



3055 BA SANGAM COLLEGE

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WORKSHEET 17

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 – Hard water

Hard water - Water which does not usually lather with soap.

- Contains dissolve calcium and magnesium compounds
- These come from the rocks that the water has passed over
- Soap is made of a sodium part and a fatty acid part
- When calcium or magnesium particles of hard water meet soap molecules
They take the place of sodium forming insoluble calcium soap or magnesium

Disadvantage of hard water

- ✓ Does not lather with soap therefore forms a dirty scum on clothes giving them a dirty look
- ✓ Causes 'kettle fur' when hard water is boiled some, some of the dissolved substances turn into solid and this sticks to the sides of the kettle
- ✓ Cause wastage of soap

How can hardness be removed from water?

- ✓ By boiling
- ✓ By adding washing soda

Detergents –good or bad

| Soap | Detergents |
|---------------------------------|---------------------------------|
| Does not lather with hard water | Lather with hard water |
| Is destroyed in the stomach | Is not destroyed in the stomach |
| Is destroyed by bacteria | Is not destroyed by bacteria |
| Does not pollute water supply | Pollutes water supply |

Exercise

1. What is hard water?

(1 mark)

2. What is the reason for having hard water?

(1 mark)

3. State two disadvantages of hard water?

(2 marks)

4. State two advantages of using soap.

(2 marks)

5. State two ways in which hard water be removed?

(2 marks)

6. State two differences between soap and detergent?

(2 marks)

