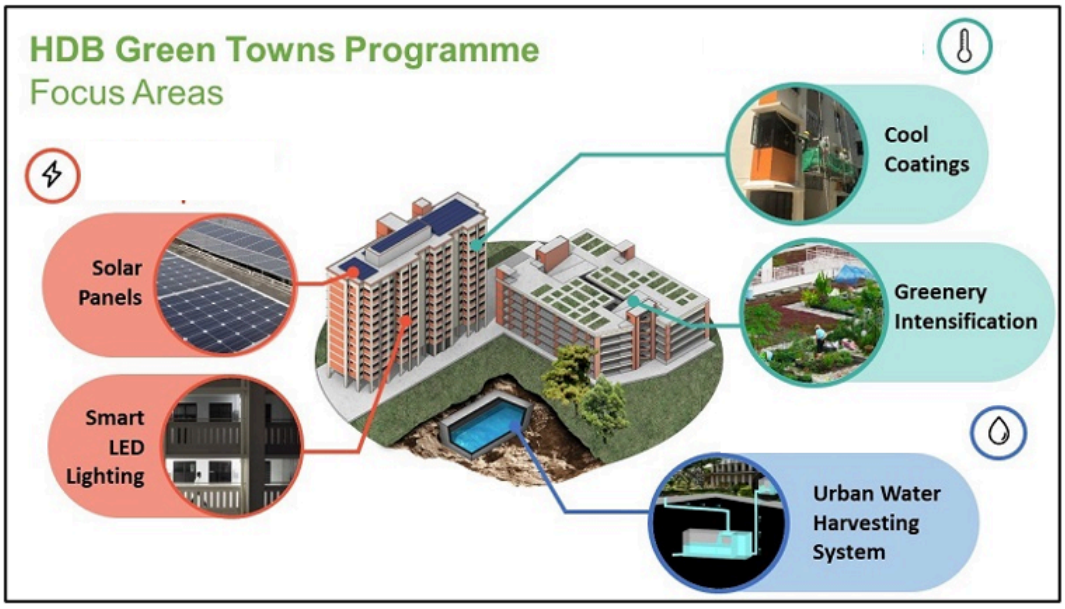

Fig. 1

With reference to Fig. 1, outline how the sustainable features in this programme help to achieve environmental sustainability in the neighbourhoods. [3]

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f Study Fig. 2, which shows a photograph of Bukit Timah Nature Reserve.

Bukit Timah Nature Reserve

Fig. 2

With reference to Fig. 2, describe the cultural and supporting services provided by the nature reserve. [4]

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g Study Fig. 3, which shows an extract from a Facebook group.

An extract from a Facebook group

First initiated by Singaporean responders in 2020, which aims to foster an active movement of trained and response ready citizenry force with community first aiders and responders.

Fig. 3

With reference to Fig. 3, explain how joining a Community First Responders group like this helps to build community resilience. [3]

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5 Fig.1 is a news article about greenery in Singapore.

News article

By all accounts, Mr Lee Kuan Yew was a nature lover, but his vision of Singapore as a Garden City boiled down to very practical considerations and his care for his fellow countrymen. He wanted trees to line the island's streets and roads — not just any trees but Angsana and Rain trees. "Why? Because these are two trees that are very huge," said Mr Wong Yew Kwan, 82, Singapore's first Commissioner of Parks and Recreation. "He was frank. 'Never mind about colours, just green up the city first'."

Fig.1

a Describe any benefit that vegetation could have on Singaporeans. [3]

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b Fig.2 shows two neighbourhoods in Singapore.

Neighbourhoods in Singapore

	
Neighbourhood A (built in1990)	**Neighbourhood B (built in 2010)**

Fig.2

Describe **two** differences between the neighbourhoods in Fig.2. [2]

c Fig.3 shows the population of Country X.

Population of Country X

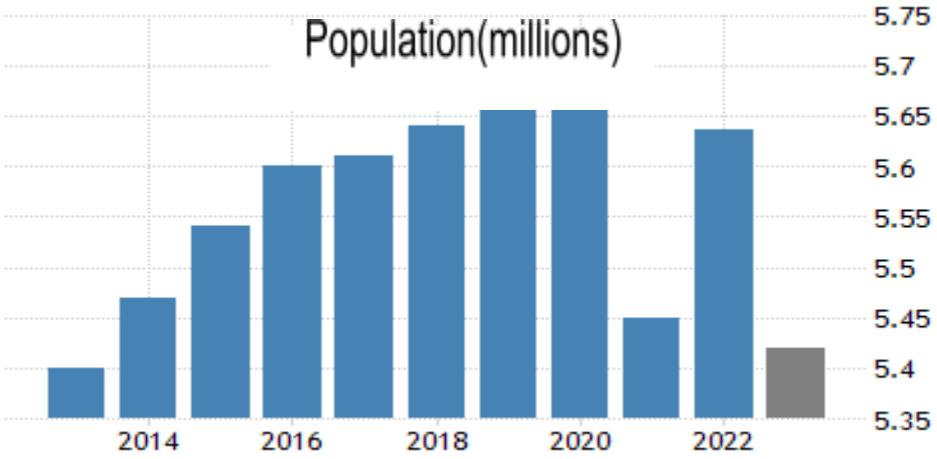

Fig. 3

Describe the trend seen in Fig.3 [3].

d Fig.4 is an image of a town in Singapore.

A town in Singapore

Fig. 4

With reference to Fig. 4, describe **two** ways in which the town planning supports environmental sustainability. [4]

e Fig. 5 shows Bishan-Ang Mo Kio Park.

Bishan-Ang Mo Kio Park

Fig. 5

With the aid of Fig. 5, describe how the ecosystem in Bishan-Ang Mo Kio Park can influence the local climate and air quality. [4]

f Fig. 6 shows a type of hazard in Singapore.

Hazard in Singapore

Fig.7

i Identify the type of hazard in Fig.7. [1]

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ii Explain how the hazard shown in Fig.7 may occur naturally. [2]

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g Explain how the Public Warning System [PWS] in Singapore can aid in disaster risk management. [2]

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6a Fig. 1 shows the impacts of urban expansion in Europe.

Fig. 1

With reference to Fig.1, describe the environmental impacts of urban expansion. [3]

b Fig. 2 shows a conversation between 2 students from Bowen Secondary School.

