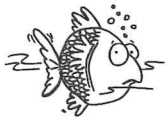


LIBRARY

Department of Biodiversity,
Conservation and Attractions

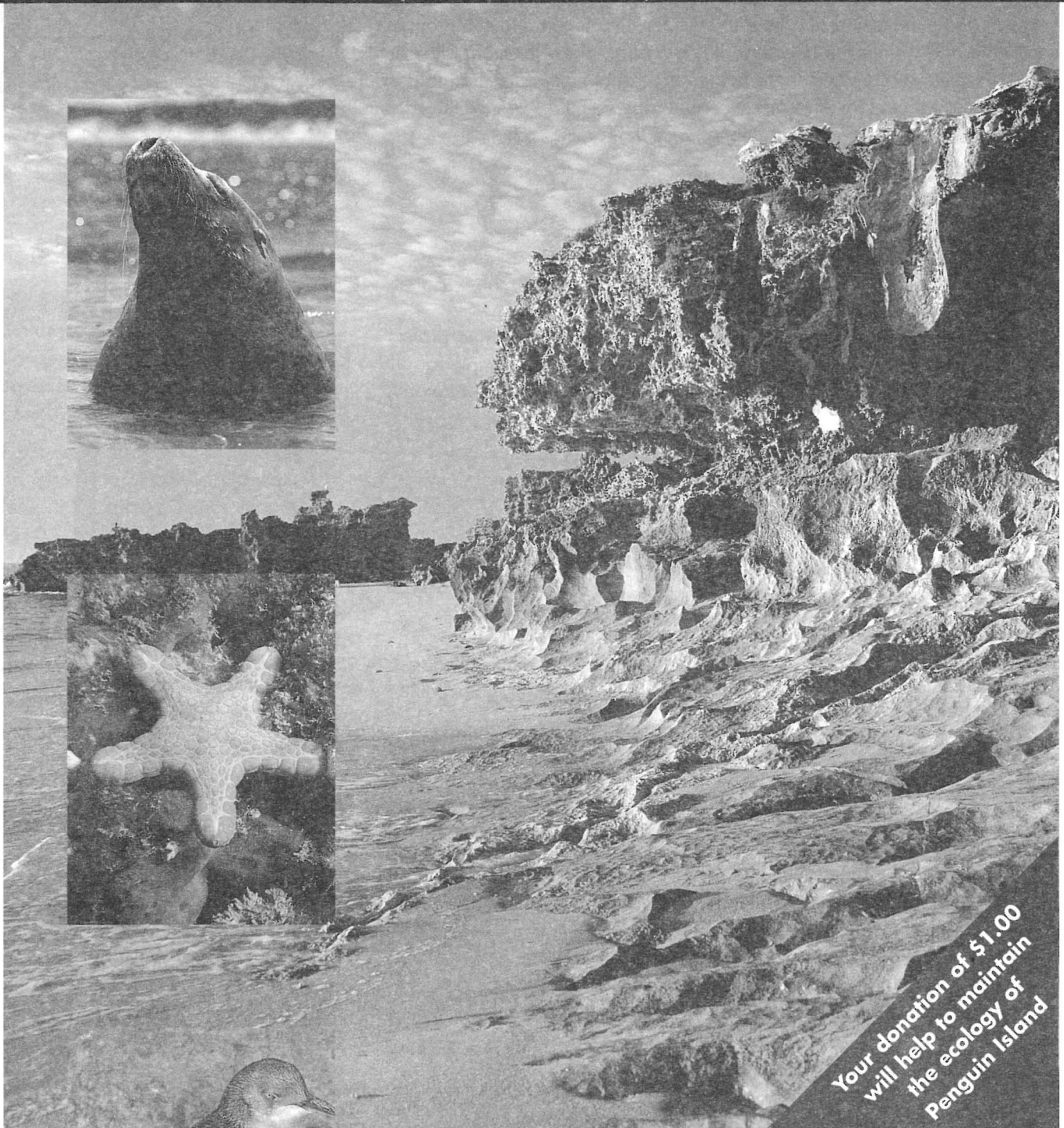
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PENGUIN ISLAND

