

Student Activities Booklet

The activities in this booklet do not have a specific Level in mind. Teachers are advised to use their own judgement as to which will be suitable for their own class.



PREPARED FOR THE OTOROHANGA ZOOLOGICAL SOCIETY

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OTOROHANGA VISIT BIRD LIST

(Tick each species you see)

Wetland and Water Birds	Tick	Bush, Open Country, & Scrub Birds	Tick
Coot		Brown Kiwi	
Scaup		Great Spotted Kiwi	
Shoveler		Kaka	
Brown Teal		Kea	
Campbell Island Teal		Tui	
Grey Teal		Falcon	
Blue Duck		Harrier	
Pukeko		Barn Owl	
Black Stilt		Morepork	
White Faced Heron		Kokako	
South Island Pied Oystercatcher		Weka	
Godwit		Kingfisher	
Variable Oystercatcher		Kereru	
Spur-winged Plover		Wax Eye	
Paradise Shelduck		Welcome Swallow	
Chestnut Breasted Shelduck		Sparrow	
Mallard		Blackbird	
Shag		Thrush	
		Grey Warbler	
		Fantail	

OTOROHANGA BIRD FACTS SHEET

Bird Name:	Student Name:	
Size (large/medium/small)		
Bill shape and colour		
Plumage colours:	back	breast
	head	face
	wings	tail
Special features:		
Favourite foods:		
Preferred habitats:		

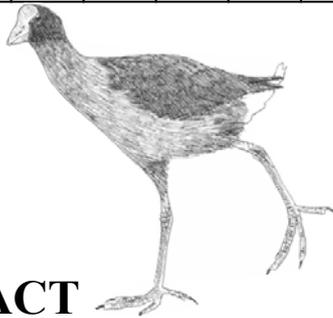
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BIRDS WORDFIND

Find the 14 native birds.

K	E	R	E	R	U	R	F
R	O	W	T	U	H	A	A
K	A	K	A	R	A	I	L
I	U	T	A	U	K	K	C
W	H	I	O	K	R	A	O
I	K	U	H	E	O	K	N
W	E	K	A	A	N	W	K
O	P	U	K	E	K	O	L

Kaki
Kereru
Kaka
Kokako
Ruru
Tui
Kea
Kahu
Kiwi
Whio
Owl
Pukeko
Weka
Rail



FACT



FILE



Choose one of the birds from the Wordfind.

In the centre of a large sheet of paper, make a detailed drawing of the bird you have chosen.

All around your drawing, write information, facts, words, or small poems about your bird.

If you can find photos of your chosen bird, paste those around your drawing as well.



KNOWLEDGE CHECK

1. Name two ways that nectar-feeding birds such as bellbirds and tui, and reptiles such as geckos help plants like flax, mistletoe and pohutukawa.
2. Explain why it is important to control animals such as stoats, rats, cats, and possums.
3. Choose one of the following: *blue duck*, *gecko*, *kiwi*, *tuatara* and list at least two ways it has adapted to its environment.
4. Why are predators a bigger problem for native birds and reptiles now than they were 100 years ago?
5. How do possums and wasps harm native birds?
6. Give at least two reasons why so many species of New Zealand birds are endangered or threatened.
7. Choose one endangered bird or reptile, and list ways in which it could be helped to become common again.

RESEARCH

Research a particular bird or reptile that you have seen at Otorohanga.

- Draw it (try to be accurate with shape, colours, markings).
- Say whether it is common, threatened, or endangered. and explain why.
- State whether it is native or endemic and explain what that means.

Suggested headings:

Description
Habitat
Breeding
Behaviour
Food

MISSING WORDS

(choose from the list below).

1. The beak of the kiwi is designed to _____
2. Birds' feathers are to help them to _____ and _____ and _____
3. Birds and reptiles help the survival and spread of forest plants by _____ and _____
_____ and _____
4. An animal that nectar feeders must compete with for food is the _____.
5. Ducks and tui are omnivores because they _____.