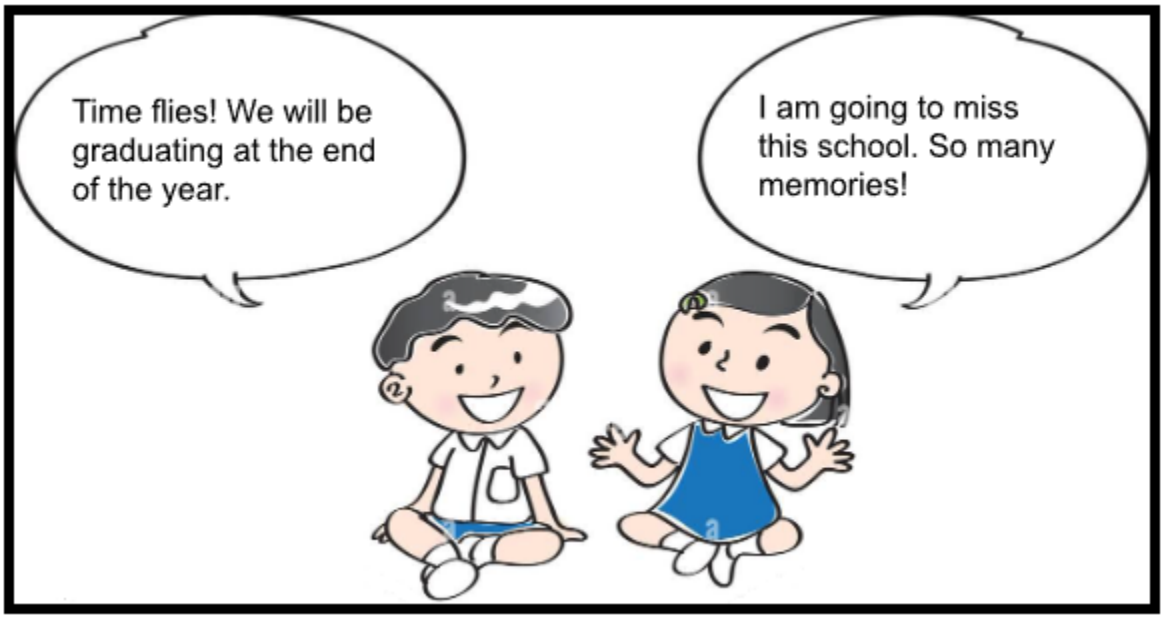

Fig. 2

Suggest how students from Bowen Secondary School can acquire a sense of place in their school. [3]

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c Fig. 3 shows an example of spatial association.

Fig. 3

Define “spatial association” and explain its importance in urban neighbourhoods such as the one shown in Fig. 3. [3]

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d (i) On Fig. 4, label the respective spatial scales commonly observed in Singapore. [3]

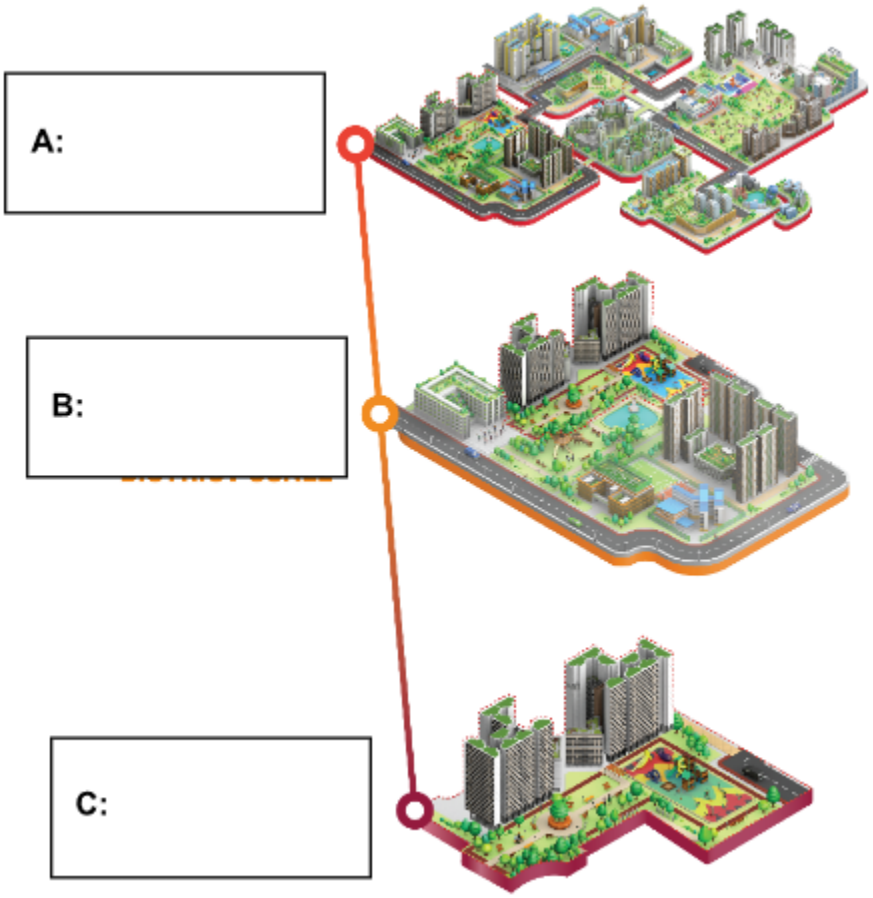

Fig. 4

(ii) Describe how the population size and type of facilities differ between **A** and **C**. [2]

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e Fig. 5 shows the overall recycling rate in Singapore.

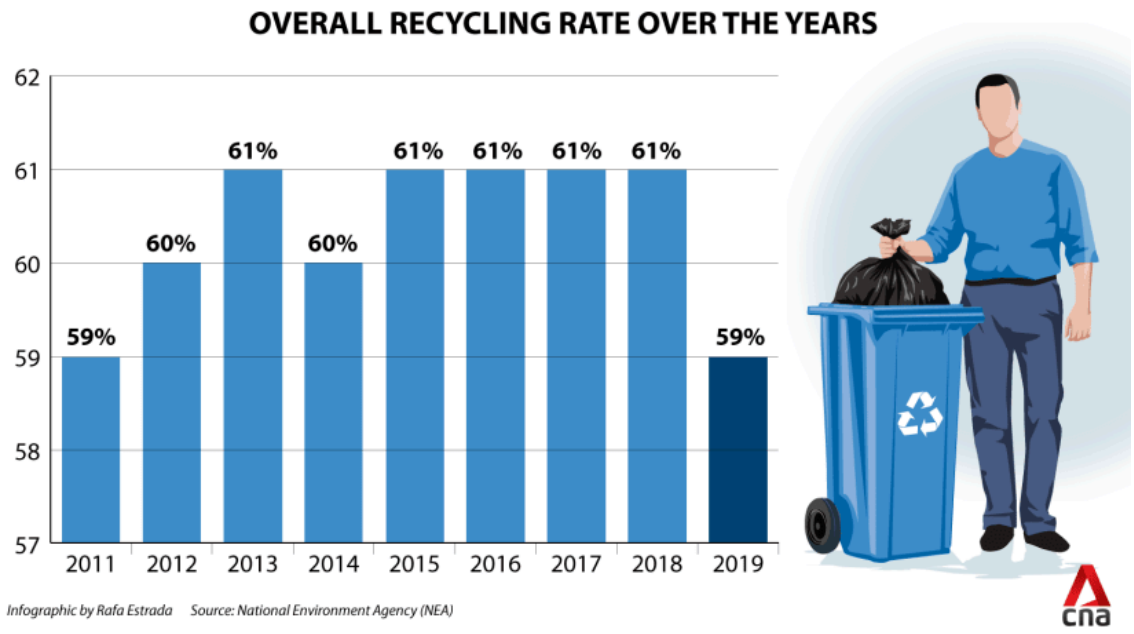

Fig. 5

Describe the trends for overall recycling rate in Singapore from 2011 to 2019. [4]

f Using examples, describe how community resilience can be developed in Singapore. [4]

g “To achieve environmental sustainability, designing energy-efficient buildings and landscapes is more effective than having facilities that support recycling.”

