

Let's Keep our Waterways Clean



Games & Activities For Kids of all Ages

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Hugo the Turtle really needs your help to keep our waterways clean. Litter is getting into our stormwater drains, rivers and streams which then carry it into the ocean. Litter in the ocean is called marine debris. Marine debris is more than just ugly, it can cause death and suffering to our marine wildlife. Hugo invites you to find out more about this serious problem so you can be part of the solution.

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We are pleased to acknowledge the National Oceanic and Atmospheric Administration (NOAA) Marine Debris Program for permission to adapt their publication "Understanding Marine Debris - Games and Activities for Kids of all Ages" which is available at www.marinedebris.noaa.gov



Tonnes of Litter!



Currently it's estimated that there are over 13,000 pieces of plastic litter floating in every square kilometre of ocean¹. A lot of this plastic comes from people littering on land, then stormwater drains and waterways carry it to the ocean. Waterway litter harms and kills marine wildlife, causing the death of at least 100,000 marine mammals and one million seabirds per year¹. Scientists have found that an alarming 40% of sea turtles found washed up dead on local beaches have littered plastics in their stomachs.²

Each of the words listed below appears in the puzzle. The words may be written horizontally, diagonally, vertically, or even backwards. Find each word and draw a circle around it. (*Answers on page 16.*)

Plastic bottles, plastic bags, food wrappers, fishing line, hooks and other non-biodegradable litter harms our waterways. Wildlife, like turtles and birds, suffer from entanglement in litter, and can mistake plastic for food. Please dispose of your litter properly. Keep it Clean.

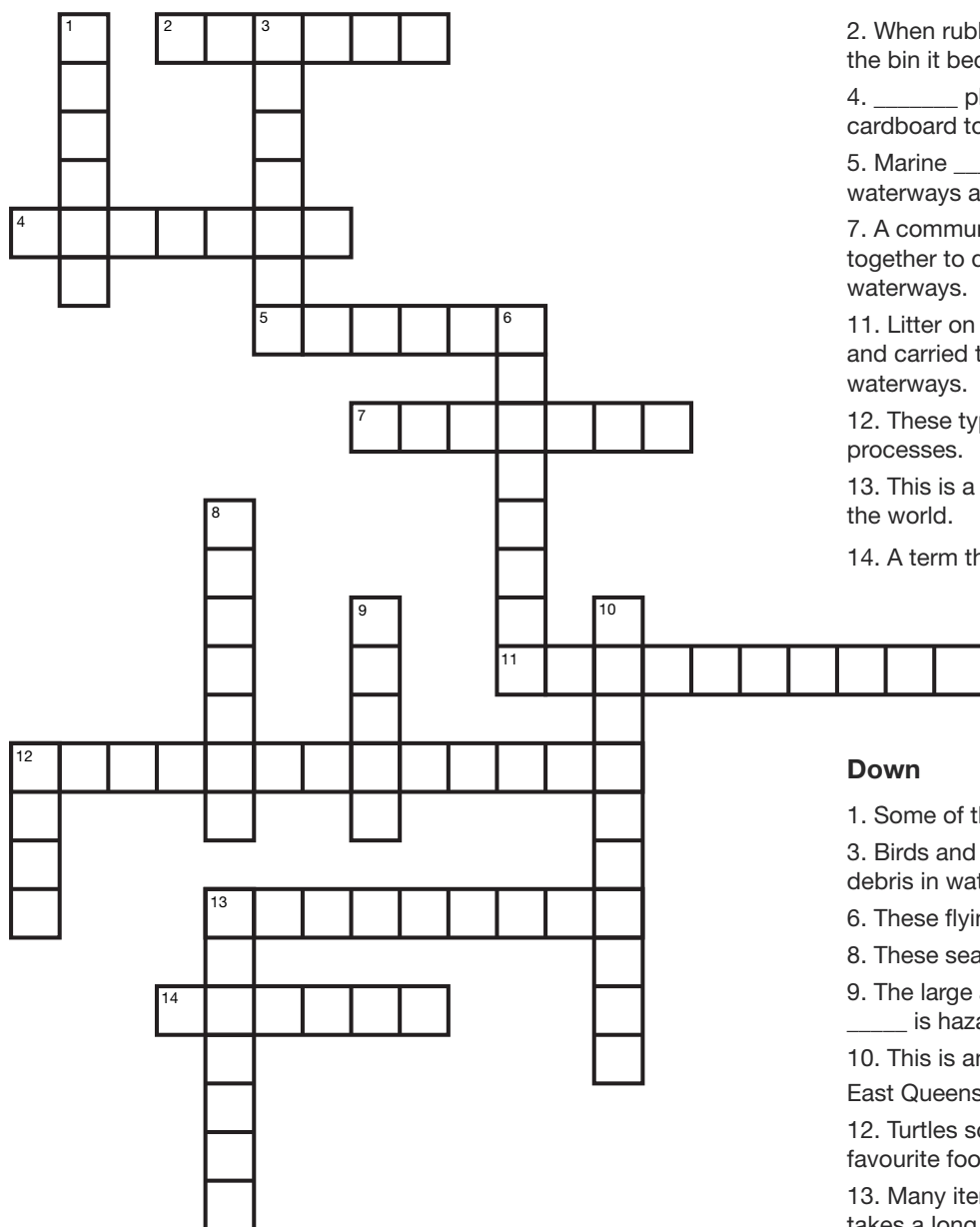
S	I	A	L	P	E	E	I	E	S	R	F	D	R	A	O
A	E	O	L	Y	C	S	S	A	S	U	E	O	M	N	G
R	L	N	G	C	C	L	E	A	N	N	F	O	O	D	N
L	N	D	O	N	C	G	N	I	H	S	I	F	A	P	E
I	F	S	E	N	I	L	T	Y	T	E	L	N	E	U	A
T	T	G	C	I	T	S	A	L	P	D	D	F	N	R	T
T	P	A	B	W	S	N	N	R	S	E	L	T	R	U	T
E	L	B	A	D	A	R	G	E	D	O	I	B	N	O	N
R	E	T	T	I	L	T	L	P	R	M	W	O	S	C	M
H	A	R	M	S	P	T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



