

# BE AN OCEAN GUARDIAN



forestry, fisheries  
& the environment

Department:  
Forestry, Fisheries and the Environment  
REPUBLIC OF SOUTH AFRICA



Did you know that every year 8 million tonnes of plastic end up in our planet's beautiful blue oceans? And that's seriously bad news for our friends beneath the waves...

Over 700 species of marine animals have been reported to have eaten or been entangled in plastic! But here's the good news - by understanding the issue and taking action, you can help change the future and make our oceans a clean, safe place for our wonderful wildlife!



# Hi friends!



## Introduction

The Earth has one big, connected ocean. The ocean covers over 70% of the Earth's surface, surely making this a water planet. And, did you know that the same ocean, river or bay that you swim, fish, surf and dive in can also be a fabulous classroom? The ocean provides students of all ages with unlimited opportunities to learn about the world around us.

Sadly, one of the lessons the ocean and waterways are teaching us today is how hazardous marine debris (trash) is to the health of our ocean. While there are many different types of trash and debris, the one thing it has in common is people. When we don't put our trash in the proper place, it often ends up in the ocean. How does this happen? Many times trash blows around on the ground and ends up in storm drains, rivers and streams which carry the trash directly to the ocean.

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# The Ocean



Let's learn about the ocean and why it's so important!



The Earth has one big connected ocean, yet there are many ocean basins, such as the Atlantic, Pacific, Indian, Arctic and Southern.



The ocean covers about 70% of the planet's surface making ours a water world.



Most of the Earth's water (97%) is in the ocean.



All water on Earth is connected! Water evaporates from the earth's surface, falls as precipitation (rain, snow, sleet, etc.) onto the land and ocean, and returns to the ocean as river runoff and groundwater (underground) flow. This exchange of water is known as the hydrologic cycle.



Although the ocean is large, it is finite and resources are limited.



The ocean affects every human life! It supplies freshwater (most rain comes from the ocean) and nearly all Earth's oxygen.



The ocean influences our planet's weather and climate and affects human health.



The first life is thought to have started in the ocean. The earliest evidence of life is found in the ocean.



Ocean life ranges in size from the smallest virus to the largest animal that has lived on Earth, the blue whale.



Estuaries are coastal areas where freshwater and saltwater intermingle. Estuaries provide important and productive nursery areas for many marine and aquatic species.



From the ocean we get foods, medicines, as well as mineral and energy resources. The ocean provides jobs, serves as a highway for transportation of goods and people, and plays an important role in national security.

# Ocean animals



Ocean animals come in almost every shape and size imaginable. Some are beautiful, others are funny looking. Some are predictable, others have strange habits and weird abilities. Some are microscopic, others are massive.