To what extent do you agree with this statement? Explain your answer. [6]

7a Study Fig. 1, which shows a photograph of Singapore's Marina Bay area, with the statue of the Merlion.

Photograph of Marina Bay and Merlion

Fig. 1

Using Fig. 1, explain how the place shown in the photograph evokes a sense of place for Singaporeans. [4]

b Study Fig. 1.3, which shows a diagram of Tengah HDB town and its features.

Diagram of Tengah HDB town and its features

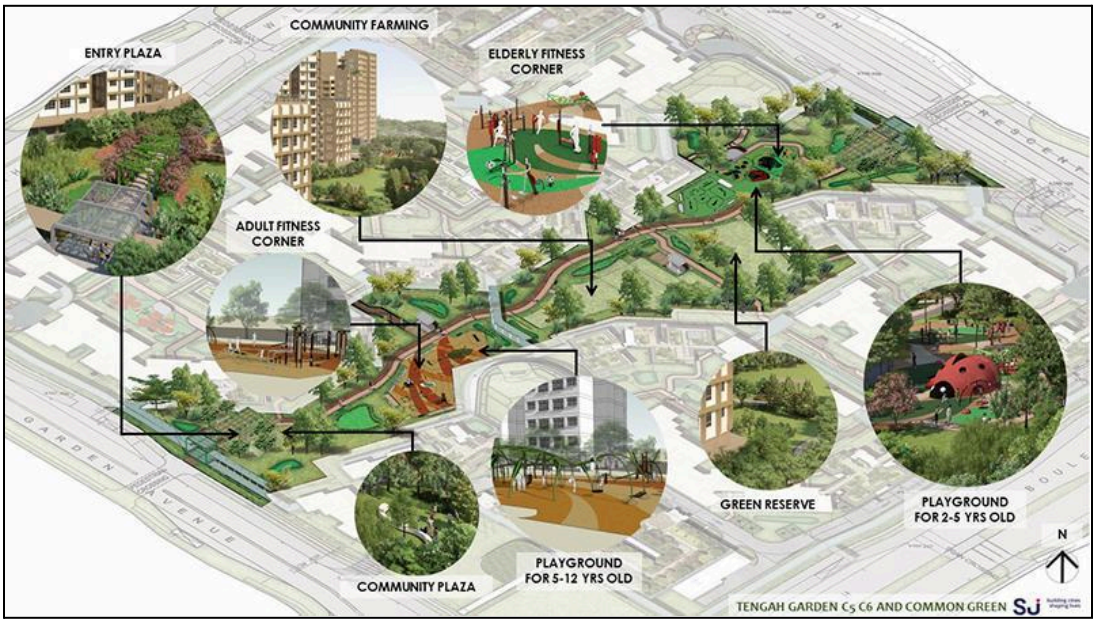

Fig. 2

With reference to Fig. 2, explain how urban neighbourhoods can be environmentally and socially sustainable. [4]

Environmentally sustainable:

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Socially sustainable:

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c Explain possible spatial associations that can be observed in neighbourhoods. [2]

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CANBERRA SEC EOY 2023

8a Study Fig. 1 which shows the number of days with high air pollution rate by areas in the United Kingdom from 2010 to 2022.

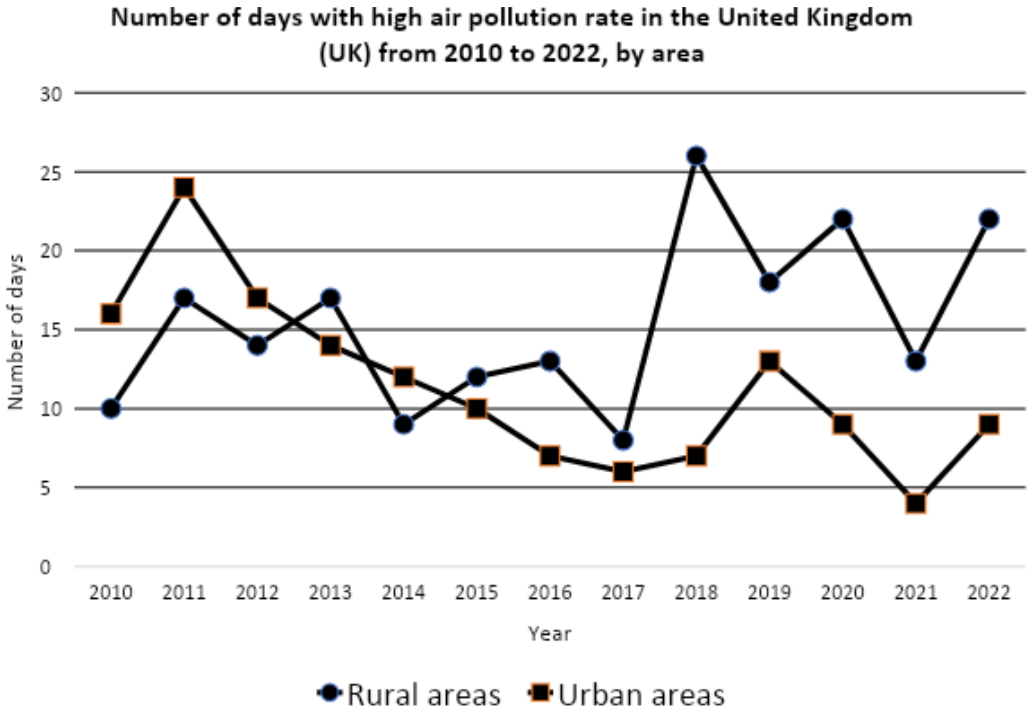

Fig. 1

Describe the trends in the number of days with high air pollution rate from 2010 to 2022 shown in Fig. 1. [2]

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b Study Fig. 2, which shows the Housing Development Board (HDB) Green Towns Programme in Singapore.