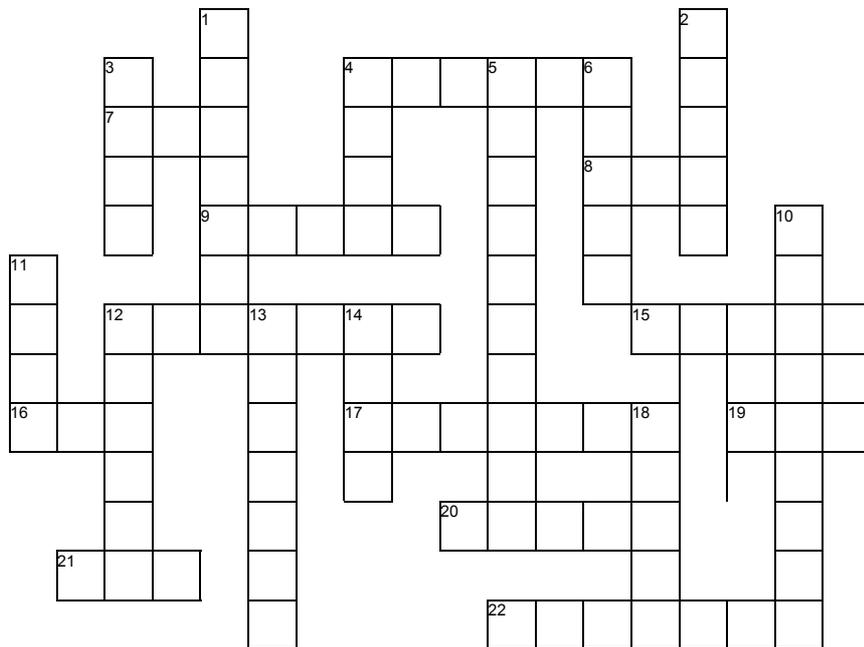
- carrying sticky seeds on feathers
- keep warm
- fly
- hide
- spreading pollen from their heads, from plant to plant
- eat both plants and animals
- wasp
- smell and reach for food deep in the ground

TWO MIXED-UP SENTENCES

Cut these up, put them into the correct order, then stick them together again.

A very big egg	in burrows	and	Kiwi nest	they lay
mostly	they find their food	into the ground	and	Kiwi like to eat
their long bills	worms, slugs and snails	by poking	deep	

CROSSWORD: BIRDS AND THE ENVIRONMENT



ACROSS

- 4 Had an outstanding breeding season in 2002
7. Huge extinct native ground bird
8. Many seabirds killed by spills of
9. Means poisonous (t.....)
12. These ships are not allowed into New Zealand.
15. The White Heron lives near w.....
6. Little Spotted Kiwi males ... on the eggs to incubate them.
17. Animals which are gone forever.
19. This animal is a menace to chicks
20. Predators like the t..... of their prey.
21. Female birds are called the ...
22. P.... destroy our native forest.

DOWN

1. Six-pack drink ties made of this kill hundreds of birds.
2. The Black S..... is an endangered bird
3. A mixture of fog and smoke
4. Very few left of the Little Spotted K.....
5. Emperor penguins breed on this continent. A.....
6. This shields the earth from the sun's harmful rays. O...
10. Animals that kill and feed off others are P....
11. D.... have killed many kiwi.
12. Tui, North Island Robin and Kokako are birds.
13. Cutting down trees is known as L....
14. A sanctuary is a protected
18. Kokako nest high up in

BEHAVIOUR CHART

- Observe and gather data on social interactions between birds of the same species.
- q Use a Record Sheet such as this.
- q Using a watch, take a sample of a single bird's behaviour at regular intervals (e.g: every minute, on the minute).
- q Select a time interval that suits the nature of the behaviour and the time available to you.
- q It is useful for a number of people to study a group at the same time, each observing a different bird, to allow comparisons and provide a total picture of group interactions.
- q Use the codes listed to classify the types of behaviour.
- q Present the results in table and/or graph format.

