

Activity Title:

Which zone – who can be found where?

Focusing question

At which part of the beach would you find Bay of Plenty dune plants and wildlife?

Resources required**a. SAND TRAY**

- Sand tray (box with sand)
- Laminated Bingo picture cards from Activity 2l (i)
- String
- Which Zone? (Teacher reference sheet)

b. WALL MURAL

- Large roll of paper
- Art materials (drawing paper, colouring in pencils/pens, etc)
- Which Zone? (Teacher reference sheet)
- Coastal backdrop sheet (Teacher reference sheet)

c. CUT N' PASTE ACTIVITY SHEET

- Scissors, glue sticks
- Copying:
 - One A4 or A3 copy per student of each page:
 - Cut n' paste picture sheet
 - Coastal backdrop sheet
 - One copy per group of students
 - Which zone? sheet

Prior learning

1c Beach diagram

2a Native dune plants – who lives where and why?

2g(i) Coastal Wildlife Overview

2i Interrelationships – dune animals and plants

2l Dune Community Bingo

Method**a. SAND TRAY**

- 1 Place three pieces of string across a sand tray to show lower, mid and upper beach zones (sandy shore, fore dune and mid/back dune). Discuss the word 'zone'.

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Environmental Education Aspect:

About the environment

Environmental Education Concept:

- Biodiversity
- Interdependence

Curriculum Links:

- Science
- Literacy and numeracy

Suggested Curriculum Level:

- Levels 1-2 (sand tray)
- Levels 1-4 (wall mural)
- Levels 3-4 (cut n' paste activity)



- 2 Hand out bingo picture cards and have students stand the cards in the sand in the zones that they feel they would most likely find each animal and plant.
- 3 Count the plants and animals in each zone and explore (for example) – which zone has the most plants and why? Which zone has the most birds and why?
- 4 Ask questions – where is your seal picture? Why did you put the seal in that zone?
- 5 Post discussion: which animals need moving into a different zone?

b. WALL MURAL

- 1 The objective of this activity is to create a wall display/mural of native plants and wildlife associated with the Bay of Plenty's dunes and open sandy coasts.
- 2 Have each student draw one native coastal plant or animal.
- 3 Stick these onto a large sheet of paper secured to the wall. (Ideally this will have the different beach zones marked on it. Use the Coastal Backdrop Sheet, and 'Which Zone?' sheet as teacher references.)