Marine Debris is a Challenge for Many Countries



Population growth is one factor contributing to increasing levels of pollution and the amount of litter that is becoming marine debris. Marine animals such as turtles, seabirds and even whales are affected by litter that reaches the ocean. Please do your bit and pick up litter, recycle and minimise the use of plastic bags.



Across

2. When rubbish is thrown on the ground rather than in the bin it becomes _____.
4. _____ plastic bottles, tin cans, glass, paper and cardboard to make a difference.
5. Marine _____ is the name for litter that gets into our waterways and the ocean.
7. A community or school group will at times get together to do a _____ of our beaches and waterways.
11. Litter on the street is picked up by rainwater and carried through these types of drains into our waterways.
12. These types of products break down due to natural processes.
13. This is a growing problem faced by every country in the world.
14. A term that is associated with the ocean.

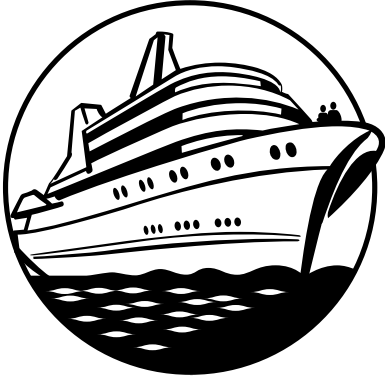
Down

1. Some of the biggest mammals on Earth.
3. Birds and marine life can become _____ in plastic debris in waterways.
6. These flying animals live on land and in the water.
8. These sea animals have flippers and a hard shell.
9. The large amounts of plastic now found floating in the _____ is hazardous to our marine wildlife.
10. This is an important waterway off the coast of South East Queensland.
12. Turtles sometimes mistake plastic _____ as their favourite food (jellyfish) and eat them.
13. Many items of litter are made from _____ which takes a long time to break down.