Fig. 2

i With reference to Fig. 2, explain how the key features of the HDB Green Towns Programme contribute to environmental sustainability. [3]

ii Study Fig. 3, which shows a rooftop garden in California, the United States of America.

Fig. 3

With reference to Fig. 3, describe the ecosystem services provided by the rooftop garden. [3]

c Study Fig. 4, which shows the top 3 types of residential fires in Singapore households in 2019 and 2020.

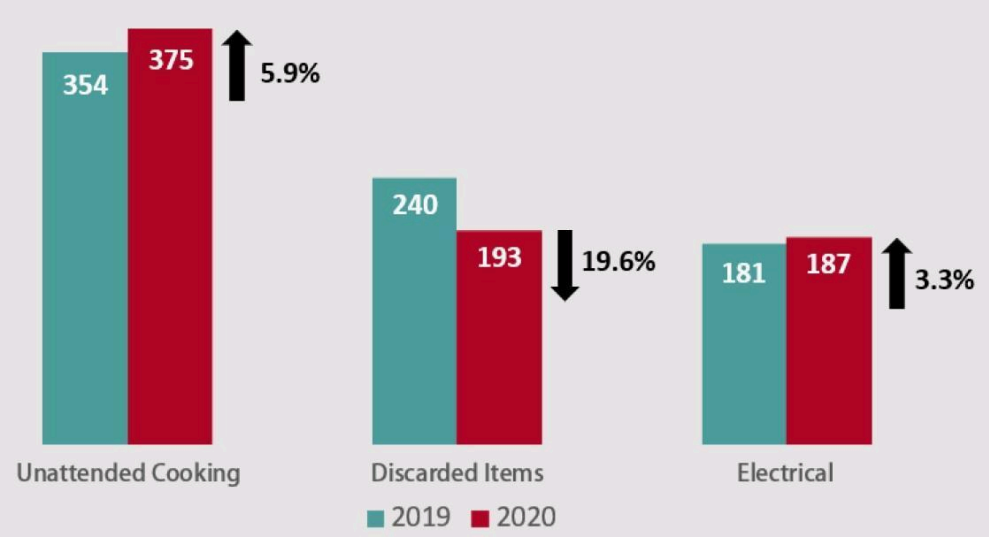

Fig. 4

i Using Fig. 4, describe the changes in the types of residential fires in Singapore households from 2019 to 2020. [3]

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ii Explain the negative impacts of fire hazards on people. [4]

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iii Explain how disaster risk management helps to reduce the impact of residential fires.

[3]

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CEDAR GIRLS' SEC EOY 2023

9 Study Fig. 1, which shows a scene along Balestier Road in Singapore.

Scene along Balestier Road

Fig. 1

Explain how the hazards shown in Fig. 1.1 can affect people's lives around this area. [4]

CHIJ ST. JOSEPH'S CONVENT EOY 2023

10a Study Fig. 1, which shows an extract from a newspaper article on air quality in Jakarta, Indonesia.

Jakarta is the world's most polluted city. Blame the dry season and vehicles for the grey skies.

JAKARTA, Indonesia (AP) - The dry season and motorized vehicles are the main causes of the air pollution in Jakarta, Indonesian authorities said on Friday, after a Swiss air quality technology company named the city as the most polluted in the world.

Thick smoke and grey skies have appeared every morning for the past few months in Jakarta, the capital city of the world's fourth most populous country.

Fig. 1

i With reference to Fig. 1, describe why Jakarta experienced poor air quality. [2]

ii Describe one possible health impact of poor air quality on the residents in Jakarta. [2]

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iii Besides health impact, describe one other possible hazard associated with living in urban areas. [2]

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b Study Fig. 2, which shows a community event held by the Singapore Civil Defence Force (SCDF) annually.

Fig. 2

Explain how such a community event can strengthen community resilience towards effective disaster management. [4]

TOPIC 3: GEOGRAPHICAL METHODS

ADMIRALTY SEC EOY 2023

1 Some students wanted to find out the relationship between the number of Instagram posts and the number of times people buy from a bubble tea shop in a week.

a State a possible guiding question for the students' investigation. [1]

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The students decided to collect data via a survey method. Study Fig. 6, which shows a question in the students' survey.

Question in students' survey

Question 2:

In a week, how often do you buy from the bubble tea shop?

- 0 times
- 1-3 times
- 4-5 times
- 6 or more times

Fig. 6

b Identify the type of scale used in the students' survey, as shown in Fig. 6. [1]

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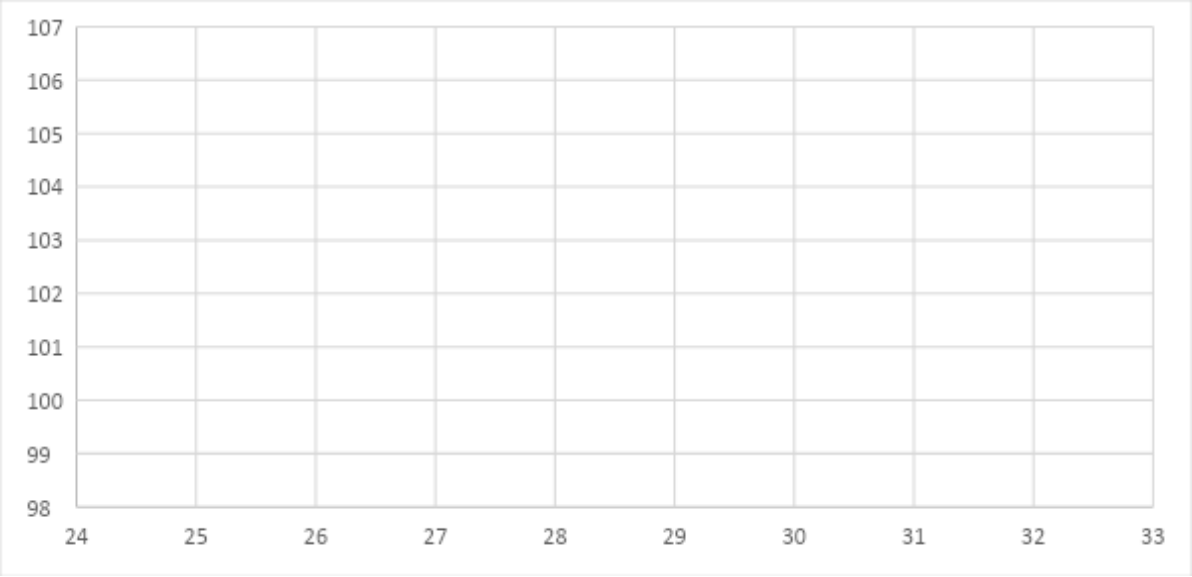
The students also wanted to investigate the relationship between temperature and amount of bubble teas sold per day. They collected data at Power Drinks, a bubble tea shop, for seven days from 10.00am to 5.00pm. The data they collected is shown in Table 1 below.