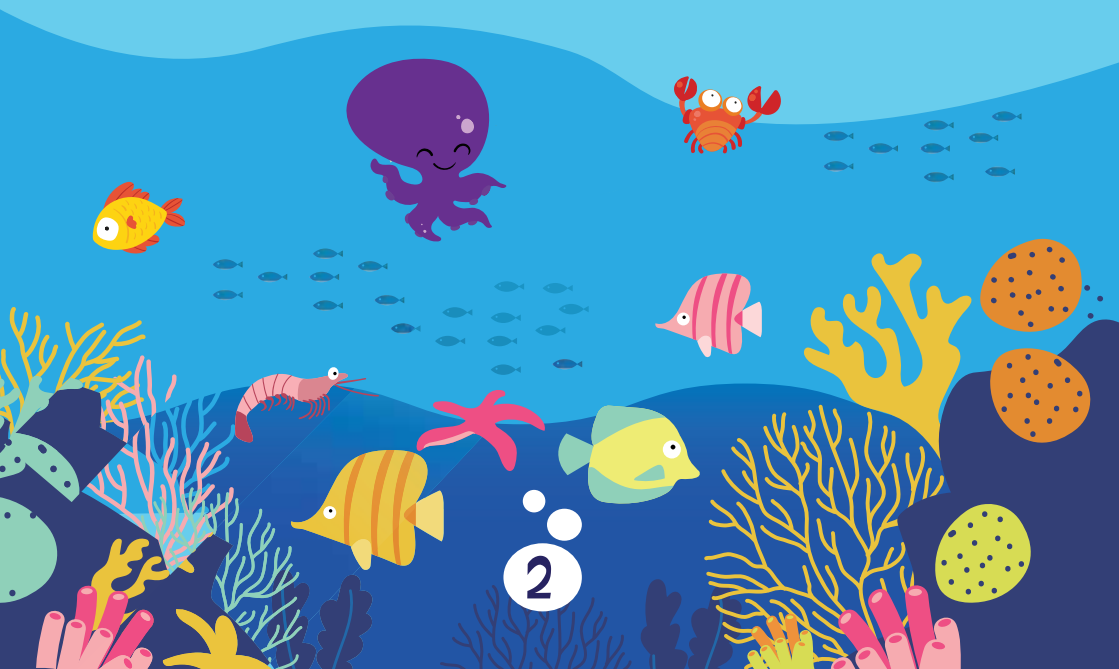
## Ocean life

Fish and other animals make their homes in all different parts of the ocean, even on the bottom, or sea floor. The ocean is also filled with lots of plants, which provide food, homes, and protection for ocean animals. A person who studies ocean life is called a marine biologist.

## Home of ocean animals

Microscopic plants and animals called plankton live on the surface of the ocean. This warm, "sunlight zone" enables photosynthesis, a process in which light energy is converted into chemical energy.

Plankton are crucial to the life of the ocean because they are a food source (as primary producers) for a lot of animals. They drift along with the currents in the water and are eaten by fish, scallops, anemones, and others.



# South Africa's Marine Big 5



Conversations about Africa's Big Five centre on the 5 most iconic species of the continent: lion, leopard, rhino, elephant and buffalo. But did you know that the vast ocean surrounding the southern tip of Africa is home to its own flagship species?

The Marine Big Five are the whale, shark, seal, penguin and dolphin. South Africa offers exceptional opportunities to view these animals all across the Western Cape Province from the Garden Route to Cape Town itself. These are the most popular sea animals of Southern Africa and ticking all five off your list is a must-do for any holiday to this beautiful country.

## The Marine Big 5

-  The African Penguin
-  The Cape Fur Seal
-  Dolphin
-  Southern Right Whale
-  The Great White Shark



The African Penguin



The Cape Fur Seal



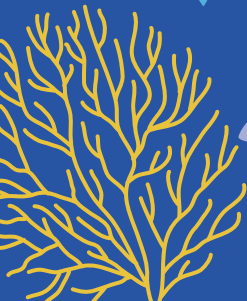
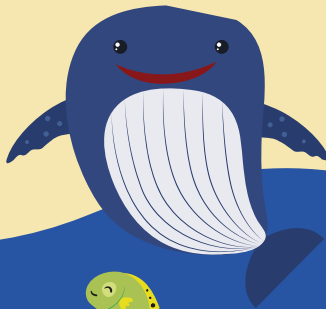
Southern Right Whale



Dolphin



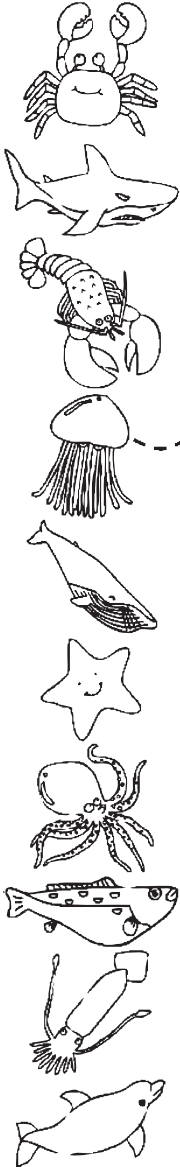
The Great White Shark



# Activity 1



Connect the picture to the word



jellyfish

jellyfish

fish

whale

dolphin

crab

starfish

lobster

octopus

shark

squid

# Marine Litter



## What Is marine litter?

Marine litter is human-created waste that has been discharged into the coastal or marine environment.

## Types of marine litter

There are many types of marine litter such as plastic, glass, metal, and all sorts of marine equipment and other refuse. While marine litter consists of all sorts of materials, many plastics float or remain suspended in water, making them more visible. And many also are resistant to degradation and persist in the marine environment.

## Impacts of marine litter

Marine litter is not only ugly – it can harm ocean ecosystems, wildlife, and humans. It can injure coral reefs and bottom dwelling species and entangle or drown ocean wildlife. Some marine animals ingest smaller plastic particles and choke or starve. Medical waste (such as syringes), sharp objects, and large pieces of litter can pose a direct threat to humans. The economic impact of marine litter is thought to be significant.