Junior Ranger Activities

for Primary School Students



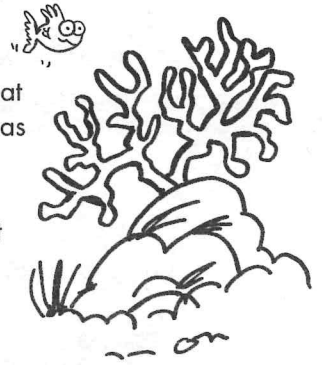
Your donation of \$1.00
will help to maintain
the ecology of
Penguin Island



Penguin Island Junior Ranger Club

WHAT IT MEANS TO BE A PENGUIN ISLAND JUNIOR RANGER

Become a junior ranger and you can help preserve Penguin Island so that it will still be in great shape 100 years from now. By observing Island rules, picking up litter and learning as much as you can about the Island and how to care for it, you can make the rangers' job a little easier. Penguin Island is important because it is a nesting place for many different types of sea birds, and the waters surrounding it are home for a great number of marine creatures. There are not many places in Western Australia where marine creatures are protected, but the waters surrounding Penguin Island are among those that are.



PENGUIN ISLAND JUNIOR RANGER OATH

As a junior ranger I will do my best to preserve and protect the wildlife and natural features of Penguin Island. I will set a good example for others to follow and I will continue to learn as much as I can about our natural world.

NAME (Please print): _____

DATE: _____

CARING FOR PENGUIN ISLAND

Visiting the beach requires you to take care of both yourself and the environment.

BE PREPARED

Protect yourself from the sun. Always wear sunscreen, a hat, and sand shoes, and take a flask of drinking water. Help conserve the wildlife by causing as little disturbance as possible, particularly near nesting sea birds and on the vegetated dunes.

BE CAREFUL

- Stay on boardwalks, walk trails and sandy beaches.
- Limestone cliffs, caves and overhangs are dangerous. Obey warning signs and do not enter these areas.
- Beware! Ocean swells can be unpredictable.
- Don't run on the rocks.

BE CLEAN - Please take your litter home with you when you leave.

BE CARING - Please do not disturb plants and wildlife. Feeding wildlife can alter their natural behaviour and spread disease.

BE COURTEOUS - Be sure your activities do not spoil someone else's enjoyment of the Island.

COME BACK: Come back with your friends and family to enjoy this magnificent environment.

REMEMBER

Take only photographs, and leave only footprints.

Walk to the Back Beach. Be careful as you climb the stairs! Keep an eye out for the large king skinks which often lie in the open, warming their cold-blooded bodies in the sun. Aren't the silver gulls noisy? What do you think they are saying? From the lookout, take time to enjoy the view and see if you can observe any dolphins or other marine animals.

1. On the map, use this symbol * to show the highest point.
2. Draw in the areas of limestone reef and seagrass meadows that you can see.
3. Limestone caves can be very dangerous. Where you have seen caves on the Island, put this symbol ⚠
4. If you were to hide some treasure on the island, where would you hide it? Put a cross on the map to show your treasure's location.

When you reach the Back Beach do the following activity.



BEACHCOMBING

Walk along the beach for five minutes and collect five different types of litter. What other interesting things did you see on the beach? Many of the animals and plants that live in the ocean leave signs of their life washed up on the beach. What evidence of plants and animals can you find washed up on the beach?

Examine your collection. Do you know what plant or animal it comes from?