<u>Behaviour Codes</u>		<u>Location Codes</u>	
R	resting	A	airborne
F	feeding	G	on ground
Pr	preening	W	in water
Fl	flying	Wu	under water
Wl	walking	P	in the pond
Ag	aggression		
Sb	submission		
OS	other social interaction		

1 _____	2 _____	3 _____
4 _____	5 _____	6 _____
7 _____	8 _____	9 _____
10 _____	11 _____	12 _____
13 _____	14 _____	15 _____
16 _____	17 _____	18 _____
19 _____	20 _____	21 _____
22 _____	23 _____	24 _____
25 _____	26 _____	27 _____
28 _____	29 _____	30 _____
SPECIES _____ DATE _____ TIME _____ WEATHER _____		
SEASON _____ COMMENTS: _____		

Keeping a Bird Diary

Try keeping a diary at home and at school for a week. It will help you to learn more about birds.

The easiest birds to watch are probably sparrows.

Write down everything interesting you see birds doing: they may be arguing with each other at a bird feeder, or flying back and forth a lot from one tree to another, taking a dust bath, drinking from a puddle.



You'll find they are almost always busy!

DATE	TIME	PLACE	WEATHER	KIND OF BIRD	HOW MANY

NOTES:

WHAT AM I ?

1. I am a well-known New Zealand native bird.
2. I am about the size of a bantam hen.
3. I am nocturnal (I hunt for food and call out at night, and sleep in the day).
4. My nostrils are at the end of my bill and help me to find food.
5. I am the smallest and the most gentle of my kind of bird.
6. I am extinct on the mainland, but live on smaller islands.
7. My feathers are very soft, and are a speckled light grey.

I am a L _____ S _____ K _____

WHAT AM I ?

1. I am a large native New Zealand parrot.
2. I live in lowland forests
3. I eat fruit, leaves, and nectar
4. I use my strong bill to tear off bark and rip open decaying wood to search for insects and larvae.
5. My feathers are greyish-white on my forehead, olive brown on my body, and bright red under my tail and my wings.
6. I have cousins the same size as me, who live near the Southern Alps.
7. I make a lot of different sounds when I talk to my family, but I can also be very quiet and hard to find in the forest.
8. I am very playful and like doing acrobatics.

I am a K _____

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WHAT AM I?

1. I am a very well-known native bird.
2. Sometimes I look black, but look at me in sunshine and you'll see I'm not.
3. Although I am beautiful, I can be a bit of a bully to other birds sometimes.
4. I have a brush tongue.
5. My favourite food is nectar but I also like eating fruit and insects.
6. Sometimes you might be lucky to see me in your garden in winter or springtime if you have plants like flax or kowhai I can get nectar from.
7. I have a lot of different songs, but sometimes I sound a bit like a bellbird and sometimes I copy other birds' songs.
8. I can fly through the bush very quickly, and my wings make a noisy whirring sound when I want to frighten other birds by flying straight at them.

I am a T_____

WHAT AM I?

1. I am a New Zealand native, but there are other birds that look just like me in Australia.
2. When I lay eggs and have chicks, the whole family helps to look after them.
3. I like to live in swampy areas and I am often seen at the sides of roads in the country.
4. When I fly I look awkward, and my legs dangle in a funny way.
5. I really love to eat grass stems, which I sometimes hold up in one claw, but I also like to eat other things like insects and very small animals.
6. I have bright red legs and a bright red bill, and most of my feathers are blue.
7. As I walk along I flick my white tail.