c. CUT N' PASTE ACTIVITY SHEET – Alternative activity for higher level students

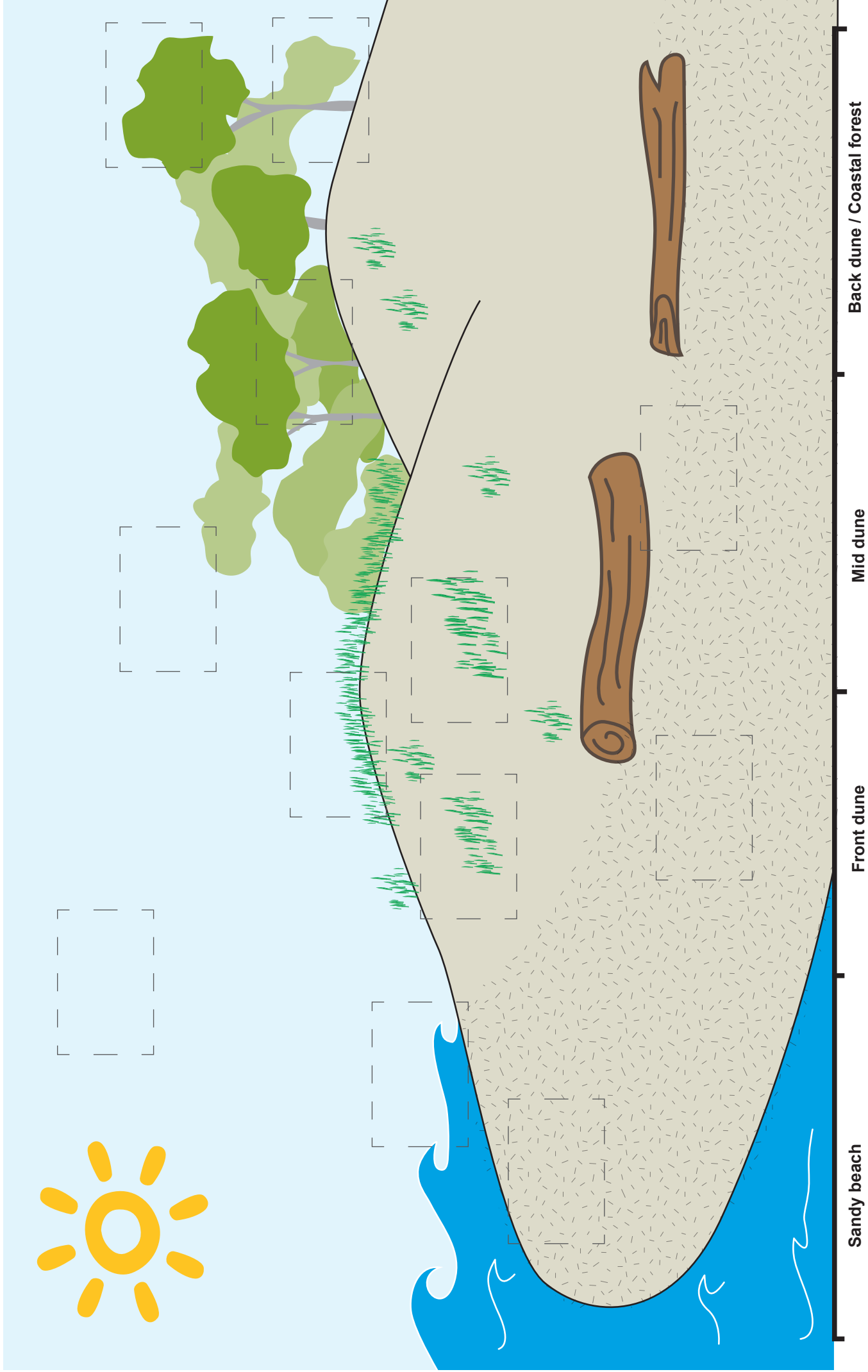
- 1 The objective of this activity is to look at which beach zone you will find coastal plants and wildlife in.
- 2 The species used in the Cut 'n' Paste picture sheet are those associated with dunes and open sandy coastlines in the Bay of Plenty. Explain that these species have been chosen to give a selection of both common and rare types. All are native (living naturally in NZ) and some are endemic too (found only in NZ). These will be found in zones ranging from the sandy beach, fore dune, mid dune to back dune/coastal forest. Many species can be found in more than one zone, and some are common in other habitats also.
- 3 Provide each student with a Coastal Backdrop sheet, as well as the Cut n' Paste Picture Sheet. The aim is for students to individualise their coastal backdrop sheet with their own selection of plants and wildlife.
- 4 Each student cuts out the pictures along the dotted lines on their sheet and selects pictures for appropriate boxes on the Backdrop sheet. The student will need to select 12 out of the 24 pictures. There will be several options which may fit a box.
- 5 Student will need to check the placement of pictures before they are glued down, using the 'Which Zone?' sheet as a guide. Younger students may need adult guidance.
- 6 The sheet and pictures may be coloured in by the students.