## Activity 2



Litter is generated by many sources, from boats and oil rigs on the water to picnickers, fishermen and beachgoers along the shore. Hidden below is a list of objects that have been discarded into our oceans. **See if you can find them all!**



BAIT CONTAINER  
BALLOON  
BUCKET  
BUOY  
CIGARETTE  
CRATE

CUP  
DIAPER  
DOLL  
FISHING LINE  
FISHING NET

GLOVE  
HARD HAT  
HOSE

LUMBER  
PAINT BRUSH  
RADIO  
ROPE

RUG  
SHOE  
SODA CAN  
STRAW  
TRASH BAG

# Activity 3

What does not belong in the ocean?



Number [ ] [ ] [ ] [ ]

Number [ ] [ ] [ ] [ ]

Number [ ] [ ] [ ] [ ]

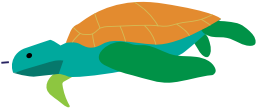
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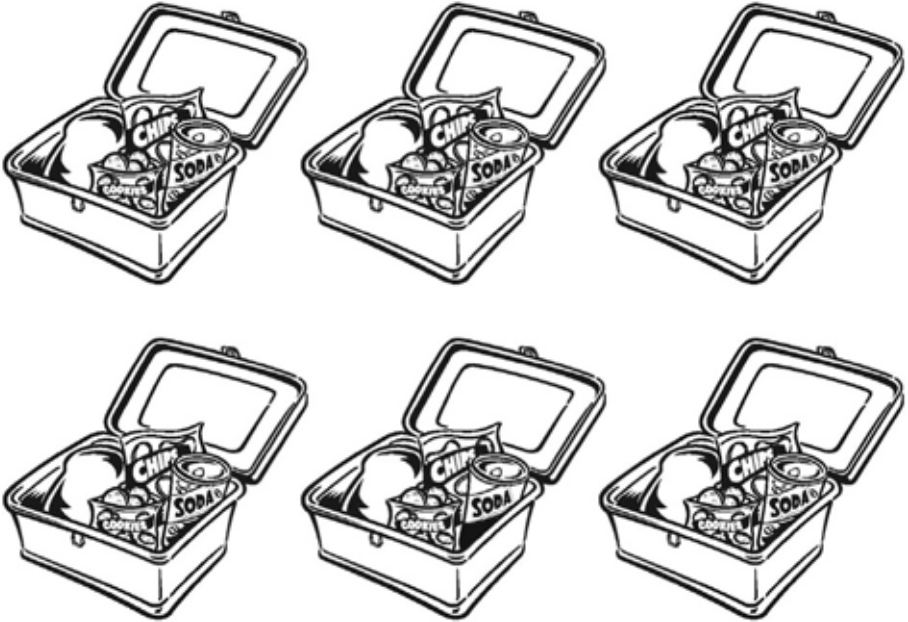
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## Activity 4



There are six packed lunches pictured. One of them is different from all the others. Can you find the one that is different?

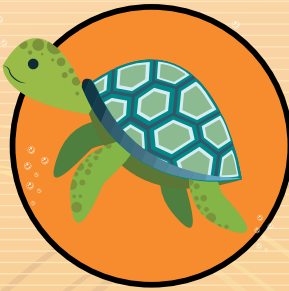


### Litterless lunches

#### How your packed lunch can help make less trash

Many kids carry a packed lunch to school. Food packaging can create a lot of trash every year. Here are some ways to reduce the amount of trash generated by a packed lunch.

- **Reduce** the amount of food packaging needed. When planning your packed lunches, instead of buying we individual bags of cookies, you can buy one larger bag of cookies and divide it into serving sized portions in reusable containers.
- **Reusable** plastic containers can store cookies, chips and just about everything else you find in a packed lunch. These containers can be brought home, washed and used again.
- Always **Recycle** the aluminium cans, glass bottles, plastic bottles and plastic containers found in your packed lunch.