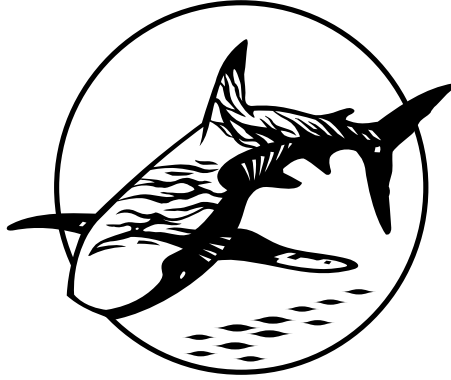


The Source of the Problem

Litter in our waterways and the ocean is called "marine debris". Circle pictures which you believe could be a source of marine debris, when you have finished, write down what these pictures have in common. (Answers on page 16.)



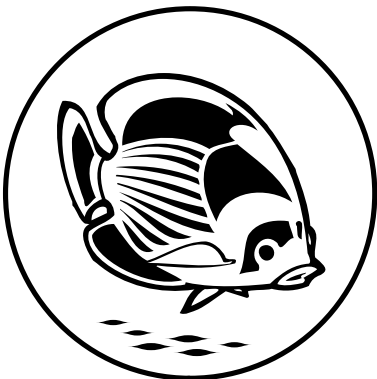
A CRUISE SHIP



A SHARK



PICNICKERS



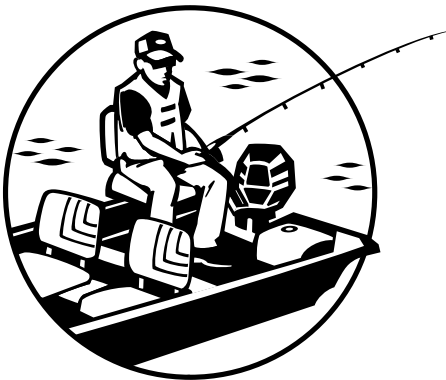
A FISH



A MAN WASHING HIS CAR



DOLPHINS



A FISHERMAN



SEA GULLS



A BEACHGOER



Litterless Lunches

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

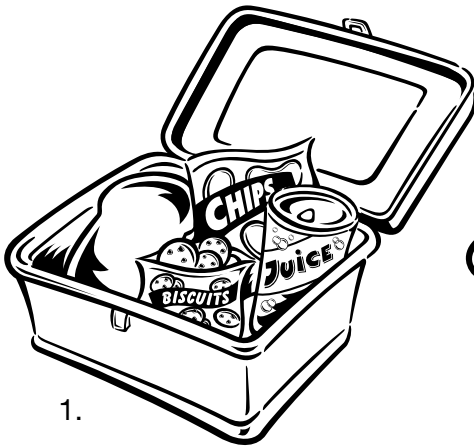
(Answers on page 16.)



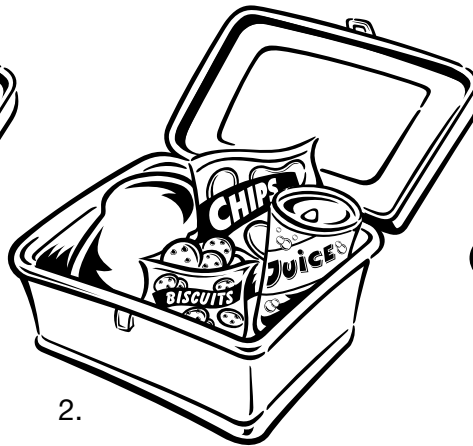
HOW YOUR PACKED LUNCH CAN HELP MAKE LESS RUBBISH

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

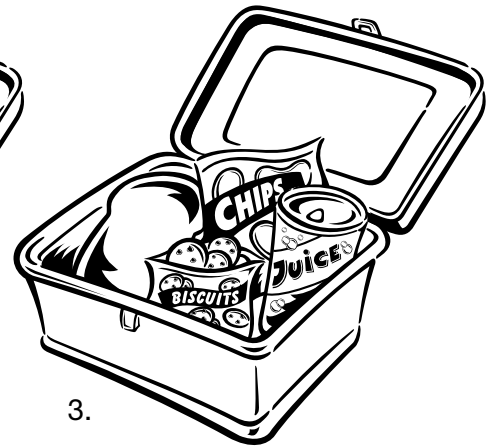
- ◆ **Reduce the amount of food packaging needed.** When planning your packed lunches, instead of buying 12 individual bags of biscuits, you can buy one larger bag of biscuits and divide it into serving sized portions in reusable containers.
- ◆ **Reusable containers** can store biscuits, chips and just about everything else you find in a packed lunch. These containers can be brought home, washed and used again.
- ◆ **Always recycle** aluminium cans, glass bottles, plastic bottles and plastic containers found in your packed lunch.



