Notes:

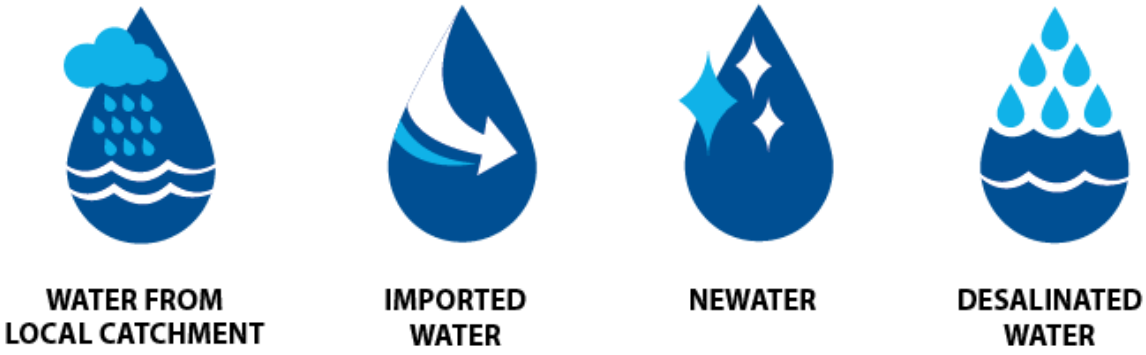
Annual rainfall- the average amount of total rain that a place generally receives.The first three reservoirs in Singapore were MacRitchie Reservoir, Peirce Reservoir and Seletar Reservoir.

Since 2011, the water catchment area has increased from half to two-thirds of Singapore's land surface with the completion of the Marina, Punggol and Serangoon Reservoirs. This makes Singapore one of the few countries in the world to harvest urban stormwater on a large scale for potable consumption.

Relationship between water demand and population growth
As water demand **increases**, population growth **increases**
Population of Singapore has increased from 1.6million 1960 to 5.8 million in 2020. Water demand in Singapore has increased from 100Mn3/year to 700mn3 in 2020

Thus, Singapore is at **risk of facing water shortage**

Singapore needs to address both **demand** and **supply** issues.



Desalination is the **removal of excessive salt and minerals** from **seawater** to **make it potable**

Singapore's first desalination plant is located in Tuas and can produce 30 million gallons of water per day.which is enough to fill about 55 olympic sized swimming pools

Ministry of the Environment and resources -

https://www.mewr.gov.sg/policy/managing-our-water

PUB Four National taps - https://www.pub.gov.sg/watersupply/fournationaltaps

Making sure that the nation's tap do not run dry - https://www.youtube.com/watch?v=ZATjphmcwe4

Ministry of the Environment and resources -

Desalination - https://www.mewr.gov.sg/topic/desalination

Local catchment water - https://www.mewr.gov.sg/topic/reservoirs

(Look at the issue, challenge, efforts and progress updates)

Note: Do Not print this page when printing notes.

Photograph Annotation

Not about water quality - irrelevant

Geylang River

Part on "shade for humans" - irrelevant

Old HDBs that people live in

Trees to act as shade for the humans carrying out their daily routines; filters rainwater a bit more before it enters water