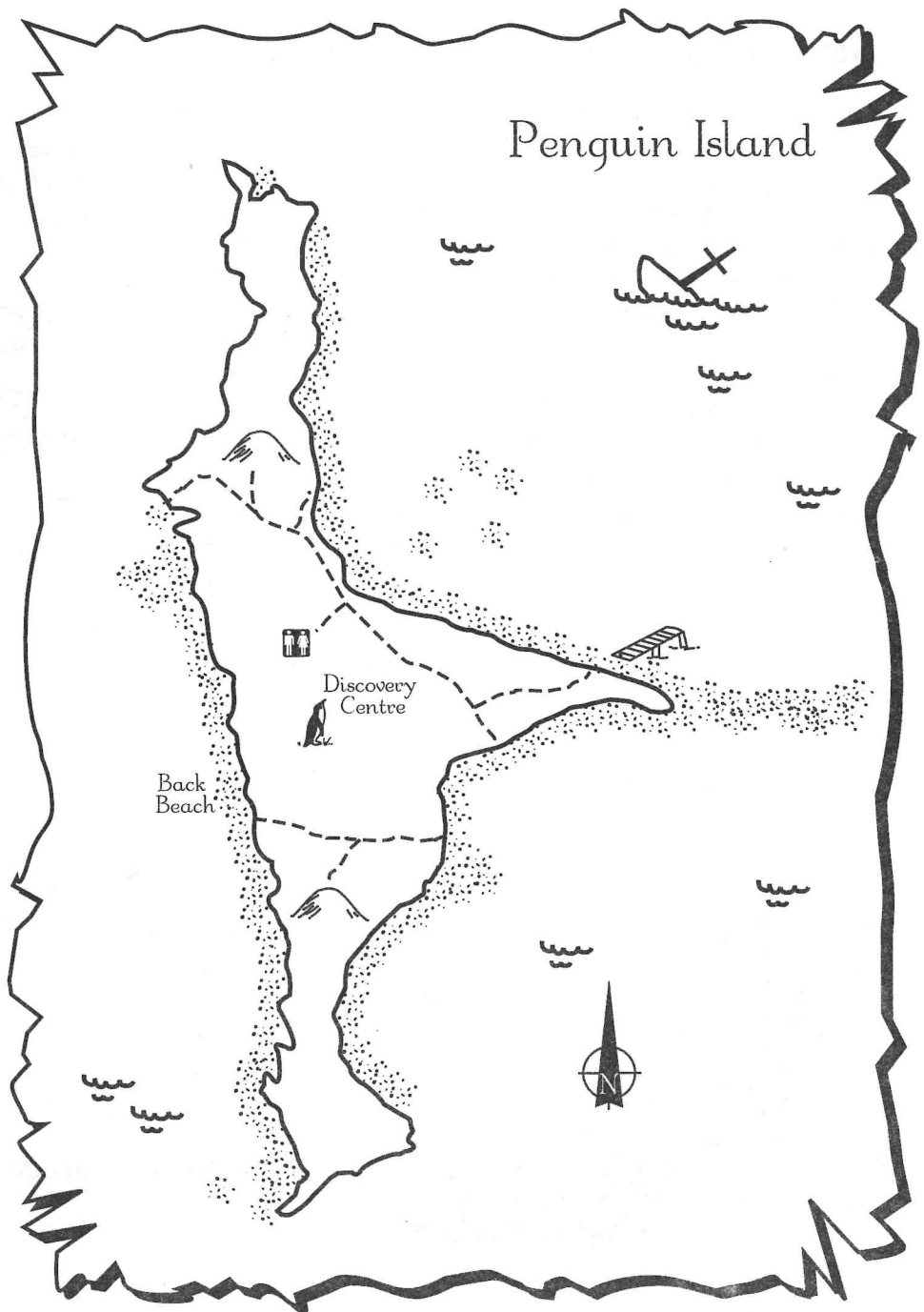
Put the rubbish you have collected in a pile on the beach.

Where has the rubbish come from? _____

How did it get to this beach? _____

How long do you think this rubbish would have lasted on the beach if you had not collected it? _____

What should you do with the rubbish? _____



SEAWEED OR SEAGRASS

Seaweed (marine algae)

Seaweeds may be brown, green or red. They do not have roots, stems, leaves, flowers or fruit. Roots are unnecessary because seaweeds are anchored to the rocks by holdfasts (which look like fingers), and they absorb minerals and nutrients from the water moving over them. Seaweeds reproduce by spores, which they release directly into the water. Seaweeds are important in the marine environment. They provide food and shelter for a great number of marine animals.



