



HANDS-ON EXPERIMENTS

WATER QUALITY

Water Quality is the chemical, physical and biological characteristics of water and is a really important measurement to know about a river because it indicates how healthy its ecosystem is and how safe its water is to drink. One way to do this is to measure the 'hardness' of water as an indicator of how many calcium or magnesium ions are dissolved in it.

Hard water will contain more of these ions than soft water and is formed when slightly acidic rainwater falls onto surface or ground rock and compounds from these rocks dissolve into the water. Hard water therefore contains these compounds, which are usually calcium or magnesium hydrogencarbonates.



The Experiment

What you need: Measuring cylinder; Beakers; labels; samples of water from different sources e.g. stream/river/kitchen tap; Soap (do not use soapless detergents)

1

Measure 50 ml of each of your water samples and pour them into separate labelled beakers

2

Measure how much soap (e.g. in ml or cm³) you need to use to form a permanent lather in the water

3

Compare how much soap you need across the water samples

Further Investigation

- More soap is needed to form a lather in harder water. Why do you think this is?
- Can you think of any factors affecting how hard water from different areas is?
- What advantages does hard water have for humans?
- What disadvantages does hard water have for humans?

VIDEOS FOR THIS RESOURCE AT:

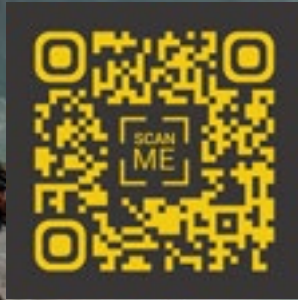
INTRODUCTION:



Clickable Link:

<https://youtu.be/-nbK707LQFY>

CONCLUSION:



Clickable Link:

<https://youtu.be/QKKwBPgsOl8>

