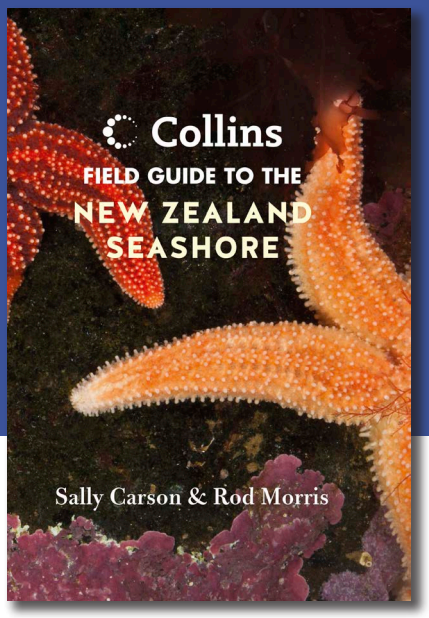
TEACHER'S NOTES

COLLINS FIELD GUIDE TO THE NEW ZEALAND SEASHORE

New Zealand's coastline is as diverse as it is spectacular. From sheltered mudflats to rugged rocks and ocean beaches, it is home to a bewildering and diverse range of plants and animals. The Collins Field Guide to the New Zealand Seashore is designed as a companion for seashore excursions, and is available from your local bookseller.

The activities included here are planned to assist teachers, educators and parents to bring the seashore to life in the classroom.



Seashore "Who am I?"

Make colour photocopies of the pages of the book that feature seashore species common to your seashore (laminate to extend use). You will need the same number of species as students in your class. Include a selection of seaweed and animal groups. Use clothes pegs (or safety pins) to pin the pages on to the students' backs. Each student then has to figure out what animal or plant is on their back by asking their fellow classmates yes or no questions. Their classmates can read the information on their back to help them answer the questions. This activity will help the students learn not only the names of the species but also information about their feeding habits and lifestyle.

Coastal Colours

The coastal environment is alive with colour. How many different colours can you find in a single photo?
If you had to create a range of paints (10 different colours) to represent the seashore, what would they be? Use a wide range of crayon colours or paint swatches to put your palette together.
Create names for your coastal colours.
What would you call this new paint range?

Spirals, Spots and Stripes

There are lots of regularities of form found in the natural world – all you have to do is look a little closer. Use photos in the book to look for natural patterns. Describe the patterns you see and suggest reasons why they have formed. (eg. look closely at the colonial sea squirt and read about how many individuals live together in a jelly tunic.)

Ocean News

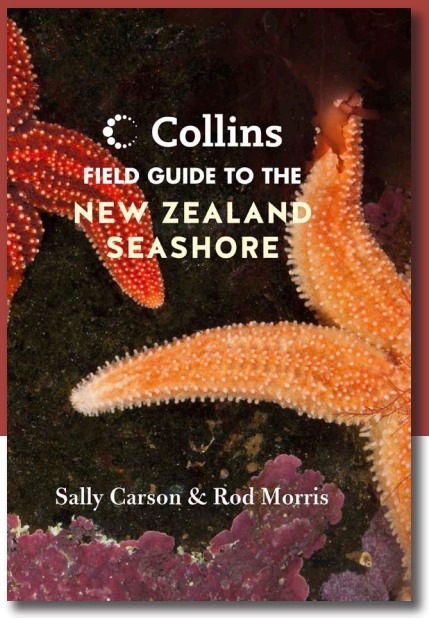
Life on the rocky shore is full of diversity and division, murder and mystery and of course sex and scandal – all topics that occupy the headlines of many newspapers. Consider life on the rocky shore and encourage your students to create a newspaper for the intertidal residents. Each article must have a catchy headline, clear facts, and be of relevance to the readership (eg. animals and plants that live on the seashore). Photos and cartoons will add interest and the odd advertisement might be fun to do.

TEACHER'S NOTES

COLLINS FIELD GUIDE TO THE NEW ZEALAND SEASHORE

New Zealand's coastline is as diverse as it is spectacular. From sheltered mudflats to rugged rocks and ocean beaches, it is home to a bewildering and diverse range of plants and animals. The Collins Field Guide to the New Zealand Seashore is designed as a companion for seashore excursions, and is available from your local bookseller.

The activities included here are planned to assist teachers, educators and parents to bring the seashore to life in the classroom.