# Ocean Guardian Pledge

**BECAUSE I WANT TO HELP THE OCEAN AND ALL THE CREATURES THAT LIVE IN IT AND AROUND ITS SHORES.**

## **I PLEDGE TODAY TO DO THESE THINGS:**

1. CONSERVE WATER.
2. REDUCE WASTE AND DISPOSE OF TRASH PROPERLY.
3. REUSE OR PRODUCTS TO EXTEND THEIR USABLE LIFE.
4. RECYCLE DISPOSABLE ITEMS AND USE PRODUCTS MADE OF RECYCLED MATERIALS.
5. BE CONSIDERATE OF OCEAN LIFE.
6. CLEAN UP THE BEACH, PARK, OR RIVER AND LEAVE IT BETTER THAN YOU FOUND IT.
7. DEVOTE TIME EVERY YEAR TO COMMUNITY SERVICE TO BENEFIT AND BEAUTIFY THE ENVIRONMENT.
8. INCREASE MY OWN AWARENESS OF THE EFFECTS THAT I HAVE ON THE OCEAN AND OUR ENVIRONMENT.
9. PROMOTE OCEAN AWARENESS AND PASS ON MY KNOWLEDGE TO FRIENDS AND FAMILY. ENCOURAGE MY FAMILY AND FRIENDS TO PROTECT THE OCEAN AND OUR ENVIRONMENT.

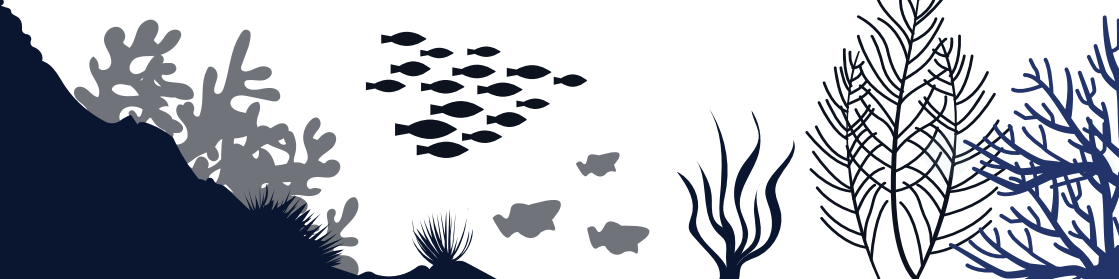
NAME: \_\_\_\_\_

SCHOOL: \_\_\_\_\_

# NOTES

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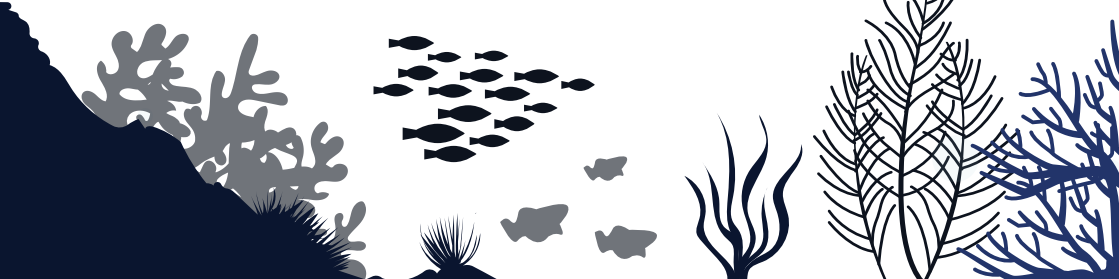
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# NOTES

