

ACID RAIN

Objective: Let the children investigate the effect of acid rain



CREATE

Ask the children to use the cylinder to measure 5ml of water and pour this into a beaker. Add five drops of the vinegar or lemon juice to the water.



OBSERVE

Ask the children to use the magnifying glass to look at the rocks. What do they look/ feel like? Then use the dropper to add a few drops of the acid rain to the rocks. What can they see/hear?



INCREASE THE CHALLENGE

The children could investigate the effect of acid rain of different concentrations by making their 'acid rain' with different amounts of vinegar or lemon juice.



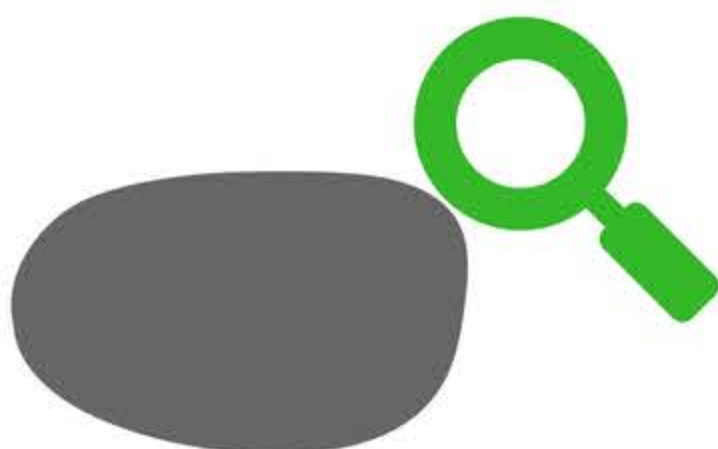
MATERIALS NEEDED

Measuring cylinder
White wine vinegar or lemon juice
Small beakers or plastic pots
Droppers
Different rocks (chalk, limestone, sandstone, slate, granite and marble)
Magnifying glasses
Paper towels or white tiles



SAFETY AND TECHNICAL NOTES

Remind the children not to eat the vinegar or lemon juice.



DATA COLLECTION

Ask the children to record the type of rock and what happens before, while and after the acid is being added.



FOLLOW UP QUESTIONS

What happened when you added the acid rain to the rocks? Why do you think this happened? Apart from rocks, what else might acid rain damage?

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**'THE REALLY USEFUL BOOK OF SCIENCE
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THE ICE CUBE CHALLENGE

Objective: Let children investigate the best place to keep ice cubes in the classroom



OBSERVE

Ask the children to observe an ice cube closely & record their observations. What does it look like/feel like?



SAFETY AND TECHNICAL NOTES

Ensure that no ice cubes are placed near electrical objects.



INCREASE THE CHALLENGE

Include the option of placing the ice cube outside the classroom.



MATERIALS NEEDED

Ice cubes
Magnifying lenses
Paper towels



PLACEMENT

Ask the children to choose a place for the ice cubes. Make sure ice cubes are placed on a paper towel.



DATA COLLECTION

Ask the children to record where they placed the ice cubes and what happens after 1min, 5min, 10min, 20min.



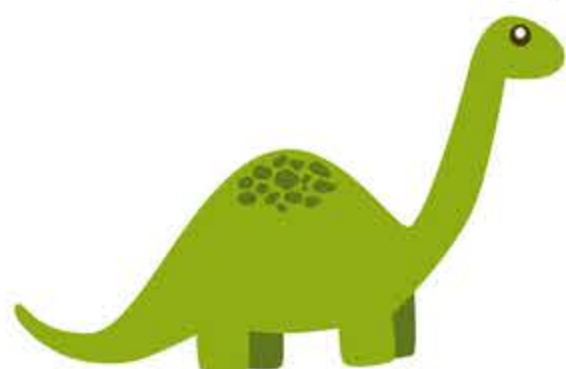
FOLLOW UP QUESTIONS

Where did the ice cube(s) melt the quickest/slowest?
Why do you think they melted so quickly/slowly?
What does this tell us about the temperature of our classroom?

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Volcanic ERUPTION

Objective: Create a 'volcano' using baking soda and vinegar



SAFETY AND TECHNICAL NOTES

Use modelling clay/other art materials for volcano. Clean the plastic bottles, use water from the hot tap and paper towels. Do a trial to check the quantities needed.



ACTION

Ask the children to add 2 tsp of baking soda to the bottle. Then very slowly pour the vinegar into the volcano.



INCREASE THE CHALLENGE

Vary amounts of baking soda and vinegar used (within a pre-set range) and observe the effect.



MATERIALS NEEDED

Small plastic bottle, Baking soda, Vinegar, Washing-up liquid, Water, Modelling clay, Red food colouring, Teaspoon, Beakers, Paper towels



BUILD

Ask the children to build the volcano around the empty bottle without covering the opening. Then to fill the bottle with warm water (1/2 full). Add a few drops of food colouring and of washing-up liquid to the bottle.



DATA COLLECTION

Ask the children to video their volcanoes erupting or take photographs before, during and after the eruption.



FOLLOW UP QUESTIONS

How is our volcano similar/different to a real volcano?
What do you think caused our volcano to erupt?

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