I am a P_____

FUN TRIVIA QUIZ

- 1 What is the biggest threat to the survival of wildlife?
 - (a) Cars
 - (b) Loss of habitat
 - (c) Heavy metal music

- 2 Why are wetlands important?
 - (a) For swimming and boating
 - (b) For hydro electricity
 - (c) For their biodiversity

- 3 Which of the following form part of the ecosystem?
 - (a) Animals
 - (b) Plants
 - (c) Rocks
 - (d) All of the above

- 4 Why do scaup have webbed feet?
 - (a) To stop them sinking into mud
 - (b) To help them swim, and dive to feed on the bottom of ponds
 - (c) To stop their toes from spreading out too far

- 5 Kiwi are omnivorous. Does that mean:
 - (a) They only eat insects and bugs.
 - (b) They eat lots of different things, from insects to plants
 - (c) They only eat plant food

- 6 Kiwi nest in:
 - (a) Burrows under the ground
 - (b) High trees
 - (c) Long grass near water

- 7 Kokako:
 - (a) Are strong fliers
 - (b) Can't fly at all
 - (c) Are poor fliers

- 8 A tuatara is:
 - (a) A lizard
 - (b) A reptile but not a lizard
 - (c) A lizard but not a reptile

(*During The Visit*)
TRUE OR FALSE?

Search for information inside and outside the buildings as you read these statements. Information may be on a poster, on a chart, in a brochure, on a sign; or maybe there is someone you can ask.....?

Put T for True or F for False in the boxes.

For every correct answer you get, draw one part of a bird (body, head, tail, wing, leg, foot, eye, beak. (10 items) You should aim to end up with a complete bird drawing.

True or False?

- Shovelers have spoon shaped bills

- Blue Ducks live on ponds on farms and in town

- Kaka live in lowland forests

- Pukeko live only in New Zealand

- Black stilts live in large groups all around New Zealand

- Weka are endangered

- The Harrier has brown eyes

- Kokako are very fast and strong fliers

- The Falcon is a smaller bird than the Harrier

- Pukeko are very poor fliers

SOME WAYS TO ATTRACT BIRDS TO YOUR GARDEN

Here are just a few native plants you can buy to get you started on providing food for birds in your garden at home.

These provide nectar, berries or seeds

(a) For Nectar:

Kaka Beak Konini Rata Tarata Flax Kowhai

(b) For Berries and Seeds

Wineberry Karamu Taupata Corokia *Pigeonwood Kawakawa
Wharangi Mahoe Mapou *Coprosma
*Fuchsia *Pseudopanax

The plants marked with a * need to have more than one planted if you want seeds or berries. One on its own just won't work.

In autumn and winter, make a "bird pudding" for the wax-eyes. Put it into a closely – woven plastic bag (like those you can buy garlic in at the supermarket), and hang it from a tree branch in a place where you can watch from your window.

Hanging it up like that will stop bossy blackbirds from getting the food.

If you want to attract blackbirds though, just put leftovers onto a simple bird table in a place safe from cats.

Bird Pudding:

Buy a packet of lard or dripping.

Gently melt it in a pot on the stove.

When it is a bit cooler, add any small bits of leftover bread, cooked rice, oatmeal flakes, etc.

Pour it into a couple of plastic honey pots, and leave to set in the fridge.

Tip the pot upside down and run hot water over its bottom until the solid pudding falls out.

Put the pudding into the special plastic bag, tie up the open end, and hang it securely in a tree.

**The birds will probably be very suspicious for quite a few days, so be patient!
They will eventually come for a feed.**



MEASURING BEHAVIOUR:

Some suggested sampling techniques

NOTE: Before you decide on one of these techniques, you need to decide on a descriptive list of behaviours you are going to be looking for.

1 Instantaneous and Scan Sampling

A whole group of birds is rapidly scanned at regular intervals, and the behaviour of individual birds at each instant is recorded

Because each observation must be brief, your behavioural categories must be easily and quickly distinguishable.

2 Focal Sampling

Observing one bird for a set amount of time, and recording all of its behaviour in that time. You need to have first decided on how long you will be observing (e.g: 10 minutes). Then make sure you note the starting time.

Note that, if the bird you are watching moves out of view you can do one of two things. Either record how long it is out of sight then continue normal recording when it becomes visible again, or switch to another bird and try again.

3 Zero – One Sampling

Decide what behaviour you want to record (e.g: preening, eating).

Then decide what time intervals you are going to use (e.g: 15 seconds every minute for 5 minutes, or 30 seconds every 2 minutes for 10 minutes).