Average temperature and average number of bubble teas sold per day

Day	Average temperature (°C)	Number of bubble teas sold
Day 1	27	101
Day 2	28	102
Day 3	31	104
Day 4	33	106
Day 5	30	105
Day 6	27	102
Day 7	32	104

Table 1

c Using Table 1, plot a simple line graph showing the relationship between average temperature and the number of bubble teas sold. Include a title and clear labels in your line graph. [3]



d Explain **one** reason why the students' investigation could be considered reliable.

[2]

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AHMAD IBRAHIM SEC EOY 2023

2 A group of 10 students wanted to study how satisfied students of ABC School are with the school's facilities, and how often they use them. The school has four levels of students (Sec 1 to 4) and a total school population of 800. The students designed a questionnaire. They aim to interview 50 students from each of the four levels during the respective level's recess time. The students interviewed the first 50 students who arrived at the canteen during their respective Sec 1 to 4 recess time.

Table 1.1. Results on Level of Satisfaction

Facilities in ABC School	Level of Satisfaction				
	Very unsatisfied	Somewhat unsatisfied	Neutral	Somewhat satisfied	Very satisfied

Canteen	10	15	20	55	100
Students Centre	3	2	10	49	136
Indoor Sports Hall	47	65	50	18	20
School Field	17	13	40	93	37
Study Corner	39	27	57	29	48
Mean	**23.2**	**24.4**	**35.4**	**48.8**	**68.2**

Table 1.2. Results on Frequency of Use of Amenities

Facilities in ABC School	Frequency of Use		
	Not at all	**1-2 times**	**3-4 times**
Canteen	5	5	190
Students Centre	32	79	89
Indoor Sports Hall	78	70	52
School Field	90	69	41
Study Corner	67	94	39
Mean	**54.4**		**82.5**

a Complete the empty cell in Table 1.2 by calculating the mean for '1-2' times in the Table on Frequency of Use. [1]

b State the type of sampling method used by the students. [1]

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c Evaluate the validity of the students' findings regarding the satisfaction levels of the school's facilities. [3]

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3a Study Fig. 1.4, which shows a sampling method.

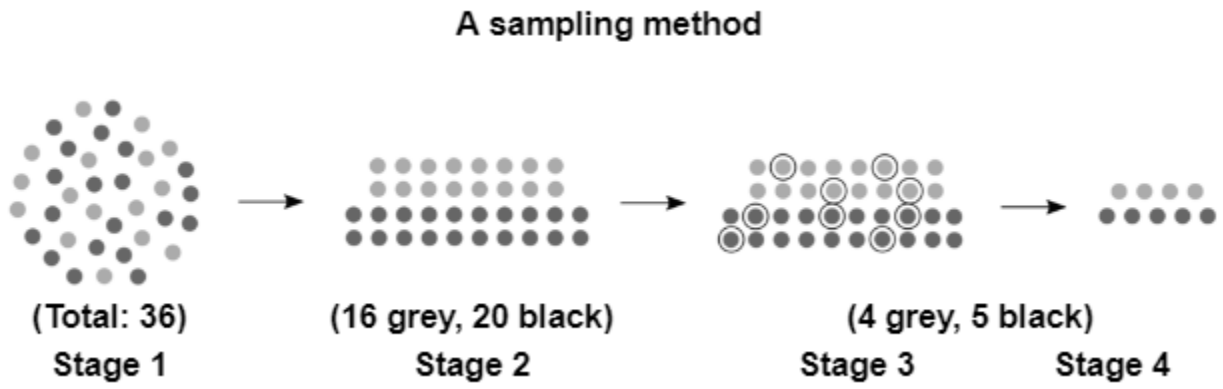

Fig. 1

With the help of Fig. 1, identify and describe this sampling method. [3]

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b A group of students wanted to investigate how people acquire a sense of place in Bukit Panjang. They decided to come up with a survey form to interview the residents there. Fig. 2 shows an extract of the survey form.

An extract of the survey form

Your name: _____

Question 1: What is your age?

- 0 – 20 years old
- 21 – 40 years old
- 41 – 60 years old
- 61 – 80 years old
- 81 years old and above

Question 2: Which of the following places in Bukit Panjang hold a special place in your heart?

- Playground
- Coffee Shop
- Hawker Centre
- Supermarket
- Library
- Shops

Question 3: Why do you say so?
……
……

Fig. 2

With reference to Fig. 2, evaluate the strength(s) and weakness(es) of this survey form as a tool to gather data. [4]

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4 A group of students wanted to find out how often residents use the neighbourhood's amenities. They randomly selected residents to be interviewed and conducted the interviews on a Monday at 3pm. Their results are shown in Table 1.

Table 1: Results of interviews conducted on residents

	Frequency of use			
Amenity	Never	Rarely	Sometimes	Often
Hawker centre	0	2	20	28
Laundry shop	0	5	30	15
Fitness corner	5	30	10	5
Basketball court	25	10	5	10
Community Centre	0	2	4	46
Mean	6	9.8	**X**	20.8

a Identify the type of rating scale used in Table 1. [1]

_____

b How many residents were interviewed? [1]

_____

c Calculate the value of **X**. [2]

_____

d State **one** benefit of using random sampling. [1]

_____

_____

_____

e Suggest **two** ways in which the students could improve the reliability of the data collected. [2]