Seashore Drama

Create the seashore environment with each student taking on the role of an animal or plant. When underwater how does it move or catch its food? Designate one end of the teaching space as the edge of the sea and the other end as the edge of the land. Students need to position themselves in the area of the shore where they will survive the best.

A long peice of string, extended between two adults represents the edge of the sea. Starting from the top of the high tide zone, the adults move the string as the tide goes out. The students need to change their behaviour and hold their breath as the string passes over them, and wait until the tide (string) comes back in. How does their behaviour change when the tide goes out? Who has to hold their breathe the longest? How can structures (eg. shells), behaviours (eg. movement) and position on the shore help their survival?

Example: look at the different behaviour of jewel anemones at high tide and covered with seawater (tentacles outstretched to capture food) in comparison to their behaviour at low tide when out of the water (tentacles contracted to hold moisture inside body)

Seashore Diorama

Recreate the seashore with plasticine or modelling clay. Use the photos and descriptions in the book to help students with the shape and colour of the animals and plants. What is the most obvious feature of each species? In your diorama create a low, mid and high tide region and tidal pools. Place each species in the area of the shore where it will best survive. Think about how it is adapted for exposure to air but also how it will avoid its predators.

Seashore A, B, C

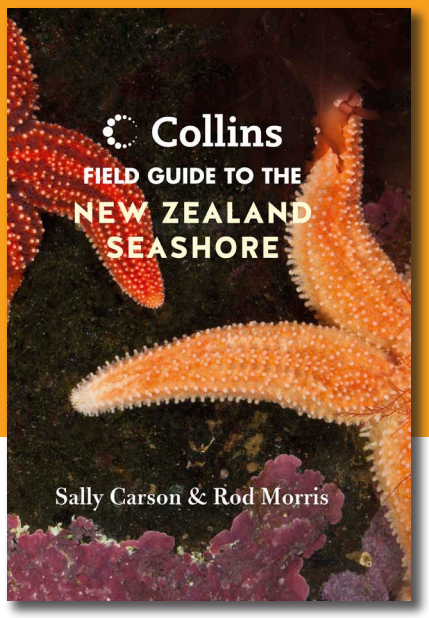
Challenge your students to find a seashore species to represent every letter of the alphabet. Remember to look at the scientific and Māori names of species as well as the common names. Assign a different letter of the alphabet to each student and ask them to draw a plant or animal from the book to illustrate that letter. Create a frieze, or border, to go around the classroom to feature the seashore A. B, C.

TEACHER'S NOTES

COLLINS FIELD GUIDE TO THE NEW ZEALAND SEASHORE

New Zealand's coastline is as diverse as it is spectacular. From sheltered mudflats to rugged rocks and ocean beaches, it is home to a bewildering and diverse range of plants and animals. The Collins Field Guide to the New Zealand Seashore is designed as a companion for seashore excursions, and is available from your local bookseller.

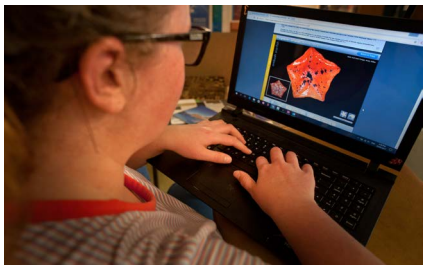
The activities included here are planned to assist teachers, educators and parents to bring the seashore to life in the classroom.



Seashore Scavenger Hunt

The more time you spend looking on the seashore the more detail and diversity you will see. Challenge your students to find ten items in the book that meet the descriptions outlined below (or suggest your own criteria). Students can flag the page with post-it notes or describe their find on a peice of paper. Bonus points can be awarded to students that suggest reasons why the animals or plant has the feature described. You can also introduce a time limit to make it harder.

1. Something round
2. Somthing spiky or hairy
3. Something purple
4. An animal with more than two legs
5. A shell with a hole (or holes)
6. Something with joints
7. Four different shaped shells
8. Evidence of growth
9. An animals that looks like a plant
10. Something you have seen before (on the seashore or in other books etc.)



Same? Different!

There is a greater diversity of marine plants and animals found on NZ's seashore than in the entire terrestrial realm. The different groups are as different to each other as they are to us. Investigating the similarities and differences will help you with identification on the shore, and understand the variety of strategies for survival.

Choose two or three marine animals or plants from the book. These may be from different groups (eg. one from the molluscs and one from the crustaceans) or from within the same group. Use the photos and the species descriptions to make a list of the similarities and differences.