1.



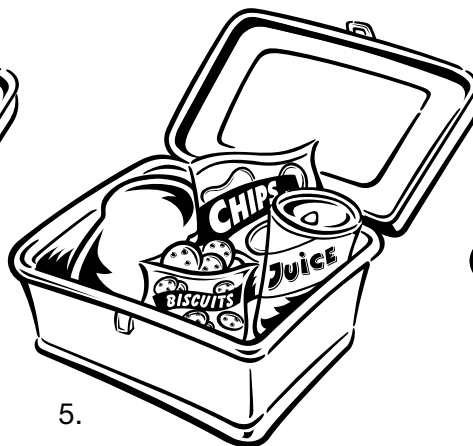
2.



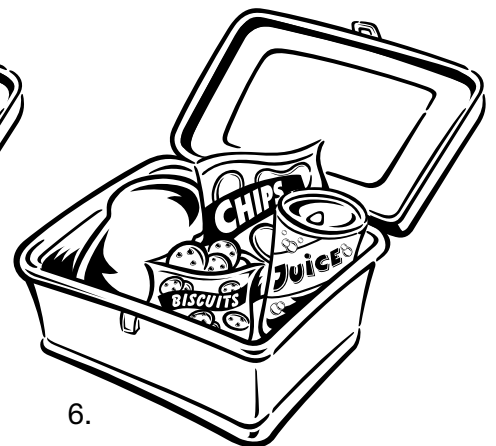
3.



4.



5.



6.