_____

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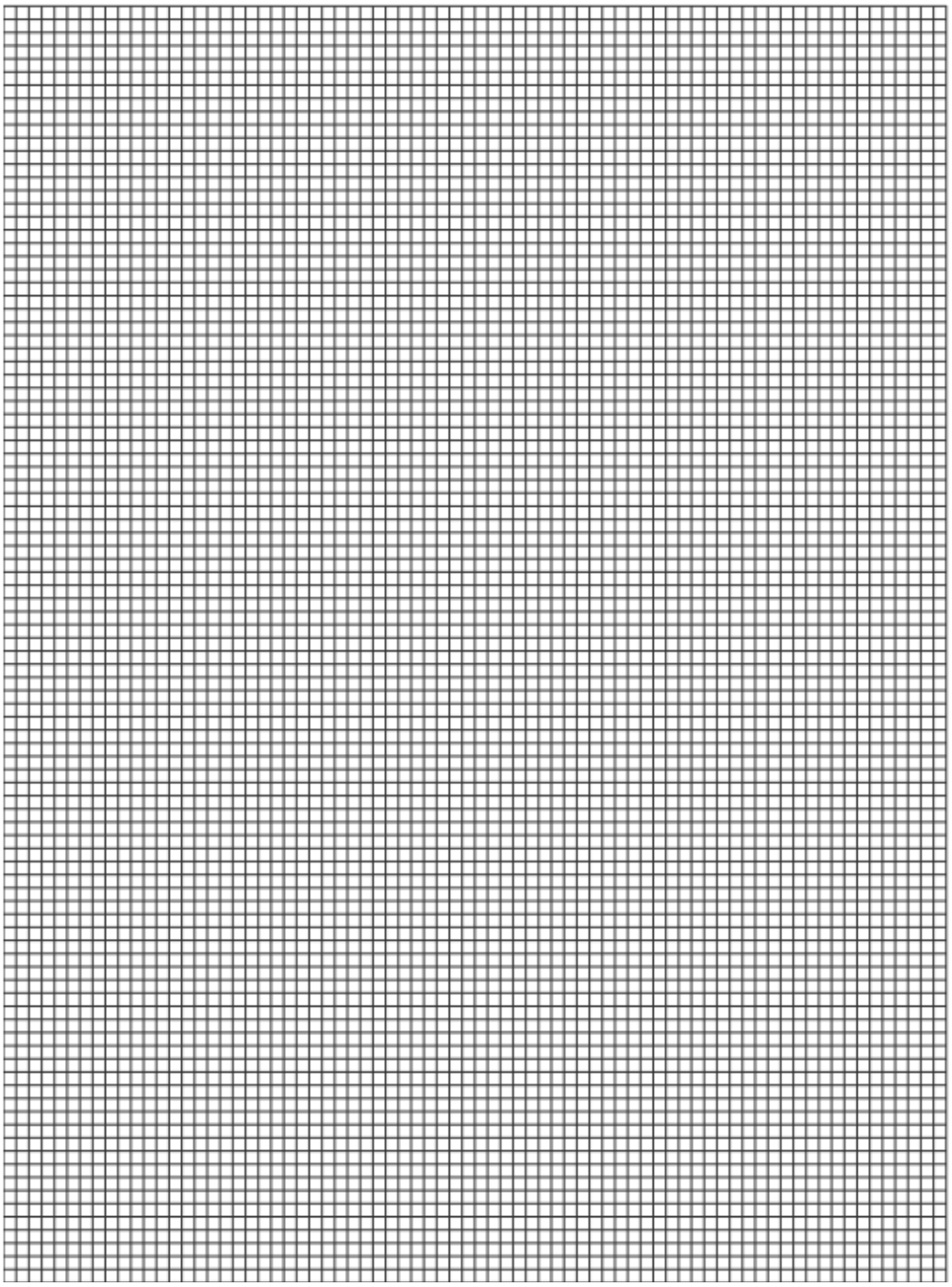
_____

f Represent the frequency of use of the hawker centre in an appropriate bar graph.

[4]



g Their questionnaire also contained the question, “Which amenity do you think should be added to your precinct and why?”

Identify the type of data they were collecting from this question. [1]

BOWEN SEC EOY 2023

5a A group of Singapore students were investigating whether the number of visitors to a park will affect the park’s cleanliness. They visited six different parks and carried out a visitor count and survey at each park. For their survey, they used a likert scale to find out the cleanliness of the park, using a range of scores from 1 (very dirty) to 10 (very clean). Table 1 shows the results of their data collection.

Results of data collection at six parks

	Number of visitors	Cleanliness score
Red park	35	9.5
Blue park	75	4.0
Green park	140	6.0
Yellow park	130	7.0
Orange park	210	5.5
Pink park	50	8.5

Table 1

i Using Table 1, complete Fig. 1 and add in a line of best fit to show the relationship.

[3]

Scatter plot of number of visitors to a park and impact on cleanliness

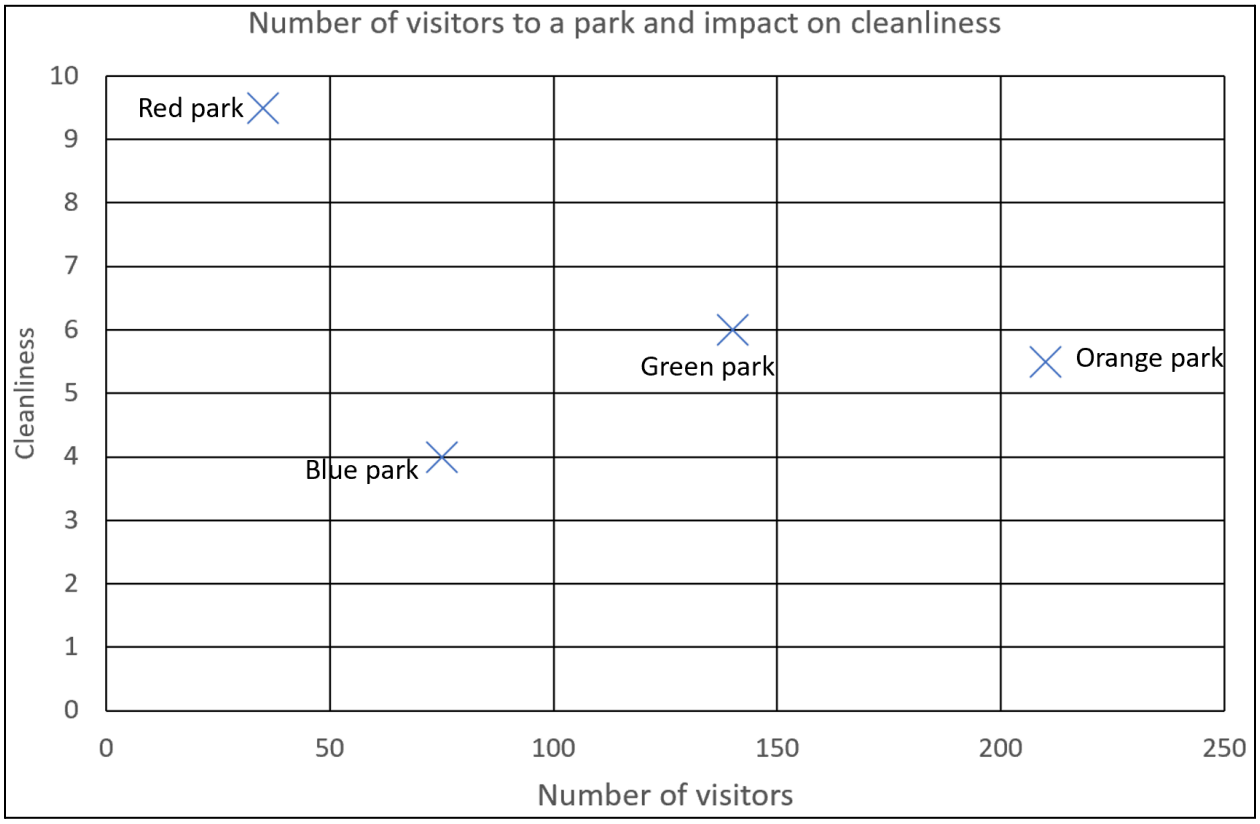


Fig. 1

ii For their investigation, the students came up with the hypothesis “The greater the number of visitors to a park, the less clean it will be”. Using Table 1 and Fig. 1, explain whether the students’ hypothesis has been proven true. [3]

b A group of Singapore students were investigating whether neighbourhood A was a more suitable place for the elderly or children to live in.