If the behaviour you are looking for occurs during the chosen time interval (15 seconds) record a tick. If not, record a cross.



(Before The Visit)

MATCH THE WORDS TO THEIR MEANINGS

These words and their meanings have been mixed up. Draw lines to match the correct meaning to each word.

- | | |
|------------|--|
| mustelids | found only in a certain country and nowhere else |
| fledged | brought to New Zealand by people |
| raptor | likely to become extinct if not managed properly |
| moult | an animal that takes birds or their eggs or chicks |
| endemic | fully feathered, able to fly |
| incubate | a bird's feathers |
| introduced | the annual replacement of feathers |
| predator | a bird of prey (hawk, falcon) |
| plumage | naturally found in New Zealand, or self introduced. |
| native | develop and hatch young birds in eggs by sitting on them to keep them warm |
| endangered | ferrets, stoats, and weasels: a group of mammal predators introduced to New Zealand to control rabbits |

(Before Or After The Visit)

MATCH THE NAMES OF THE BIRDS

Each of these birds has a Maori name as well as an English name. In this list they have been mixed up. See if you can match them correctly.

ENGLISH

MAORI

Swamphen

Torea

Shoveler

Kahu

Variable Oystercatcher

Pukeko

Blue Duck

Weka

Black Stilt

Karearea

Brown Teal

Kaki

Woodhen

Kuruwhengi

New Zealand Falcon

Kotare

Harrier

Pateke

Kingfisher

Kereru

Morepork

Whio

Pigeon

Ruru

(After the Visit)

MATCH THE BODY PARTS TO THE PICTURE OF THE TUI

Draw a line from each word to each correct part of the tui.

- Upper mandible
- Lower mandible
- Throat
- Forehead
- Nape
- Mantle
- Wing coverts
- Rump
- Tail



Match the Bird species with their Habitat

kiwi	fenceposts, farmland, swamps, wetlands
weka	bushy high country
pateke (brown teal)	forest and scrubland
whio (blue duck)	tall lowland forest
papango (scaup)	mountain areas
kokako	town gardens, bush areas, flowering trees
tui	wetlands
kea	large deep lakes
karearea (falcon)	swift high country streams
kotare (kingfisher)	flax bushes, burrows, and dens

OTOROHANGA KIWI HOUSE MATHS

- ❑ Look at the different sizes of birds in the park. Name or draw 6 birds you have seen on this visit, in order from smallest to largest.
- ❑ Look carefully at the patterns on the geckos. Draw a gecko, and make up patterns of your own which would provide good camouflage to help it to hide from predators.
- ❑ Draw and name a bird which has short legs.
- ❑ Draw and name a bird which has long legs.
- ❑ Use a tally chart to count the number of ducks on the pond..
- ❑ Count a selection of different species of birds, and record the results on a bar graph to show which are most common. You may wish to include birds which are flying freely around, such as sparrows or fantails.
- ❑ Use a compass to establish North, South East and West. On a map of the park, mark in those points (N S E W) and starting from the shop, plot the shortest pathway to and from your favourite bird or reptile area.
- ❑ Instead of that last activity, plot the most interesting pathway!
- ❑ Find a way to measure or to estimate the height of the viewing platform.
- ❑ Choose and draw an object:
 - (a) from your point of view at ground level
 - (b) from the perspective of a bird flying overhead.

SCENARIO

Here are ten sentences which explain what might happen to cause loss of habitat for our endangered Kokako. The sentences are in the wrong order. Cut out each sentence, sort all the sentences into what you think is the correct order, then paste onto another sheet of paper.

The farmer still needs to make money from his land

A beef farm has a large area of ancient native bush growing on it

The price of beef falls

A timber mill offers a good price for native timber, so the farmer sells his trees to them.

There is not enough habitat to allow the kokako pair to raise their chicks.

Eventually kokako totally disappear from the area forever.

The timber mill cuts down the best of the trees in the bush.

Because they cannot fly very well, the kokako remain in the small piece of bush which is left.

A pair of Kokako live and breed in the farmer's bush.

