



# INVESTIGATING THE HYDROSPHERE

## FORMAL ASSESSMENT PROJECT: THE PURIFICATION AND QUALITY OF WATER

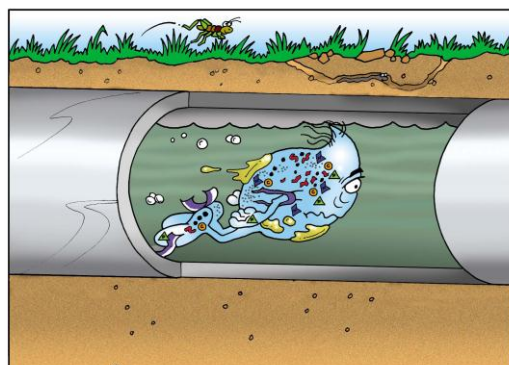
Grade 10 Physical Science

Student Name: \_\_\_\_\_

School: \_\_\_\_\_

Class: \_\_\_\_\_

Date: \_\_\_\_\_



Please note that when compiling your report, the Report Format below will need to be followed:

1. Cover page as above
2. Table of Contents
3. Introduction
4. The Hydrosphere
5. Water Quality
6. Water Purification
7. Conclusion
8. References

Each of the above is a topic on its own and has sub questions under each. Marks will be allocated according to the correctness of each question and to the format of the report written.

Below are the questions that need to be answered under each heading:

### **3. INTRODUCTION**

Briefly explain what water is. In your explanation include what a water molecule is, what elements make up water and draw a molecular structure of the water molecule.

(5 Marks)

### **4. THE HYDROSPHERE**

4.1 The hydrosphere interacts with other global systems such as the atmosphere, lithosphere and biosphere. Together these systems work to form the Water Cycle. Draw a schematic presentation of how the water cycle works including labels of each process.

(10 Marks)

4.2 Draw a graph depicting how water is distributed when it is in its liquid phase.

The graph needs to depict the percentage sea water versus fresh water and the further sub-division of freshwater availability.

(5 Marks)

4.3 In not more than 10 lines describe the importance of the hydrosphere.

(4 Marks)

## 5. WATER QUALITY

5.1 Briefly describe what water quality is in no more than two lines.

(2 Marks)

5.2 There are 9 causes of water pollution, namely:

- 5.2.1 Urbanisation
- 5.2.2 Deforestation
- 5.2.3 Damming of Rivers
- 5.2.4 Destruction of Wetlands
- 5.2.5 Industries
- 5.2.6 Mining
- 5.2.7 Agriculture
- 5.2.8 Energy Use
- 5.2.9 Accidental Water Pollution

Briefly describe each of the above causes of water pollution. Pictures/ photographs may be used under each sub topic.

(28 Marks)

5.3 Write a short paragraph on possible solutions to the water pollution problems identified above.

(10 Marks)

## 6. WATER PURIFICATION

6.1 Where does Rand Water get its raw water from and where does it go once it has been abstracted?

(3 Marks)

6.2 The following processes are involved in the purification process of water:

- 6.2.1 Screening
- 6.2.3 Sedimentation (including sludge disposal)
- 6.2.4 Carbonation
- 6.2.5 Filtration
- 6.2.6 Chlorination
- 6.2.7 Water supply (including secondary disinfection)

Describe each process in detail and include pictures where possible.

(35 Marks)

## 7. CONCLUSION

Conclude your report by writing about what you have learnt about the hydrosphere, water quality and water pollution and how they are all part of an interrelated system and the impacts that they have on each other.

## 8. REFERENCES

Include a list of references used to gather the information required for your investigation report.

### **Basic Essentials of a Reference**

Author(s) or Editor(s)

Date

Title

Place

Publisher

**It is usually laid out like this:**

Tierney, J. (2006) *Criminology*. Harlow: Pearson/Longman.