



ORANGE HIGH SCHOOL

ASSESSMENT TASK NOTIFICATION

Subject	Science: Water For the World
Year	7
Weighting	30%
Teachers	Miss Townsend, Ms Percival, Ms Mansur, Mr Hunt and Mr Ruwona
Head Teacher	Mr Routh
Date and school week	Term 2, Week 2 –2nd- 6th of May, 2022 (exact submission date and method to be negotiated with teacher)
Class Due Date	

Assessment Outline

Context: Part of a Chemistry Unit focusing on separating mixtures.

1. Students will choose a community to design a water purification device
2. Students will be designing and building a working filtration device that can purify water for drinking.
3. Students will complete the scaffold document to demonstrate their understanding of the design process

Final submission:

- Scaffold (Online or hard copy)
- Video footage of working device (on Google Classroom)

Non-completion of Task:

If you know you are going to be away on the day that the task is due, you must make alternative arrangements with your classroom teacher. If you are away on the day of the examination, you must catch up with your classroom teacher on the first day you return to make alternate arrangements to catch up on this task.

Failure to follow the above procedures may result in a zero award.

Outcomes Assessed

WS4 Identifies questions and problems that can be tested or researched and makes predictions based on scientific knowledge

WS5 Collaboratively and individually produces a plan to investigate questions and problems

WS6 Follows a sequence of instructions to safely undertake a range of investigation types, collaboratively and individually

WS9 Presents science ideas, findings and information to a given audience using appropriate scientific language, text types and representation

Task 1: Filtration Device Project (Due Week 2 Term 2)

Empathy/Define (what is the problem and how might it be solved)

The following countries are most likely in this world not to have access to clean drinking water

Eritrea	Ethiopia	Niger
Papua New Guinea	Uganda	Chad
Angola	Somalia	

1. Choose one of these countries or **choose one of your own**. Research one of the following

Place: _____

Total population	
Location	
What is the landscape like?	

2. Visit the website below and list some effects of drinking unclean water

<https://www.who.int/news-room/fact-sheets/detail/drinking-water>

List 3 facts about drinking unclean water

1.
2.
3.

3. List 3 diseases that can be caused by drinking unclean drinking water

1.
2.
3.

4. Why are water sources contaminated?

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5. What are some things that happen to people who drink unclean drinking water?

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6. Write your user statement

1. Who is the user? (community)	
2. What is the problem?	
3. Why is it important to be solved?	

7. Use your response in question 6 to make a statement

The (1)_____ people need help to solve(2)_____ because
it can (3)_____

Ideate (the first idea is not necessarily the best idea):

Idea 1: _____

Labelled diagram of the device: 	Equipment needed: 	Websites used 1. 2.
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Explain how this device is relevant to your chosen community

Idea 2: _____

Labelled diagram of the device: 	Equipment needed: 	Websites used 1. 2.
--	--	--

Explain how this device is relevant to your chosen community

OPTIONAL- Idea 3: copy the scaffold above to design a third idea

Prototype:

1. Which idea from the ideate section are you going to construct?

2. Why have you chosen to create this idea?

3. Risk minimisation. Identify 3 hazards you may encounter while making the device. What is that risk and how to overcome that risk

Potential Hazard	At risk of....	Precaution
1.		
2.		
3.		

Construct your device, collect dirty water samples and video the filtration process

Do not drink your water samples!

Test:

1. Upload a video onto google classroom of your device working. Ensure it includes footage of;
 - the water sample before filtration
 - the device in action
 - the water sample after filtration

If you need assistance with the videoing, please see your teacher.

2. Explain reasons (at least 2) why the filtration process completed by your device **did** or **did not** work. (Refer to the science behind your device)

3. The water coming out of your filter needs to be tested to determine if it is safe to drink. **Do not drink your water samples.** What things (at least 3) would you need to test for to determine if the water is safe to drink? Explain the effect each of these things could have on a human.

	How to test for it	What effect would it have on a person if they drank it	How to overcome/fix the issue
pH			

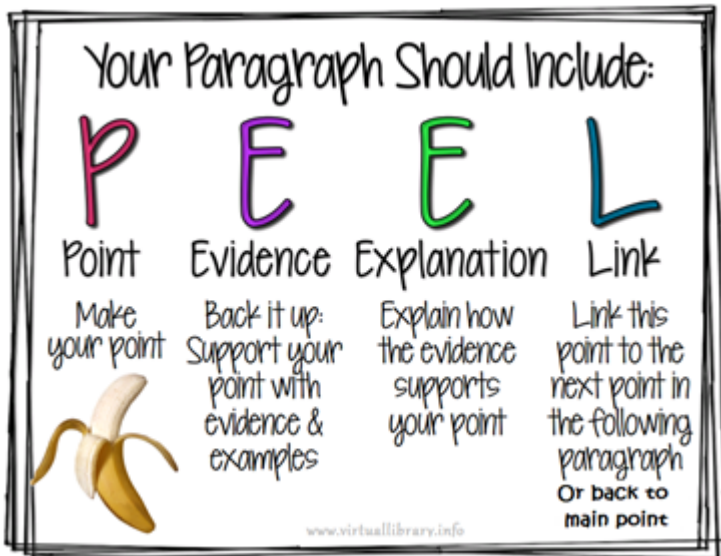
	How to test for it	What effect would it have on a person if they drank it	How to overcome/fix the issue
Bacteria			
Solids			

Evaluation:

1. In the construction or creation of your model you may have had some problems occur. Identify the problems / potential problems you had (or may have had) and how you reduced or solved the issue.

Possible problems	How did I reduce or solve this problem?
1.	
2.	
3.	

2. What kind of impact could your device have on the communities where water quality is poor? What are some things that people and communities can achieve once given access to clean water?



Impact that your device would have on the community: