

## S.2 CHEMISTRY HOLIDAY WORK

### **Item 1:**

A coastal community is experiencing a severe shortage of clean drinking water. The community uses sea water which has been found to be containing dissolved salts, and various metals. The community is considering different options to address this issue, including desalination of seawater.

You, as a chemistry expert, are tasked with evaluating the suitability of using seawater as a



source of drinking water.

### **Task**

As a chemistry learner, Provide information on;

- a) The category of a substance which sea water is.

(3 scores)

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b) The characteristics of the substance (seawater).

(2 scores)

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c) Analyze the potential environmental impacts of the presence of various metals in the sea water.

(3 scores)

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d) Propose alternative solutions to the water shortage.

(1 scores)

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## **Item 2**

A rich man was in the process of connecting water to his newly constructed residential building. There are various materials he could use for constructing a water tank stand whose nature and properties determine their suitability. However, he needs to be advised before buying the materials and has asked a local builder to educate him. The builder decides to come to you for advice.



## Task

Use your knowledge of chemistry to explain;

- a) The category of the materials.

(3 scores)

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- b) The suitability of materials.

(2 scores)

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- c) Educate the builder on the impact of the materials on the environment.

(3 scores)

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## Item 3

There is high demand of oxygen in referral hospitals in Uganda. An investor was contacted by government to set up an oxygen manufacturing plant at Tisai, one of the swamps near Kumi to tap into the opportunity. However, the residents seem not to understand how the process will occur plus its consequences and are resisting the project.



As a senior two learners with the knowledge of chemistry, you are required to create awareness to the members of Tisai and provide the necessary information.

## Task

Write a presentation you will use upon meeting them.

(12 scores)

#### **Item 4**

The increasing industrial activities in the region have led to a significant rise in air pollution levels. This has triggered concerns among the local residents and environmentalists. The National Air Quality Monitoring Agency (NAQMA) has decided to conduct an awareness campaign in the affected areas.



#### **Task**

As a chemistry student, prepare a presentation to be delivered at a NAQMA workshop in your locality. *(11 scores)*

#### **Item 5**

The local river, which is a primary source of water for the community, has been experiencing a decline in water quality due to industrial discharge and untreated sewage. The Regional Water Resources Management Authority (RWRMA) is organizing a community meeting to discuss and create awareness regarding natural resources.



#### **Task**

As a chemistry student, prepare a presentation to be presented at the RWRMA community meeting. *(11 scores)*