Possible next steps

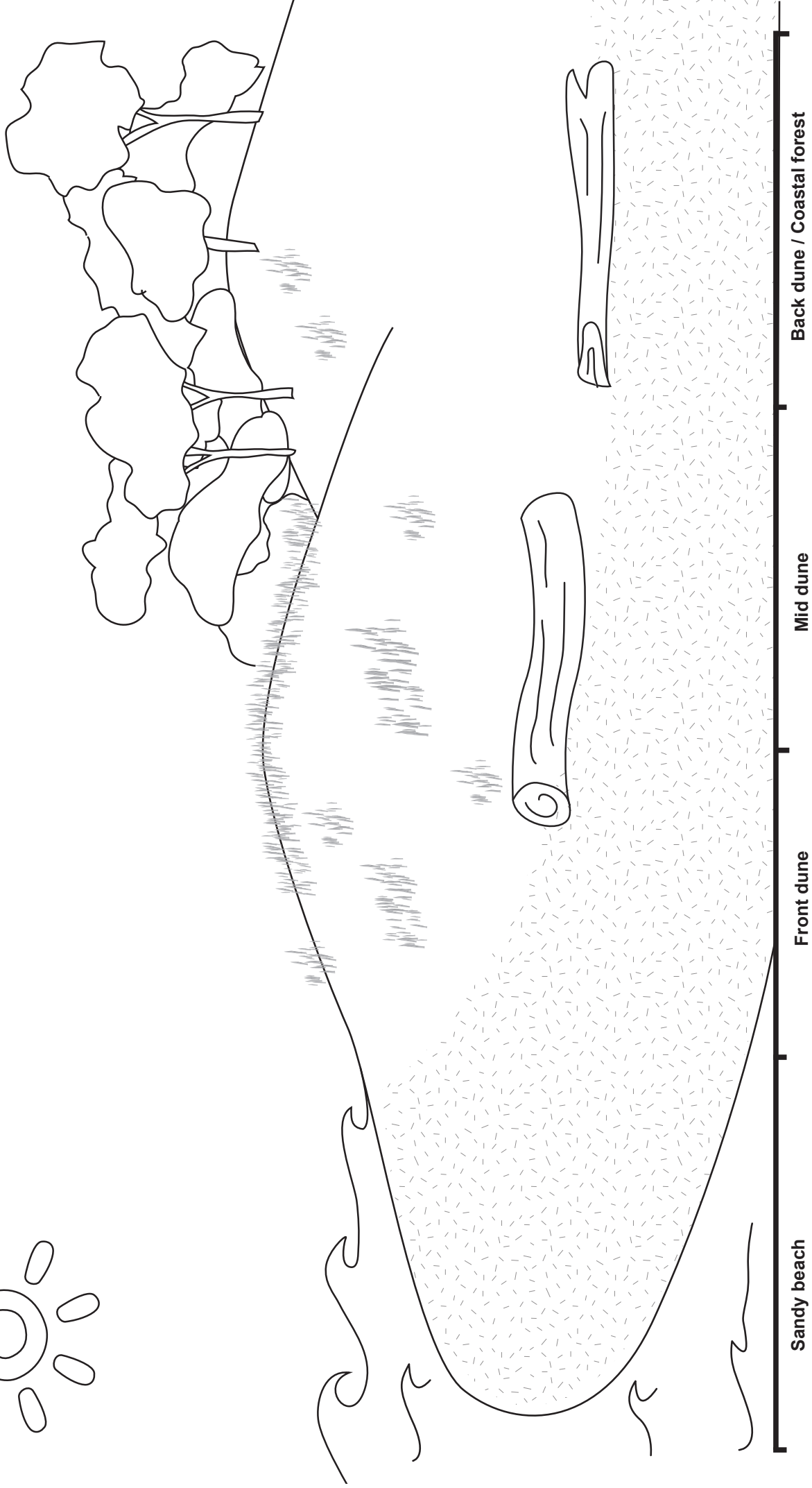
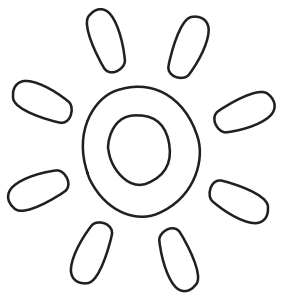
- Investigative field trip to the beach, using 2e Worksheets 1 and 2 (plants) and 2g Worksheet (animals)
- Support Coast Care by dune planting at your local beach.