There are just enough trees left to provide food and shelter for the kokako pair.

Saving Our Precious Kiwi

Here are some ideas for making people aware of the need to help all our Kiwi species.

Make an eye-catching bumper sticker to spread the message about the danger of dogs to kiwi

Make a kiwi infographic using facts, maps, and pictures. You could draw a graph showing numbers of birds 10 years ago, and numbers now. Contact *Kiwi Recovery Programme* for help.

What is being done, and still needs to be done, to save kiwi?

Think of some ways to get the message across.

Choose one kiwi species.

Draw the outline of a pregnant kiwi of that species, complete with visible egg.

Around your kiwi, list everything you know about it.

ACTIVITIES FOR SKINKS AND GECKOS

- 1 Find out what lizards live in your area, and what sort of habitat they prefer.
(If you have found any in your yard, where were they, what was around them, why do you think they were in that sort of place?).
- 2 What do lizards feed on?
- 3 What feeds on lizards?
- 4 Describe how lizards avoid being captured by predators.
- 5 Many skinks live in dry areas. Find out what features they have which allow them to live in places where there is little moisture.
- 7 Draw up a chart with two columns. In one column list the names of the different skinks and geckos you have seen. In the other column list the kinds of habitats they prefer.
- 8 Make a chart or write an article for your school magazine, about one of the lizards you have seen.
Include drawings of your lizard and its habitat, facts and information, poems, a quiz, even a word search or puzzle. It's up to you!

REPTILE WORDFIND

Find these 13 words about reptiles

Gecko Skink Tuatara Nocturnal Bask
 Predator Reptile Incubate Primitive Scale
 Teeth Slender Egg

R	L	A	N	R	U	T	C	O	N
E	E	S	L	E	N	D	E	R	E
V	G	P	C	K	P	R	N	S	T
I	E	R	T	A	S	E	C	K	E
T	C	E	U	I	L	A	U	I	E
A	K	D	A	T	L	E	B	N	T
M	O	A	T	S	I	E	A	K	H
I	S	T	A	E	N	G	T	R	K
R	E	O	R	R	K	G	E	E	R
P	A	R	A	C	I	N	K	P	G

FACT FILE

Choose one of the reptiles from the Wordfind.

In the centre of a large sheet of paper, make a detailed drawing of the reptile you have chosen.

All around your drawing, write information, facts, words, or small poems about your reptile.

If you can find photos of your chosen reptile, paste those around your drawing as well.

TRUE OR FALSE? (REPTILES)

Search for information inside and outside the buildings as you read these statements. Information may be on a poster, on a chart, in a brochure, on a sign; or maybe there is someone you can ask.....?

Put T for True or F for False in the boxes.

True or False

- Tuatara means "peaks on the back"
- Most skinks are daytime creatures, sleeping at night
- Tuatara are lizards
- Geckos can climb up glass
- Tuatara don't have ears
- Geckos climb out of their skins when they grow too big
- Skinks smell things through their tongue
- Geckos lay eggs
- Some geckos can bark
- Tuatara eggs take a year or more to hatch
- Tuatara eggs have a hard shell
- Almost all New Zealand skinks bear live babies, not eggs

WHAT AM I?

I am usually green, but sometimes have yellow spots or a completely yellow skin.

I can climb up glass walls without slipping.

I can climb out of my skin when it gets too small for me.

I can make croaking and barking noises.

At night, I help to pollinate trees as I search their flowers for nectar.

I am a G

WHAT AM I?

My family has been around for many thousands of years.

I eat insects, snails, and even small skinks.

I have several names but one of my names means “peaks on the back.”

I lay eggs.

I can stay under water for a long time if I have to.

I look like a lizard, but I am not one.

I am a T

WHAT AM I?

I am small, brown, shy and secretive.

I have shiny scales all over my smooth body.

I smell through my tongue instead of through my nose.

I have a long, tapering tail, and short legs.

Kingfishers like to eat me so I have to be very careful to hide in the daytime.

I am a S

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