Can hardly see the rain garden

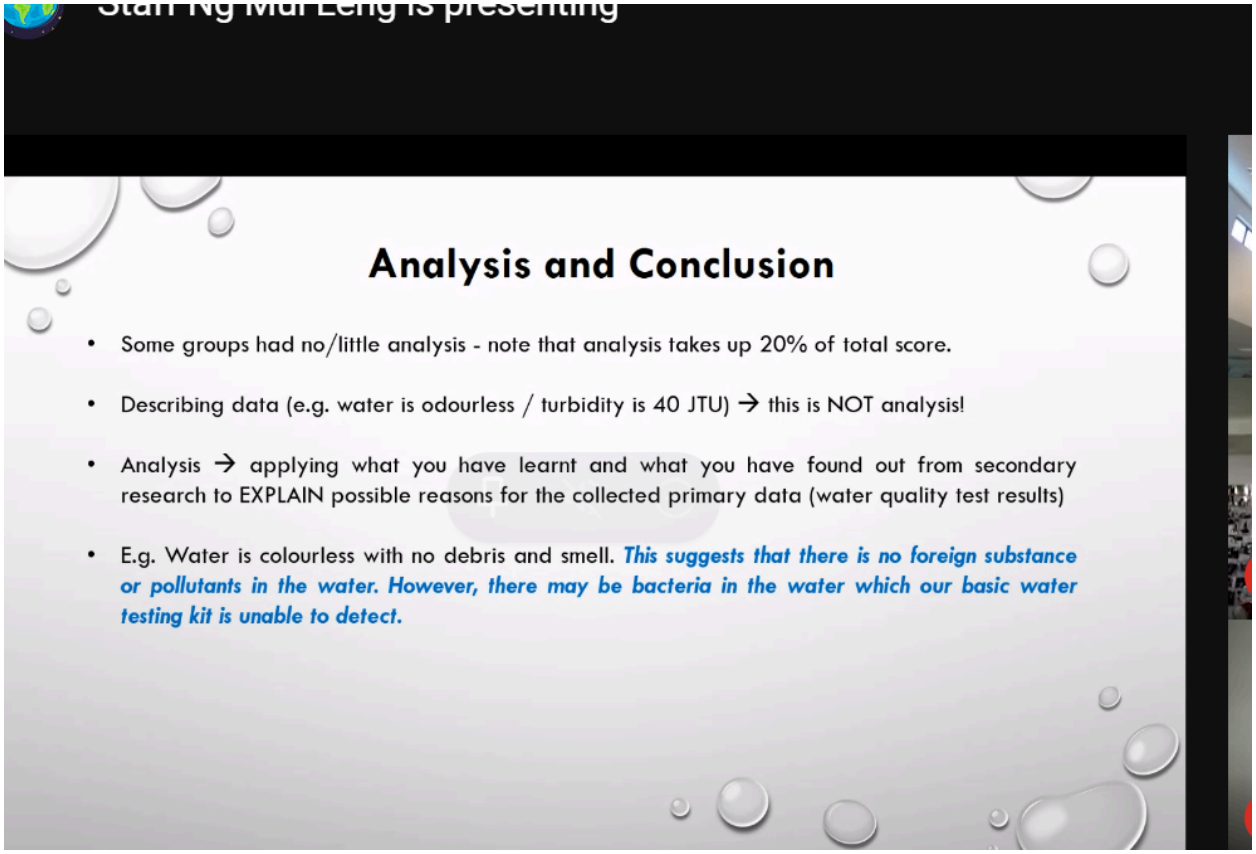
Which are the ones that you would not award a mark? Why?