The students conducted the survey in neighbourhood A, and selected a sample size of 100 respondents. The results of their survey are shown in Table 2 below.

Percentage satisfied with the different aspects of neighbourhood A

	Elderly (%)	Children (%)
Facilities	86	40
Recreational places	40	92
Environment	88	44
Transportation	82	50

Table 2

i The students used a stratified random sampling method to collect the data in Table 2.

Explain how a stratified random sampling method is carried out and its advantages. [4]

How stratified random sampling is carried out:

_____

_____

_____

_____

Advantages of stratified random sampling:

_____

_____

_____

_____

ii Using Table 2, explain what conclusion will be drawn from the students' investigation. [4]

_____
_____
_____
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iii With reference to Table 2, evaluate the reliability of students' findings regarding their investigation. [3]

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CANBERRA SEC EOY 2023

6 A group of 8 students wanted to find out more about people who live in a migrant settlement in a city in India. The settlement had grown rapidly in the last ten years and is now home to almost one million residents.

The students decided to investigate the hypothesis: *'Most people moved to the migrant settlement because of better job opportunities.'*

The students designed a questionnaire to test their hypothesis. An example of a completed questionnaire can be found in Fig. 1.1 (next page).

a They aimed to interview 100 people who migrated to the settlement, with each pair of students interviewing 25 people, on a Sunday morning. Each pair of students interviewed an equal number of males and females from each of the following age groups:

- Under 15 years old
- 15 – 30 years old
- 31 – 60 years old
- Over 60 years old

They selected their samples using random number tables.

i Identify the type of sampling method used by the students. [1]

_____

ii Explain the advantages of the students' sampling method. [2]

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iii Suggest why it is a good idea for the students to conduct their interviews in pairs. [2]

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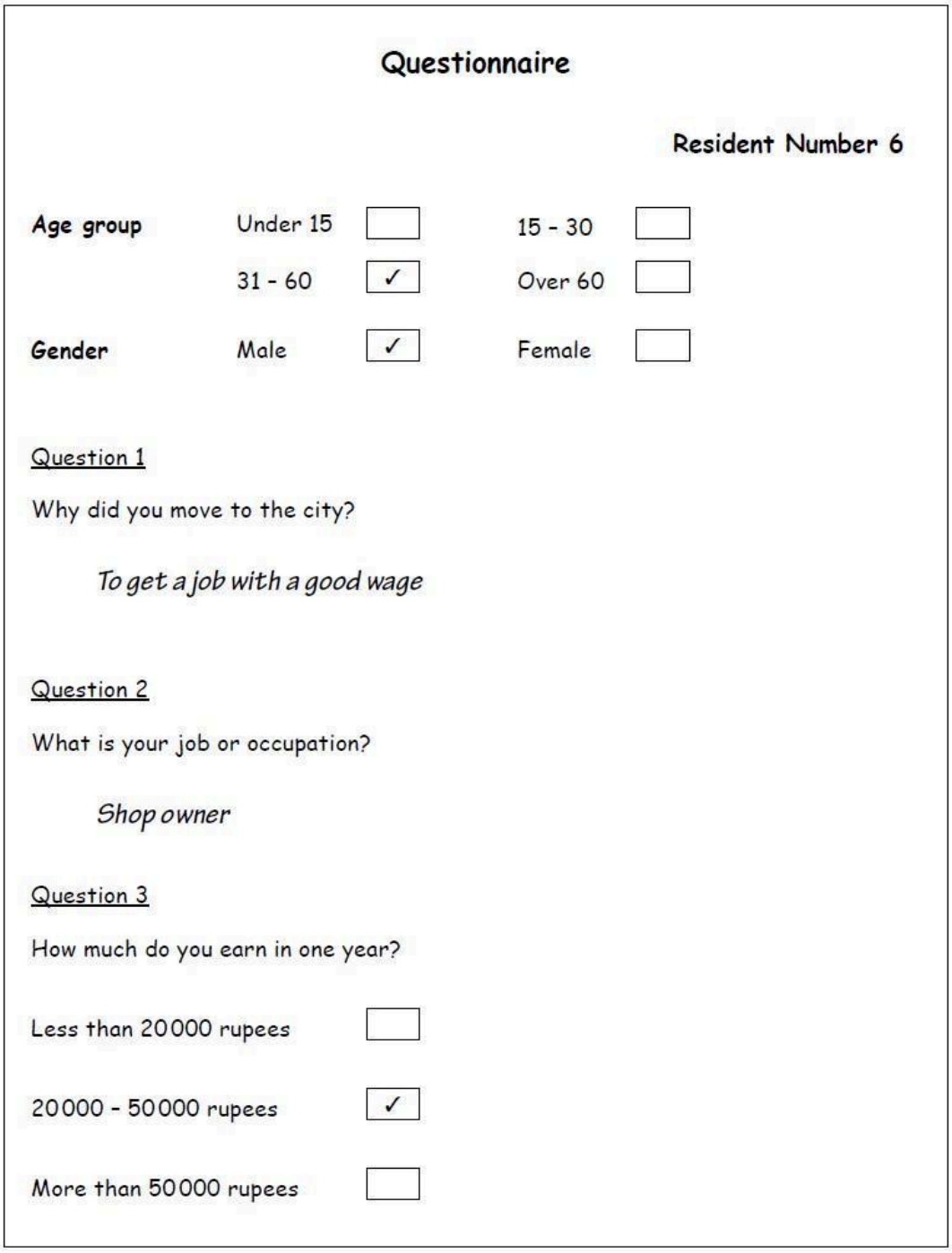
Questionnaire for settlement residents



Questionnaire

Resident Number 6

Age group	Under 15	☐	15 - 30	☐
	31 - 60	✓	Over 60	☐
Gender	Male	✓	Female	☐

Question 1

Why did you move to the city?

To get a job with a good wage

Question 2

What is your job or occupation?

Shop owner

Question 3

How much do you earn in one year?

Less than 20000 rupees	☐
20000 - 50000 rupees	✓
More than 50000 rupees	☐

Fig. 1

b The results for Questions 1 to 3 in Fig.1 of the questionnaire are shown in Table 1.