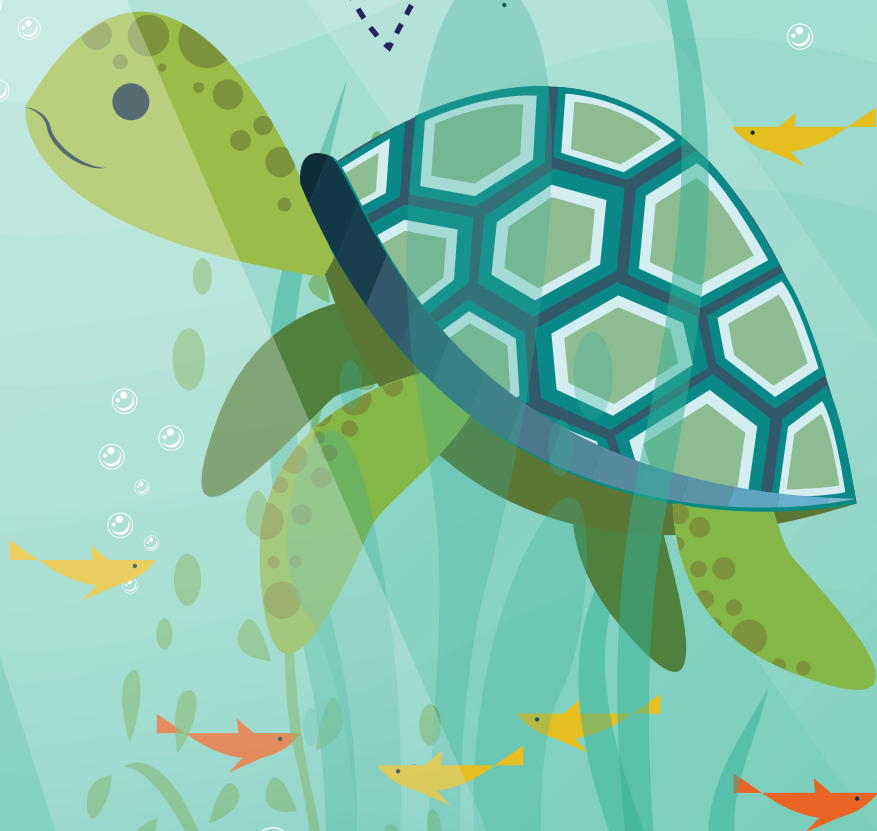
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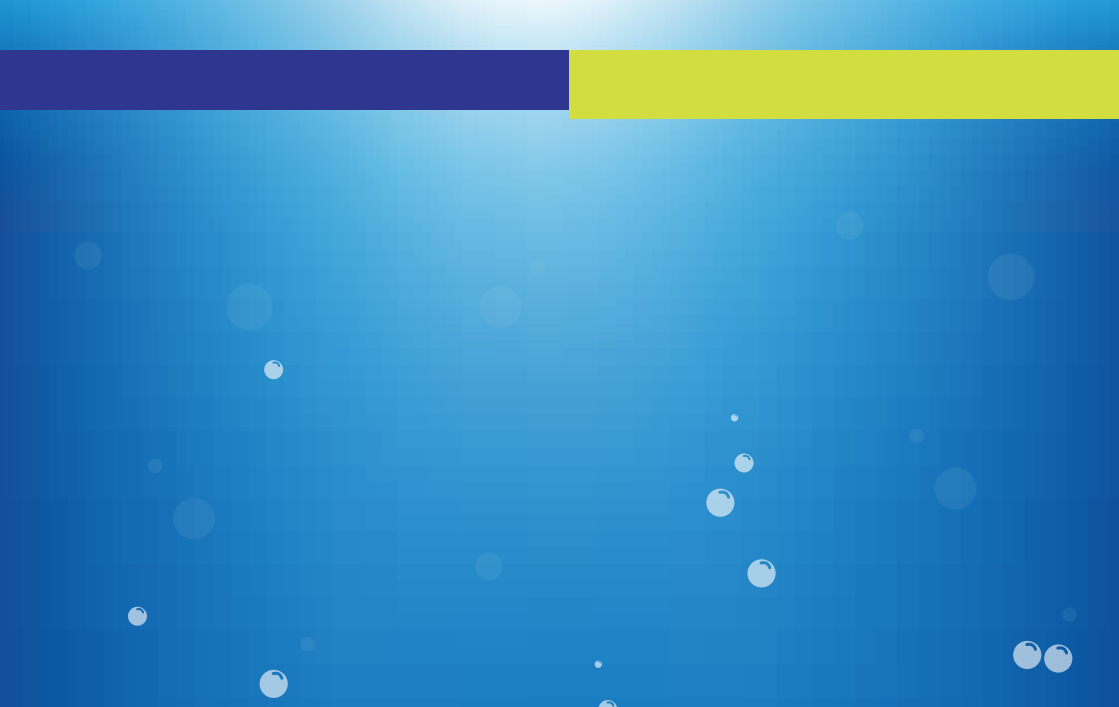
A series of horizontal dashed lines for writing notes, arranged in a regular pattern across the page.



Bye friends. I hope for you  
will help to explore and  
protect the ocean in ways  
that will restore the health  
and, in so doing, secure hope  
for humankind.

Health to the ocean means  
health for us. No water, no  
life. No blue, no green.





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