Rocky Investigations

Level

Between 2 and 5

Key questions

What can you find out about rock pools and the life in them?

How do we feel about the rock pools?

Key outcomes

Observe features of rock pools and rock platforms.

To write creatively about some of the observations.

Adapted from 1991, *Coastal Marine Environment*, (coastal activities written by 64 contributors), Hooper Education Centre, Brisbane North Region, Queensland Department of Education.

Hazard warning!

Primary children need to be warned about slippery rocks, and the risk of waves suddenly washing over rocks. If blue-ringed octopuses are likely to be in the pools, then additional warnings should be given about handling any marine life. Despite these hazards, young students should still be able to have lots of fun and make numerous observations on rocky shores.

Activities for primary students on a rocky shore or platform

What you need

Pencil, paper for each student
Tongs, rubber gloves, plastic containers, thermometers, measuring stick in centimetres for each groups

What you do

Wave Wash-up

Observe the wave run-up on the rocky area. What do you notice about the paths the water follows? Does the water always chose the same way?

Watch sand movement with wave run-up. Does the sand or the water appear to pound any life?

Pet rocks

Look at the rocks in any three areas along the shoreline or platform.

For each, consider the following:

- What shape is the rock?
- How does it feel?
- What colour is it?
- Are there any unusual features?
- What?

Rub your finger across the rock and lick your finger.

- What is the taste?

Draw one of the rocks which appeals to you.

- Name your pet rock.
- Write a short story or poem about your rock and its own feelings about being in its present location.

If there are lots of small rocks in the area, you may be able to take one back to school as your pet.

- What sort of bed would you make for it?

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Rock investigation

Examine the location of the rocks and record whether they are always bare, covered by the tide, or always submerged.

- Are there any shelves or pools?
- What do you see in the pools?

Your teacher may help you lift out some of the plants and animals which live in the pool. You can use tongs and store things in the plastic container to examine more closely.

- How do these smell?
- Feel?

You may be able to draw some of the things you see. You may also be able to name some.

- Is the seaweed long and wavy or stuck closely onto the rock sides?
- How does it feel?
- What eats it?

How do the animals affect each other?

- What will the crabs eat?
- What will the little fish?
- The anemones?
- The shell fish?

Will this rock pool be here next year?

- How could it change?
- What are three words you could use to describe the pool to your friend?

Features of rock pools

Using the thermometer, measuring stick and a recording sheet, each group of students can record the water temperature and depth in a selection of different sized pools. You can also record other variables: surface area (measure), shape (draw), and note if it is shaded by other rocks or trees. Observations about the life in the pool should be recorded as a list.

Later, either back in class or on the beach, make inferences about the temperature of the water and the life found in the pool.

- Is the temperature of the water higher in small pools?
- In shallow pools?
- Is more sea life found in deeper, larger pools?
- Are unshaded pools always hotter than shaded ones?

Graphs can be drawn to show some of the results.

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Figure 1. An illustration of a cunjevoi

Cunjevoi behaviour

Your teacher will show you what a cunjevoi looks like (Figure 1). Watch a colony of cunjevoi.

- What do they look like?
- Are they different when the water covers them?
- Where are they more numerous on the rocks?
- Why? What do they feel like?
- What happens when you touch them lightly?
- Observe their behaviour when waves flow over them.
- What are they doing?

Creative writing about pools

Small groups of students should chose a rock pool to study. If there are numerous pools, each student may be able to choose one each.

Look carefully into the pool, its surroundings, the rock, at the bottom of the pool, and at the life in the pool. Make a list of your discoveries.

Write a few lines, using phrases to describe the food available in the pool.

What are descriptive words for:

- the life
- the rock
- the water
- the bottom of the pool
- the surface
- the seaweed and shells.

Imagine you are one of the living organisms in or around the pool. Relate a day in your life.

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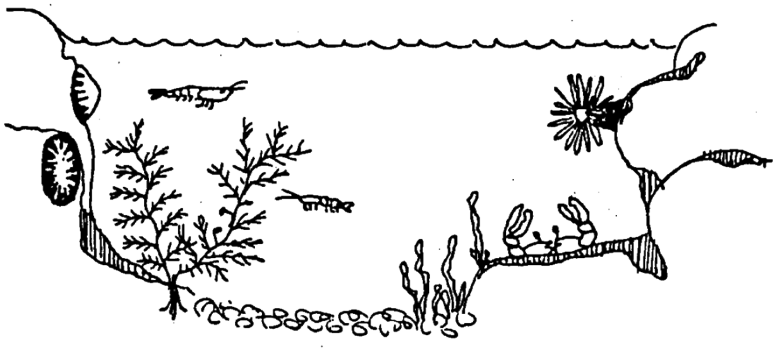

Figure 2. An illustration of the variety of life in a rock pool

Abundance in rock pools (Level 5)

Choose a variety of sizes of pools as they are exposed by the receding tide.

Measure the temperature of each pool at fifteen minute intervals, recording your measurements.

Calculate the approximate surface area (use measuring tape and take several measurements around and across the pool. Transfer these to graph paper. Choose a suitable scale and count the number of squares to reach the total area).

Compare the temperature of the water with the surface area.

Look at the number of life forms, animal and vegetable in each pool (Figure 2).

Compare the maximum temperature reached with life abundance.

- What do you notice?
- Can you discover any relationship between the temperature rise in exposed rock pools and life existing in them?

Designs

Sketch some of the patterns seen in the pools (e.g. cunjevoi, seaweed, fish, tumbled pebbles, sponge, shells).

Record the colours.

Take your sketch back to school and reproduce part or all of it in colour.

You may be able to combine all the sketches of the students and make a big collage to show your day on the rocky shore.