



3055 BA SANGAM COLLEGE

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WORKSHEET 16

School: Ba Sangam College

Name: _____

Subject: Basic Science

Year/Level: 9

Strand 2	Matter
Sub Strand 2.1	Materials
Content Learning Outcome	Investigate how the properties and interactions of materials influence their use.

Lesson Notes – Is all water the same

- As rain water runs through rocks and filters through soil, different minerals are dissolved in it.
- Water from the sea , stream or river often, has water from homes and factories entering
- Minerals dissolved in water particularly affect the way soap reacts with water
- Water which does not usually lather with soap is called hard water
- Water which lathers with soap is called soft water

Activity 1 Comparing water

Which water is best for washing?

Material

- Equal amount of different types of water-rain water ,sea water, tap water
- Equal amount of same soap

Method

- Equal volume of different types of water were placed into 3 test tubes and equal volume of soap(5 drops)was added to each test-tubes
- The test-tubes were stoppered and shaken 10 times each
- If lather did not form, another drop of soap was added and shaken 10 times. This was repeated until lather formed in each test-tube
- The number of drops of soap added in each test-tube was recorded

Results

Types of water	Drops of soap added to give lather	Observation
Rain water	5	Forms ,a thick lather upon shaking
Tap water	7	Forms a thick lather upon shaking

Sea water	20	Does not form lather a white scum is formed at the bottom of test-tube
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Conclusion

- Sea water is the hardest water
- Rain water is the softest water
- When soap is shaken with hard water scum forms

Activity 2 Reaction with detergents

Material

- Equal amounts of water samples-rain water, tap water and sea water
- Equal amounts of same detergent

Method

- Same amount of water was placed in the test tubes
- Same amount of detergent was added to all three types of water
- Each test-tube was shaken 10 times and observation was recorded

Results

- It was seen that lather formed in all types of water
- It can be said that, detergents lather with all types of water.

Exercise

1. Which water is probably the softest?

(1 mark)

2. Which water is probably the hardest?

(1 mark)

3. Imagine you are living on an island where the only water you can use for washing is sea water. Would you use washing soap or detergent? Why?

(2 marks)

4. Water which does not lather well with soap are known as _____ (1 mark)