Enjoy our Waterways

















Learn to be a Drain Brain

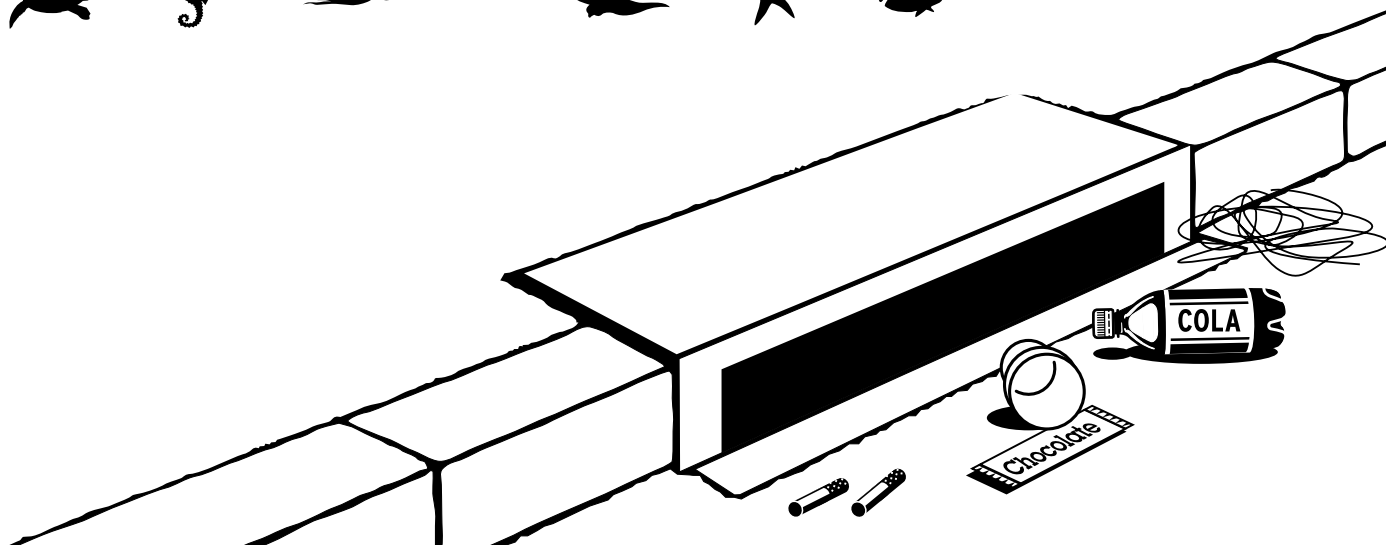
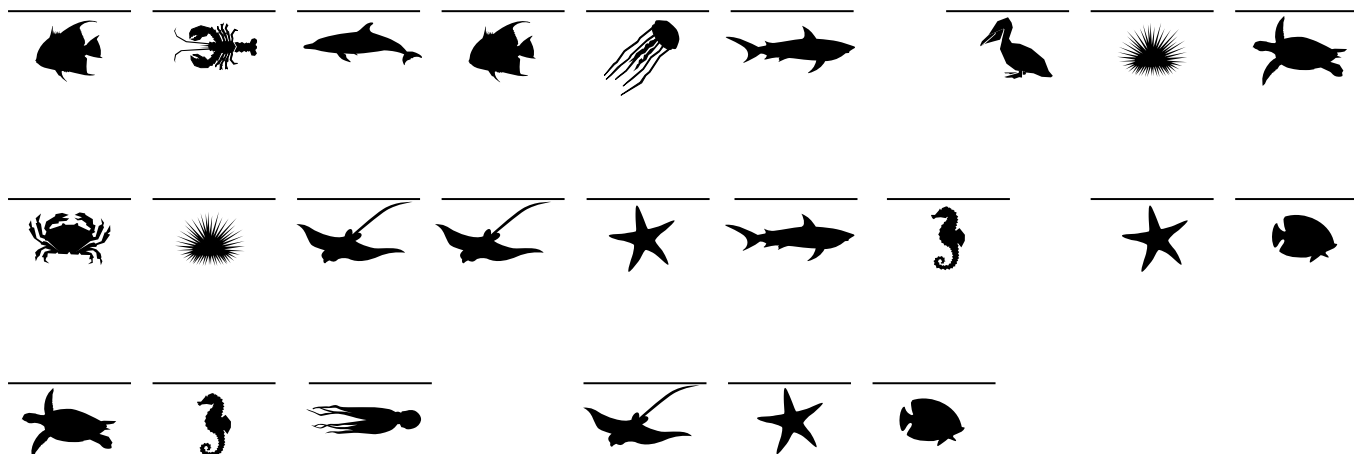
Unlock the secret message and discover how you can be a drain brain!

Have you ever wondered what those holes are at the edge of the footpath? They're called **stormwater drains** and they carry rainwater off the street and into our waterways.

Plastic bottles, paper cups, lolly wrappers, cigarette butts and all of the rubbish in the street gets carried into stormwater drains with the rainwater until it finally reaches the ocean and becomes marine debris.

Unlock the secret message by using the chart below to replace the shapes with the letters they match up with. (Answers on page 16.)

 = A	 = B
 = R	 = S
 = H	 = T
 = I	 = U
 = L	 = W
 = N	 = Y
 = P	 = E

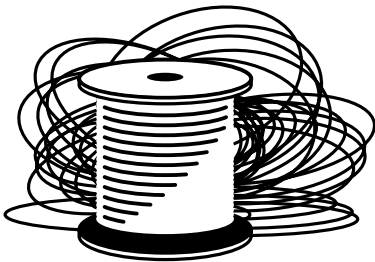


How Long Will it Take?

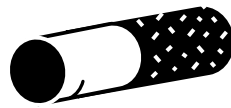


It takes just a moment for an item to be carelessly discarded or blown by the wind into waterways. It can take many, many years for that item to completely decompose. Test your knowledge about decomposition times. Draw a line between each item and its estimated decomposition time (right) (Answers on page 16.)

How much time might it take for these items to decompose?