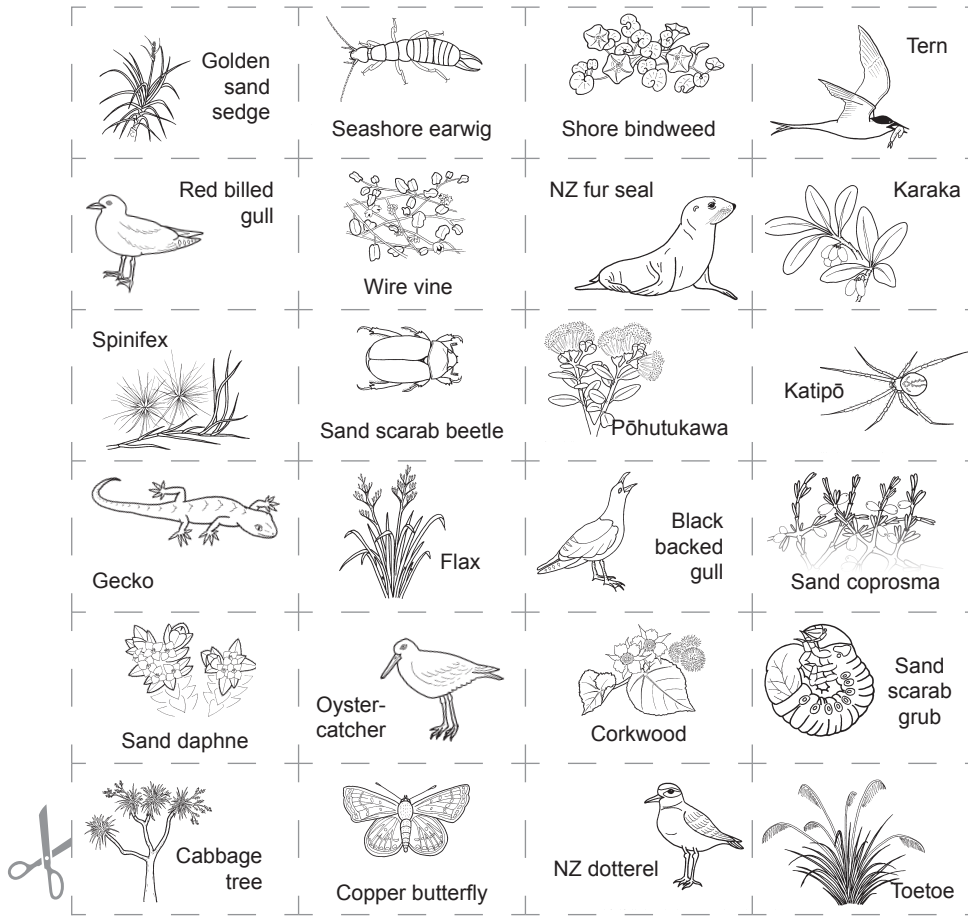
Coastal backdrop sheet



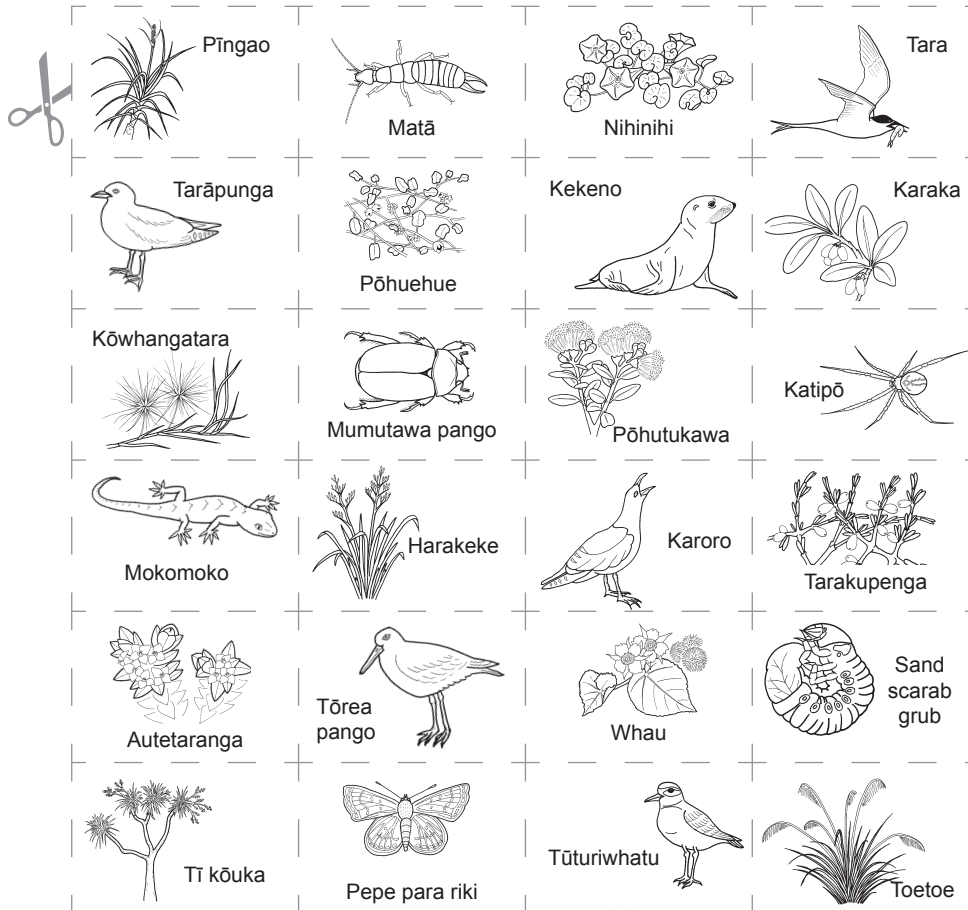
