

TESTING ROCK PROPERTIES

KEY OBJECTIVES

1. Understand how scientists identify rocks and minerals using a variety of tests
2. Understand the scientific process e.g. observation and deduction
3. Raise awareness of variety of rocks and minerals

INTRODUCTION

There are three types of rocks: igneous, sedimentary and metamorphic. Rocks are made up of minerals. Geologists use several methods to identify rocks and minerals. Different rocks and minerals have different physical and chemical properties. For example, rocks that contain carbonate react with acid (substances with a pH less than 7). In this activity we are going to use geological tools to investigate the properties of rocks and minerals.

GUIDING QUESTIONS

1. What are the three type of rocks?
2. What is produced when you put acid on limestone? What are you testing for?
3. How do you test the hardness of rocks and minerals?
4. What other properties of rocks and minerals are tested?

MATERIALS/ PREPARATION

- A variety of small rock and mineral samples.
- Acid (diluted HCL or vinegar)
- Metal pick/Stylus
- White streak plate (unglazed porcelain)
- Small magnet
- Glass bowl/beaker filled with water
- Tissues
- Rock property worksheet

TASK & PROCEDURE

1. Six tests for rock properties:
2. Texture (Rough/Smooth) - using your hands, feel the rock.
3. Carbonate content (Bubbles (Fizz)/No Bubbles (Fizz)) - few drops of acid (Vinegar or diluted HCl) on the rock and see what happens.
4. Density (comparative weight, Float/Sink) - place the rock in the bowl of water and see whether it will float or sink.
5. Magnetic (Yes/No) - place the hand-held magnet on the rock. Does it slide off or stick to the rock?
6. Hardness (Yes/No) - scratch the rock with the metal pick. Does it scratch?
7. Lustre (Shiny/Dull) - look at the rock, is it shiny?
8. Write the test results and observations for the rocks on the worksheet.

FOSTERING DISCUSSION

None

SAFETY INSTRUCTIONS

Follow laboratory protocol and COVID-19 protocol

POSSIBLE EXTENSIONS

None

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CONNECTION TO SDGS



TOPICS

ENVIRONMENTAL STUDIES **NATURAL SCIENCE**
HEALTH EDUCATION

CROSS LINKS

SDG3 Good Health and Well-being
SDG12 Responsible Consumption and Production

KEYWORDS

ROCKS **MINERALS** **PROPERTIES**

LEVEL

Primary

RESOURCE TYPE

EXPERIMENT

INTENDED AUDIENCE SIZE

Flexible

MODE OF DELIVERY

Video online

TIME FOR ACTIVITY

20 min.