Fishing Line



Cigarette Butt

1 million years

600 years

450 years

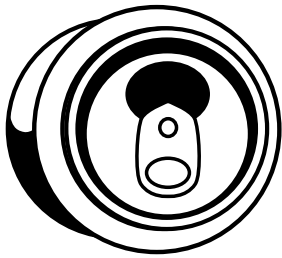
80-200 years

50 years

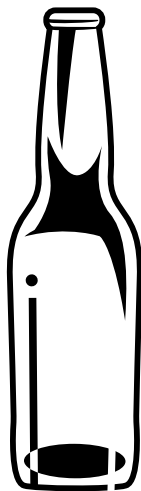
10-20 years

1-5 years

2-5 weeks



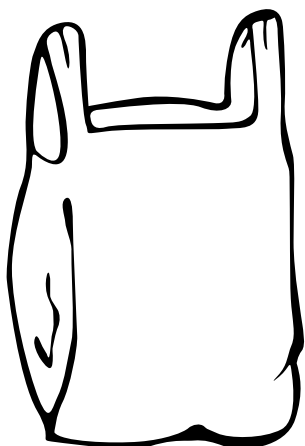
Aluminium Can



Glass Bottle



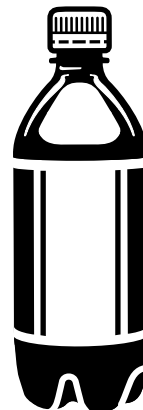
Banana Peel



Plastic Bag



Styrofoam Cup

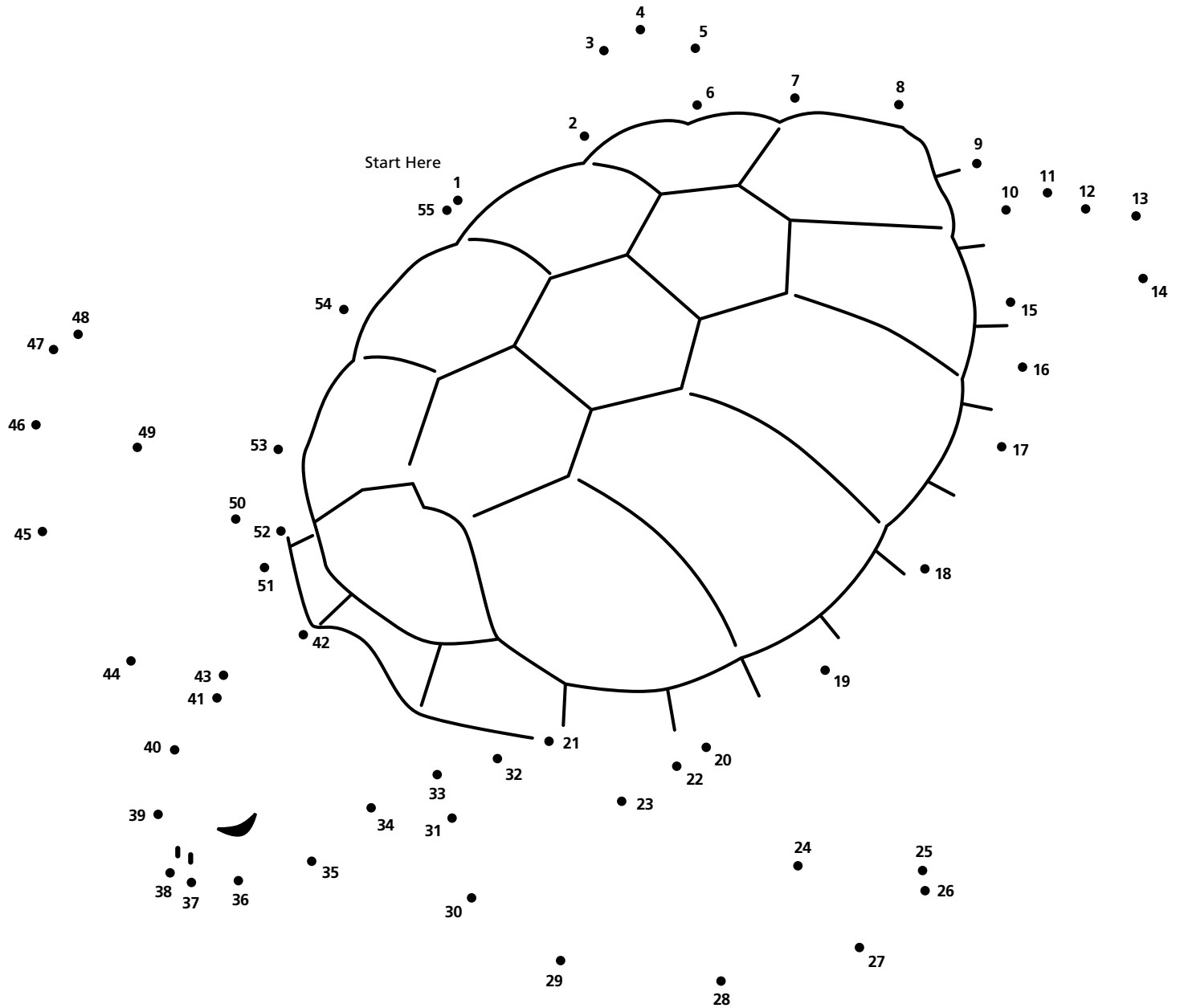


Plastic Bottle



A Sea Turtle's Story

Connect the Dots – Let's Keep our Waterways Clean!



How Can Litter be Deadly to a Sea Turtle?

Sometimes sea turtles mistake litter in the water as food. Plastic bags look like jellyfish, which is sea turtles' favourite food. If swallowed, debris can block digestion or remain in the turtle's stomach, causing the turtle to feel "full" and eat less than it needs to survive. Plastic or plastic foam in a turtle's stomach can cause excess buoyancy, decreasing the animal's ability to dive deeper for prey.



No Excuses

Have you ever littered and thought you had a good reason for it?



When people litter, they sometimes think that they have a good reason for it. But there is NEVER a good excuse for littering. Take a look at the list of reasons people use for littering. Put a tick next to the excuses you have heard people use when they litter. If your friends or family use these excuses, remind them that there are no good excuses for littering and ask them to throw their rubbish in the bin.

- | | |
|---|--|
| <input type="checkbox"/> There's already litter there. | <input type="checkbox"/> Nobody told me not to. |
| <input type="checkbox"/> Why shouldn't I? | <input type="checkbox"/> The rubbish bin was too yucky to touch. |
| <input type="checkbox"/> I don't want to mess up my back pack. | <input type="checkbox"/> Animals will eat the apple core. |