Coastal backdrop sheet



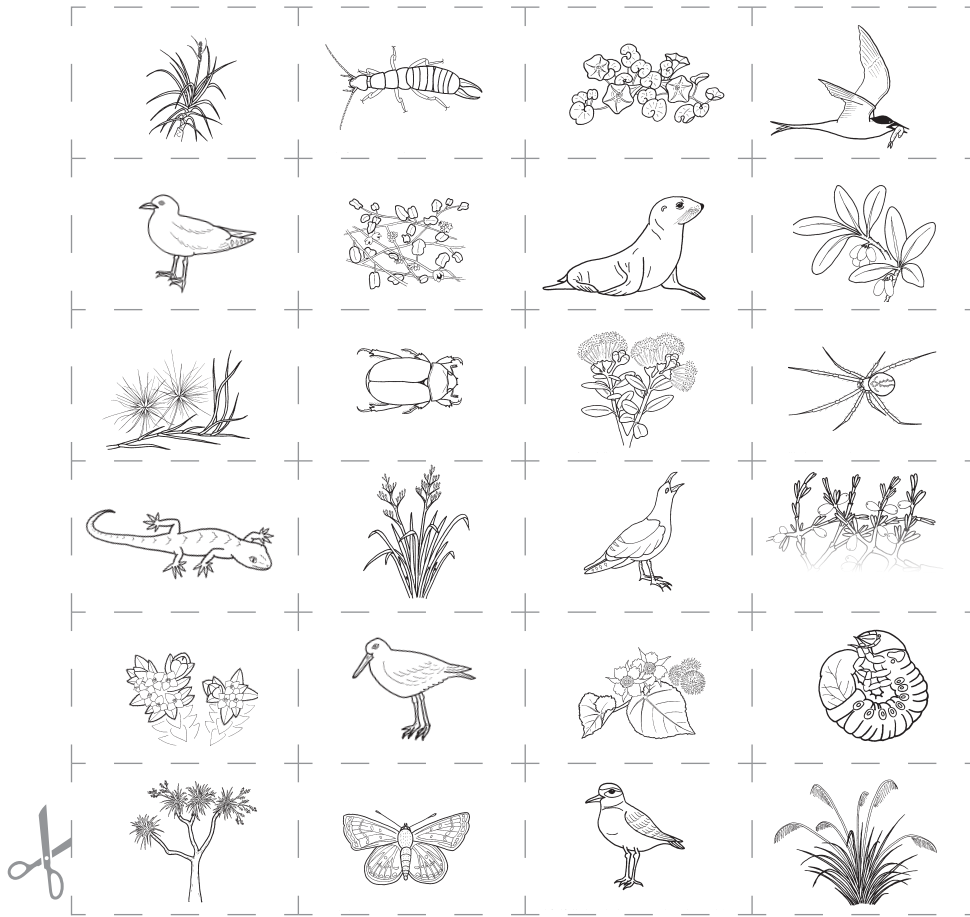
Cut n' paste picture sheet
- English version