Seagrass

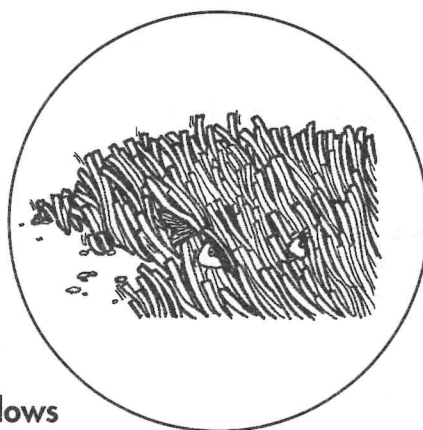
Seagrasses are not related to seaweeds. They are flowering plants, producing flowers and fruits with seeds. These plants have leaves, stems and roots, like flowering plants on land. Some seagrasses grow in large underwater meadows, like those in the Shoalwater Islands Marine Park. These large meadows are very important breeding and nursery sites for a huge variety of creatures.

Can you find some seaweed and some seagrass washed up on the beach? Check to make sure that you are correct by comparing your samples to the table below.

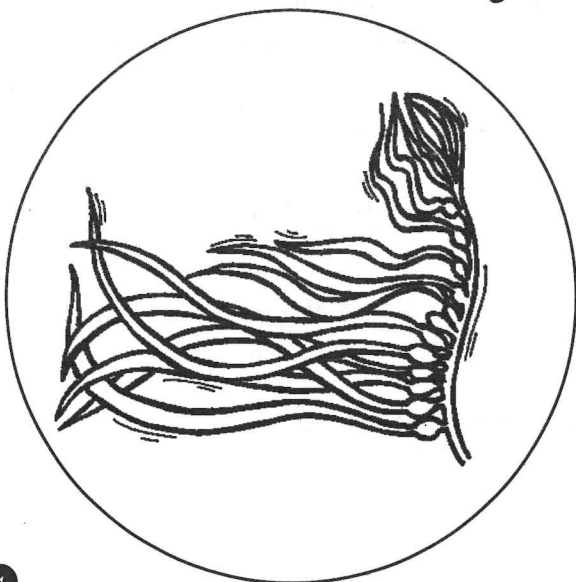
SEAGRASS



- Stems
- Leaves
- Flowers (though difficult to see)
- Fruit
- Seeds
- Roots
- Forms large underwater meadows



SEAWEED (marine algae)



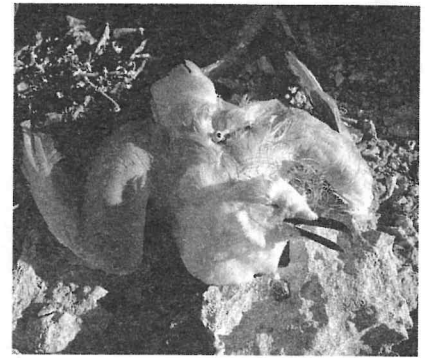
- No stems
- No leaves
- No flowers
- No fruit
- No seed
- No roots
- Some cling to rocks by a holdfast



LITTER IN THE ENVIRONMENT

The litter you have collected not only looks unsightly on our beaches, it can be harmful to our wildlife as well.

To marine animals, plastic bags in the ocean can look like jelly fish and squid. Often these animals, such as turtles and dolphins, eat these bags, mistaking them for the food they would ordinarily eat. The bags then get stuck in their stomachs and make the animal extremely ill. Discarded fishing line is highly destructive, as many sea birds become entangled and may lose their legs or eventually die. Some sea lions have had to be rescued after becoming entangled in old netting and plastic packing straps. Because some of this litter lasts a very long time in the oceans, it can be carried a very long way by ocean currents. Rubbish thrown into the waters off Perth could float all the way to Antarctica and spoil its pure environment. Or, litter thrown into the sea in South Africa could wash up on our beaches. We owe it to the world to keep the ocean clean and free of rubbish. If you have any rubbish please dispose of it properly.



Did you know ?

Litter lasts a long time

The rubbish thoughtlessly thrown onto the ground may still be there in 1000 years time. To give you some idea of how long various items of litter last, here are some examples:

Glass bottles	1000 years
Aluminium cans and tabs	50-100 years
Cigarette butts	1-5 years
Plastic bags	5-10 years
Fishing line	1-5 years
Tin cans	1-5 years
Plastic six-pack holders	100 years
Plastic bottles	100 years

When you have finished, take your rubbish back to the Penguin Experience Centre and put it in the bin or take it home with you. If you have found something interesting, show it to the rangers or volunteer guides; they may be able to tell you something about it. Some of the other interesting bits and pieces found on the Island are on display on the touch table.