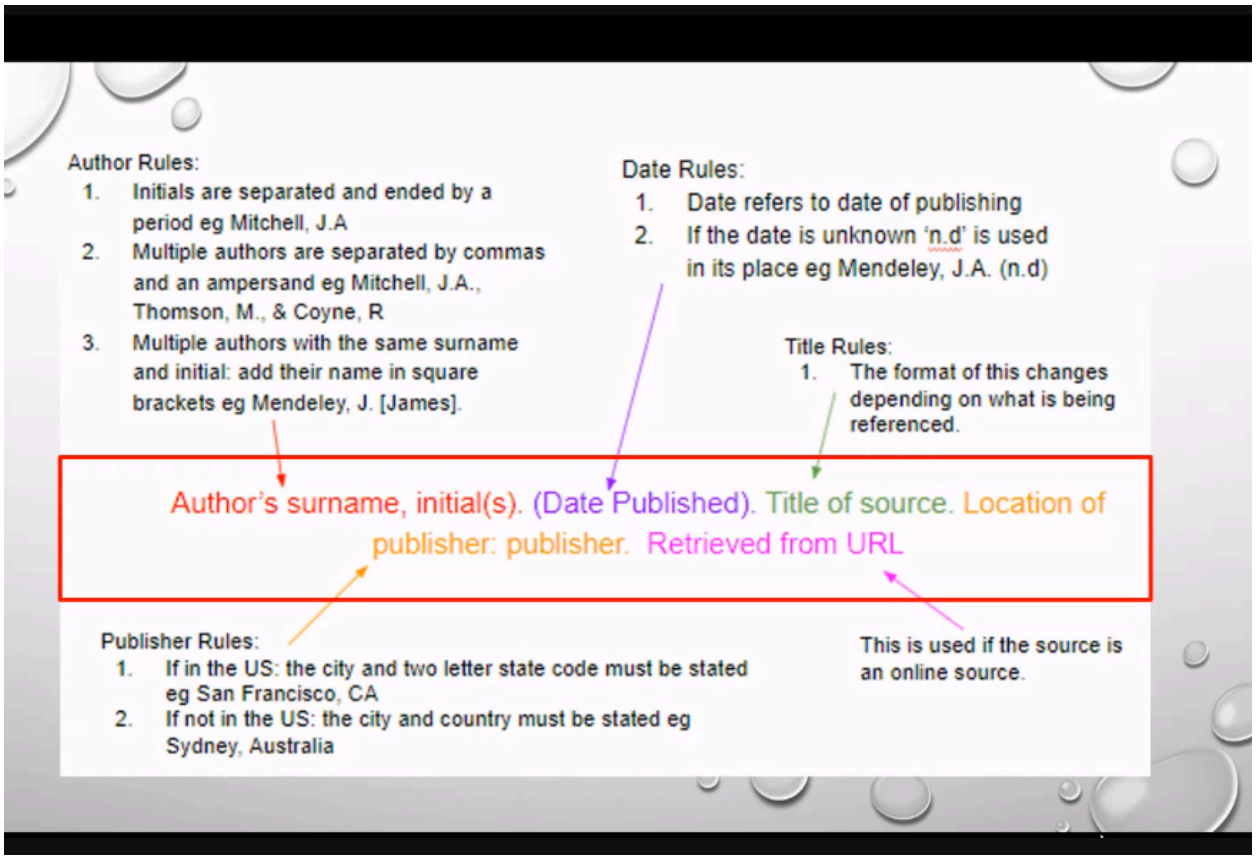
'Stretching it too far' **- lamp post → people come at night → people litter ???**

Rain garden for filtering rainwater to make it cleaner before entering the river.

Railing to ensure that people do not fall into the river, harder for litter along the pavement to be washed into the river during rainfall.

Lamp post to give off light at night so people can see; suggests that there are many people here at night, which could cause more litter to be dumped into the water


Staff Ng Mui Leng is presenting
Analysis and Conclusion
• Some groups had no/little analysis - note that analysis takes up 20% of total score.
• Describing data (e.g. water is odourless / turbidity is 40 JTU) → this is NOT analysis!
• Analysis → applying what you have learnt and what you have found out from secondary research to EXPLAIN possible reasons for the collected primary data (water quality test results)
• E.g. Water is colourless with no debris and smell. This suggests that there is no foreign substance or pollutants in the water. However, there may be bacteria in the water which our basic water testing kit is unable to detect.


Author Rules:
1. Initials are separated and ended by a period eg Mitchell, J.A
2. Multiple authors are separated by commas and an ampersand eg Mitchell, J.A., Thomson, M., & Coyne, R
3. Multiple authors with the same surname and initial: add their name in square brackets eg Mendeley, J. [James].
Date Rules:
1. Date refers to date of publishing
2. If the date is unknown 'n.d' is used in its place eg Mendeley, J.A. (n.d)
Title Rules:
1. The format of this changes depending on what is being referenced.
Author's surname, initial(s). (Date Published). Title of source. Location of publisher: publisher. Retrieved from URL
Publisher Rules:
1. If in the US: the city and two letter state code must be stated eg San Francisco, CA
2. If not in the US: the city and country must be stated eg Sydney, Australia
This is used if the source is an online source.

STRENGTHS OF PROJECT

- Collected both secondary and primary data for the project. The primary data supported what we found online for secondary research.
- Able to do observations for ourselves along Geylang River as it is near our school.
- Able to test water samples for ourselves, rather than relying on secondary sources.

Weakness

- However, this investigation does not completely test if the water is safe for drinking. One example would be the presence of bacteria and Escherichia coli. I think that one way that we could improve this investigation is to use a litmus paper test, also known as DipTest which can help to test for the presence of Escherichia coli. In addition, we could maybe also take some fishes from the water bodies and see if they carry any diseases that may have been caused by drinking the water from the water bodies.