Alternatively, photocopy the photos of 10 – 20 species. Ask students to group them into smaller groups and describe the criteria they used (eg. colour, type of appendages). They can continue to subdivide the group using further criteria (eg. number of shells or legs) until they are left with one photo. This is the beginning of a dichotomous key, a method used by scientists to identify different species.

Name the Coastal Natives

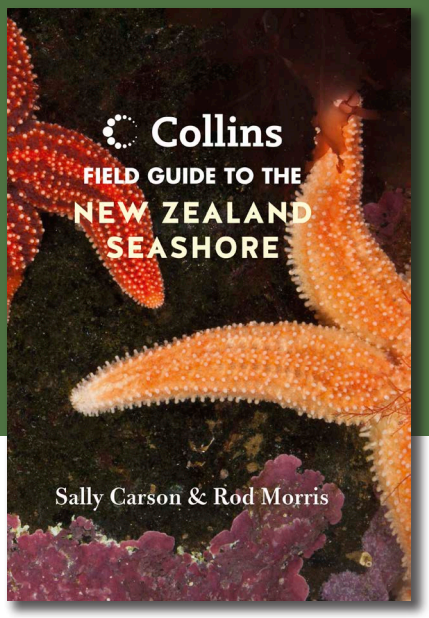
New Zealand is renowned for its unique wildlife and the seashore is no exception. Each student (or group of students) may choose a different group of animals or plants to investigate.
Draw a series of three nested circles. In the inner circle, list species (eg. crabs) found only in NZ. In the next circle include species found in NZ and Australia. In the outer circle, list species found in the Southern Hemisphere or worldwide. With a green highlighter tag those that are endemic, only found in NZ. Use yellow to tag species that are native, naturally found in NZ but also found in other regions. Use pink to tag those species that are invasive, introduced into NZ waters from other regions. What percentage of species are endemic, only found in New Zealand? Discuss why this is important to know. Investigate how species are introduced to NZ waters and how NZ species are transported to other parts of the world. What impact is this having and how can it be controlled?

TEACHER'S NOTES

COLLINS FIELD GUIDE TO THE NEW ZEALAND SEASHORE

New Zealand's coastline is as diverse as it is spectacular. From sheltered mudflats to rugged rocks and ocean beaches, it is home to a bewildering and diverse range of plants and animals. The Collins Field Guide to the New Zealand Seashore is designed as a companion for seashore excursions, and is available from your local bookseller.

The activities included here are planned to assist teachers, educators and parents to bring the seashore to life in the classroom.



Beach Detective

Collect shells and other beach drift on the local shoreline to show your students. How did it get there? How did it die? Use the book to investigate what sort of animal made the shell or skeleton, and find out more about its habitat and lifestyle. Write a 'who done it' to explain how its life came to an end and its remains ended up amongst the drift on the shore. The story may also include details of who ate whom.. to add a bit of drama and food web knowledge.

Example – Write a murder mystery about the Cook's turban snail. How did it end up as a pile of shells on the beach? *(See on page 322 for clues.)*

Seashore Survivors

Life is tough on the seashore – but there is a large diversity of plants and animals that live there – so how do they survive? Suggest your students make a table with two columns. Label the first column 'problems' and the second column 'solutions'. Suggest they list all the problems seashore species have to deal with at low tide when they are exposed to air (eg. heating up, drying out) and then list how animals cope with the problem (eg. shell with trap door pulled shut, hide under rocks or seaweed).
For each problem there maybe multiple solutions.

This activity could be extended by doing a second table for problems encountered with the tide is high (eg. hungry fish). Include problems caused by humans (eg. rocks turned over) and encourage students to act on the solutions they suggest.

Coastal Conservation

Students can use the book to investgate the threats to seashore species and the coastal habitat. Suggest they interview parents and locals and plan a trip to their local shoreline. Can they develop a coastal campaign to raise awareness to these issues? Posters, video interviews with experts and other concerned citizens, a letter to the local council are some options. Students can be important drivers of environmental action and can also raise money to help with conservation of local species.
Projects like Marine Metre Squared (www.mm2.net.nz) could be used to collect and analyze data to look at change in the seashore community over time.

Rules of the Road

We all know that when we ride a bike there are various rules that we must follow and actions that will help keep ourselves safe. Have your students design a sign or pamphlet on Seashore Safety. It should include actions to keep the animals and plants safe, guidelines to keep seashore explorers safe and recommendations for when and where to explore. A list of useful equipment to bring on their next seashore excursion could be included.