Walk to the northern lookout and as you go, keep an eye open for the small creatures—the animals you don't normally see. These are as important in the environment as you and me.



SILVER GULL OBSERVATIONS

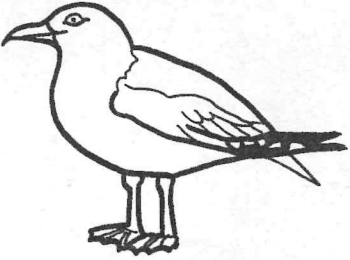
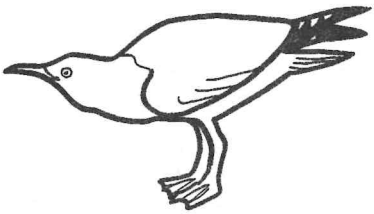
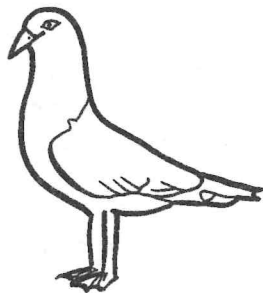
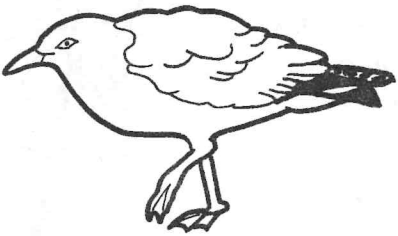
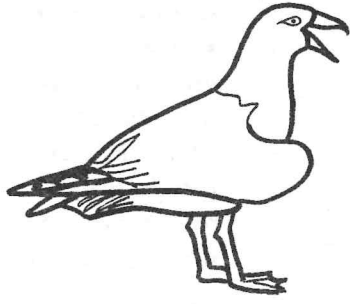
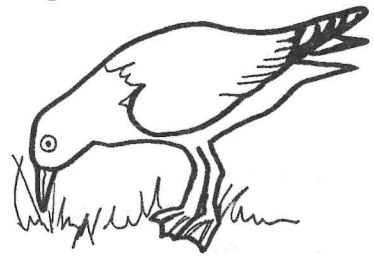
Find a quiet place along the path to sit for 20 minutes and observe the gulls. Make a tally of the numbers in each age group.

CHICK	JUVENILE	IMMATURE	SUB-ADULT	ADULT
Soft brown and black downy feathers.	Black bill. Some brown feathers and brown legs.	No brown feathers. Brown bill and brown legs.	Orange bill with brown legs.	Red bill, red legs, and eyes have a white iris.

Is there a larger number of adults than young seagulls? _____

What does this tell you about the population of gulls on Penguin Island?

Watch the behaviour of the gulls. Have you seen any of the following behaviour in the ones you have observed? Choose an adult gull near you. Watch the bird's behaviour for five minutes and tally the number of times it exhibits the following behaviour.

At Rest 	Forward Posture  Head is dropped until it is lower than the tail, with the bill pointed upward—a sign of submission.	Oblique Threat  Neck is stretched up and head tilted down, wings may be lifted a little.
<div>✓</div> <div></div> <div>total</div>	<div></div> <div>total</div>	<div></div> <div>total</div>
Hunched Threat  Threatening behaviour, body is hunched, feathers ruffled. Bird makes quick walking movements at other birds.	Upright Alarm Posture  Eyes wide open, neck stretched, feathers pressed tightly against the body, wings held slightly out.	Grass Stabbing/Grass Pulling  Possibly signalling territory.
<div>✓</div> <div></div> <div>total</div>	<div></div> <div>total</div>	<div></div> <div>total</div>