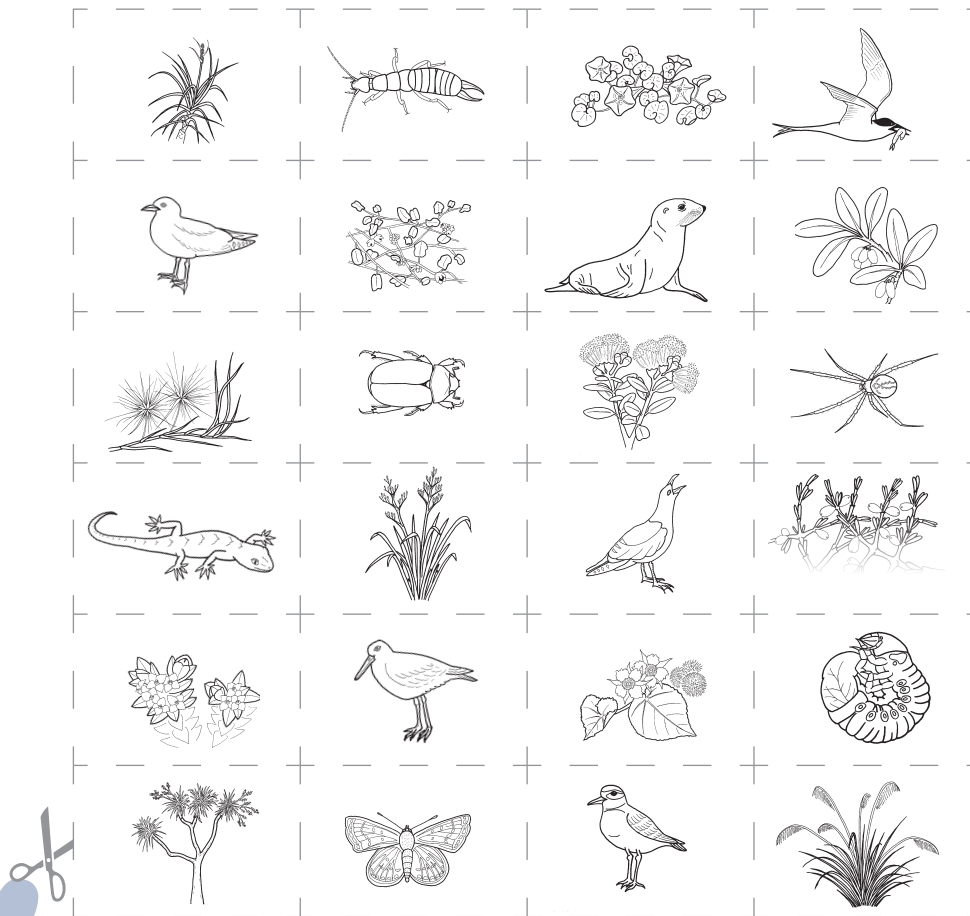
Cut n' paste picture sheet
- Te reo Māori version



Cut n' paste picture sheet
- label your own















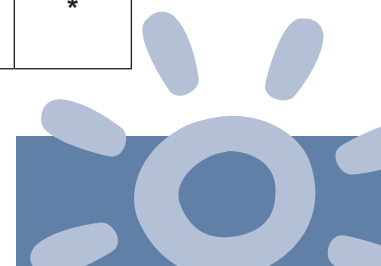
Cut n' paste picture sheet
- label your own




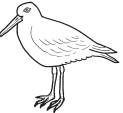






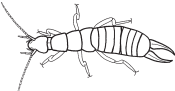



Which zone?

Please note this table is a **general** guide to where plants and animals may be typically found on the beach or in the dunes. It is not a definitive record; the 'zone' may vary according to species, season, human impact, etc.

		ZONE			
		Sandy beach	Front dune	Mid dune	Back dune / Coastal forest
PLANTS					
	Kōwhangatara, spinifex		*	*	
	Pīngao, golden sand sedge		*	*	
	Nihinihi, shore bindweed		*	*	
	Tarakupenga, sand coprosma			*	
	Autetaranga, sand daphne			*	
	Pōhuehue, wire vine			*	*
	Toetoe			*	*
	Harakeke, flax			*	*
	Ti Kōuka, cabbage tree			*	*
	Karakā, NZ laurel			*	*
	Whau, corkwood				*
	Pōhutukawa				*



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		ZONE			
		Sandy beach	Front dune	Mid dune	Back dune / Coastal forest
ANIMALS					
	Tūturiwhatu, dotterel	*	*		
	Tōrea pango, oystercatcher	*	*		
	Tarāpunga, red-billed gull	*	*		
	Karoro, black-backed gull	*	*		
	Tara, tern	*	*		
	Kekeno, NZ fur seal	*	*	*	
	Sand scarab grub	*	*	*	
	Mumutawa pango, sand scarab beetle	*	*	*	
	Matā, seashore earwig	*	*	*	
	Katipō spider		*	*	
	Pepe para riki, copper butterfly			*	
	Mokomoko, gecko		*	*	*