Table 1: Results for Questions 1 to 3

Question 1

Why did you move to the city?	Number of residents
Look for a paid job	36
Better education opportunities for children	32
To marry someone living here	9
Better living conditions	9
Returning to place of birth	9
To join other members of the family	5
Total number of answers	**100**

Question 2

What is your job or occupation?	Number of residents
Shop owner	23
Domestic servant	15
Rickshaw driver	14
Housewife	13
Builder	9
Plumber	8
Student	7
Unemployed	7
Mechanic	4
Total number of answers	**100**

Question 3

How much money do you earn in one year?	Number of residents
Less than 20 000 rupees	27
20 000 – 50 000 rupees	73
More than 50 000 rupees	0
Total number of answers	**100**

1 000 rupees = 20 U.S. dollars ($)

i Using the results for Question 1 in Table 1, complete Fig. 2 below. [2]

Pie graph showing results of Question 1

Why did you move to the city?

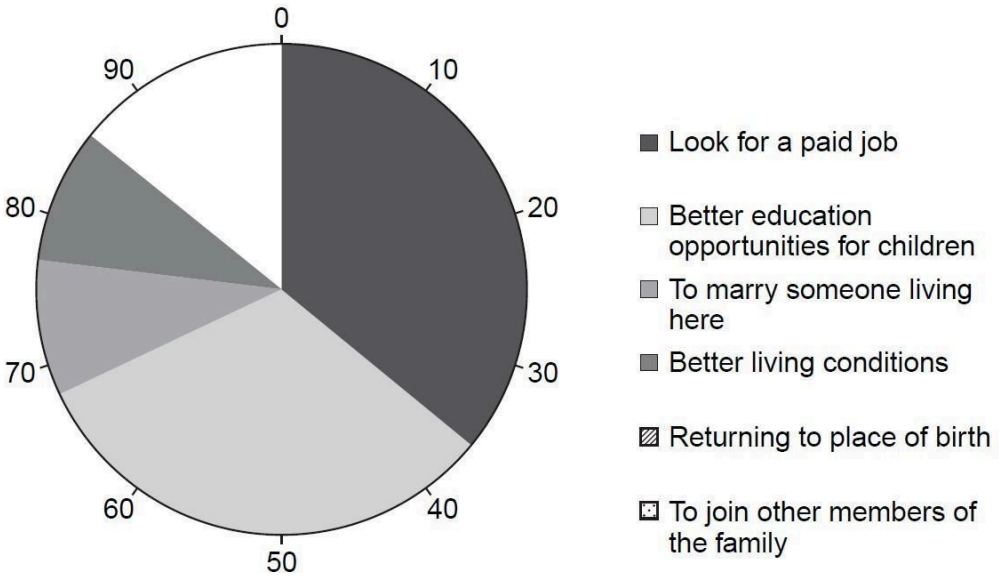


Fig. 2

ii Using the results for Question 2 in Table 1, complete Fig. 3 below. [2]

Bar graph showing results of Question 2

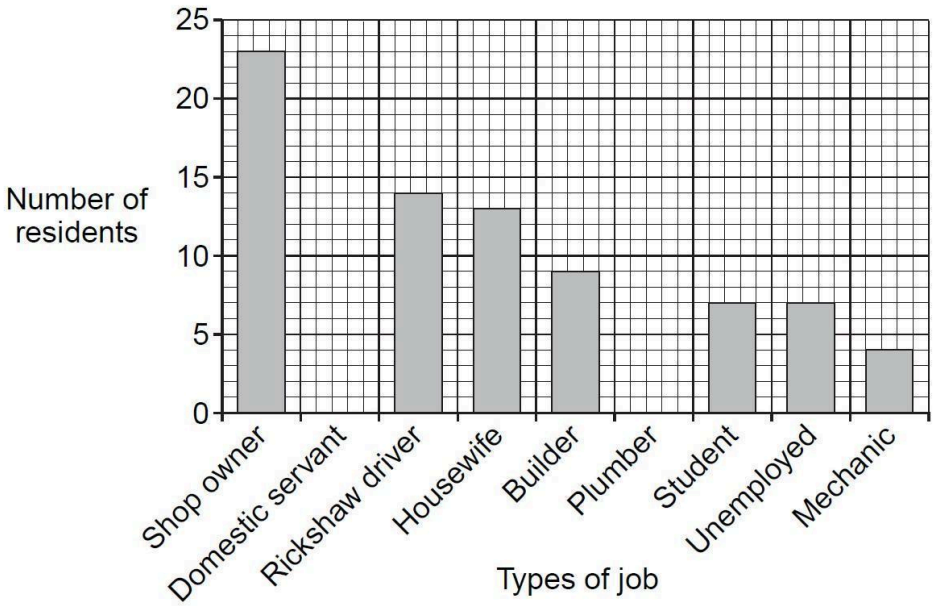


Fig. 3

c To reach a conclusion about the hypothesis, the students realised that they needed to get secondary data from the internet to make a comparison with the answers they received for Question 3.

Their secondary data is shown in Table 2 below.

Table 2: Results of internet research

Average income of residents in the migrant settlement	54 000 rupees
Average income of the population of India	30 000 rupees

***1000 rupees = 16 Singapore Dollars*

i Explain how the data shows that the hypothesis *'Most people moved to the migrant settlement because of better job opportunities'* is **accepted**. [3]

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ii Using all the information provided, evaluate the validity of the students' findings. [3]

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DUNEARN SEC EOY 2023

6 A group of students conducted a field investigation at Aliff Restaurant near Bukit Gombak Wet Market to investigate the hypothesis,

“The longer the residents live in Bukit Gombak the more positive the sense of place.”

The students stood near the taxi stand near Aliff Restaurant over 3 days and surveyed every fifth resident they saw. They surveyed a total of 40 residents using a simple questionnaire. The results of a question from the questionnaire is included in Table 1.

Questionnaire

<table>
<tr><td>Question 1:</td><td colspan="5">Do you live in Bukit Gombak? Y / N</td></tr>
<tr><td>Question 2:</td><td colspan="5">How old are you? _____</td></tr>
<tr><td>Question 3:</td><td colspan="5">How long have you lived in Bukit Gombak?
0 to 2 years …… ( )
2 years to 5 years……..…... ( )
5 years to 10 years ……...…….. ( )
10 years to 15 years …….…….. ( )
More than 15 years…….. ( )</td></tr>
<tr><td rowspan="3">Question 4: What are your emotions when you think of the Bukit Gombak neighborhood?</td><td colspan="5">Range of emotions</td></tr>
<tr><td>Very unhappy</td><td>Somewhat unhappy</td><td>Neither happy nor unhappy</td><td>Somewhat happy</td><td>Very happy</td></tr>
<tr><td>2</td><td>8</td><td>5</td><td>10</td><td>15</td></tr>
</table>

Table 1

a What type of scale is used in question 4? [1]

_____

b The students were informed by their teacher that their data collection could be improved on.

Suggest and explain **two** improvements students can make to their data collection method. [4]

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c How well were questions 2 and 3 of the questionnaire crafted? Provide reasons to support your answer. [3]

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- END -