What type of behaviour does it exhibit most? _____

Why do you think this is so? _____

Do you think your bird is a dominant individual? Why? _____

Have you noticed anything interesting about your bird's behaviour? _____

Do you think there are too many seagulls? _____

WILDLIFE

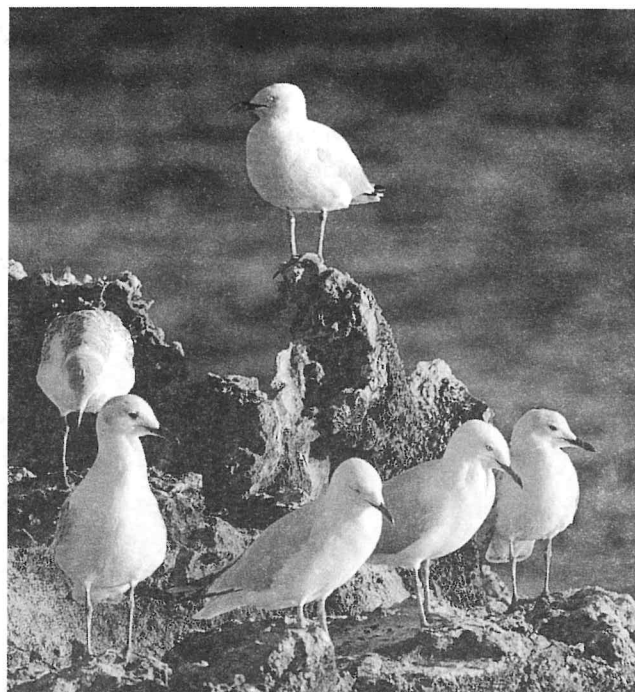
SILVER GULLS

Silver gulls are common and range throughout the Australian coast and some inland areas of eastern Australia. It is thought that there are about 80 000 silver gulls in WA. Gull numbers have risen dramatically with the settlement of humans along the Australian coastline. The great adaptability of the silver gull to human environments, and the unfortunate habit of feeding food scraps to gulls, have seen this bird become a public nuisance. Large flocks of gulls are often seen begging at picnic and other recreation sites, and feeding at rubbish tips.



An adult gull is white with grey wings and back. The tips of the tail and wing flight feathers are black. As a juvenile, the gull's legs and bill are brown, becoming scarlet as it develops into adulthood. Young birds are mottled brown, only developing the white and grey colouration as they become older. Silver gulls breed on Penguin and other islands around our coast. They usually breed between April and November, laying more than one clutch of between one and three eggs. Eggs are a little smaller than a hen's egg, and are olive in colour, with brown blotches. Both parents look after the eggs and chicks, which leave the nest four to five weeks after hatching.

The number of seagulls breeding on Penguin Island has increased markedly. This is due to an increase in the birds' available food source, largely a result of increasing urbanisation in the Rockingham area. The increasing numbers of seagulls may have the negative effect of displacing other sea birds from the Island. Hand-feeding of gulls has resulted in many becoming quite brazen, with some taking food from people's hands. Hand-feeding of gulls has altered their behaviour. **Please do not add to these problems by feeding gulls.**



PENGUINS

Penguin Island gets its name from the colony of little or fairy penguins, the smallest of the penguin family, which nest under bushes, in limestone caves, and occasionally in burrows in sand dunes on the Island.

This is the largest colony of little penguins in WA and is thought to have 500 to 700 breeding pairs. The penguins arrive at the Island in small flocks at sunset. They move on to land to shelter during the night.

Penguins are the most specialised of all birds for life in the sea. They have evolved a thick covering of pin-like feathers which resist water and give the birds a streamlined shape for swimming under water. Penguins' wings have developed into flippers to help them swim.

The number of penguins that come to the Island begins to increase in early March. Noisy courtship activities signal the start of the nesting season. Little penguins normally lay two eggs, which are looked after by both parents for about 35 days before hatching. Penguins lay their eggs in late winter and spring, and usually only one chick survives.

Little penguins eat small-schooling bait fish and squid, and may swim many kilometres from the Island to catch their food.

TRUE OR FALSE

Write 'true' or 'false' alongside the following statements:

- Rubbish thoughtlessly thrown on the ground may still be there in 1000 years _____
- Plastic bags may still be in the environment 5-10 years after they were thrown away _____
- Litter looks unsightly on our beaches, but it is not harmful to wildlife _____
- Immature seagulls have white irises in their eyes, and brown legs _____
- Penguins build a nest on the low shrubs of Penguin Island _____
- Penguins normally lay two eggs _____
- Only the female penguin looks after the eggs _____
- Animals in the wild should never be fed by people, because it alters their behaviour and can make them sick _____



FOOD CHAIN-Linking Marine Plants and Animals

Many Connections:

The plants and animals living on and around Penguin Island depend on, and affect one another in many ways. They are linked because they provide each other with food and shelter, and the activity of some will affect others.

For example, today, you may have seen a tern diving for a fish meal. The fish it ate may have eaten a prawn—and that prawn may have just eaten some algae.

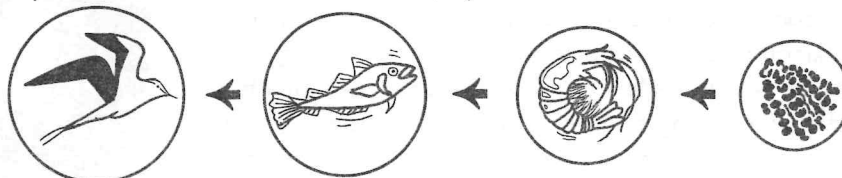


Anything that you may have seen today that links any of the plants and animals of the marine community is called an **interrelationship**.

Food Chains:

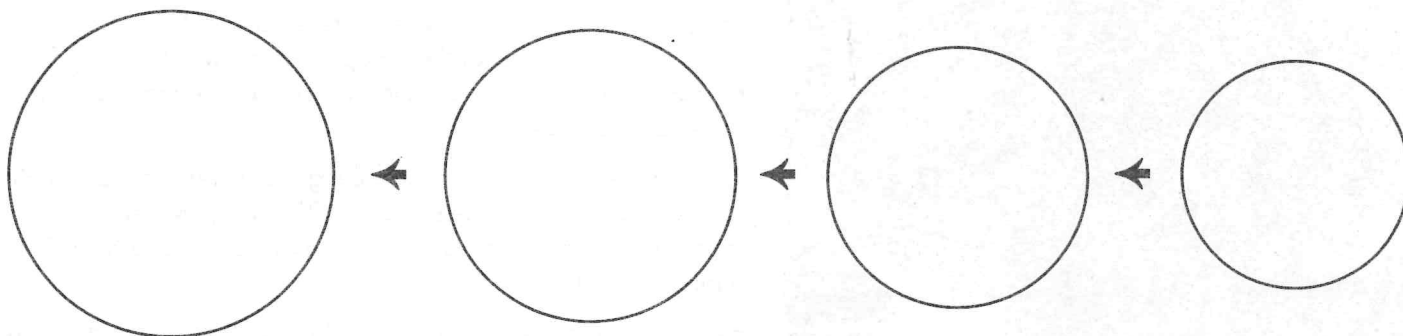
One of the most obvious examples of an interrelationship is a **feeding relationship**. Scientists can show a series of feeding relationships between animals and plants, or between several animals, by a **food chain**.

Example of a marine food chain:



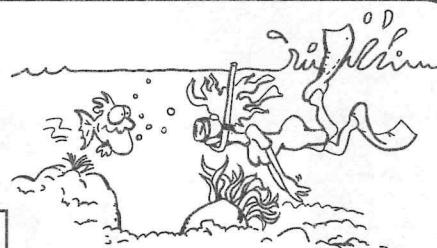
Drawing a Food Chain:

In the blank circles provided below, have a go at drawing your own food chain, using the above example to help you! Perhaps you could start by drawing a picture of an animal you most like on Penguin Island. Do you know what food this animal eats? Do you know what might eat it? Talk to others about your ideas. Good luck!



WORD MAZE

Solve the word maze and use the remaining letters to make up the first word in the name of our mystery friend, then rearrange the letters at the bottom of the page to find the last part of its name



CLUES:

Sea lion
Wave
Cave
Skink
Gull
Shell
Penguin
Reef
Dolphin
Eggs

Sand
Turtle
Island
Pelican
Urchin
Crab
Fish
Starfish
Tern
Weed

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

I live on Penguin Island under bushes, in caves, and sometimes in burrows. I like eating small fish which I catch in the ocean. I can swim very fast and sometimes I have to swim nearly 200 km to find the food that I like. Sometimes I wish that I could fly like my cousins but my wings are too small. My feathers are water-proof and they keep me warm.

I am a :- _____ EPUGNNI