| <input type="checkbox"/> It's too hard to find a rubbish bin. | <input type="checkbox"/> It's so tiny, it won't matter. |
| <input type="checkbox"/> Mum would get upset if she knew I ate a snack before dinner. | <input type="checkbox"/> Bees were around the rubbish bin. |
| <input type="checkbox"/> Everyone else does it! | <input type="checkbox"/> I saw an adult do it. |
| <input type="checkbox"/> Someone else will pick it up for me. | <input type="checkbox"/> I don't care about the beach. |
| <input type="checkbox"/> It's JUST a lolly wrapper. | <input type="checkbox"/> There wasn't a sign telling me not to litter. |
| <input type="checkbox"/> It's too heavy to carry. | <input type="checkbox"/> It fell out of my pocket. |



Keep our Waterways Clean



True or False

Are these statements true or false? Circle the answer to test your knowledge.

Dolphins are to blame for the growing problem of marine debris. True / False

Stormwater drains carry litter from the street into our waterways and ocean. True / False

Plastic bags break down into nutritious turtle food in 2-5 weeks. True / False

Marine debris is found in every part of the world's oceans, even on the most remote islands. True / False

The growing population in Australia contributes to the problem of marine debris. True / False

If you have a good excuse it's okay to litter. True / False

Cruise ships are the largest mammals in the world. True / False

Every person can promote a healthy, safe environment through their own actions. True / False



How can I Help?



Beach or coastal clean ups occur in many communities. During these clean ups, kids and adults work together to collect the litter that ends up in our waterways. Clean ups make the environment a healthier and safer place for people and animals. (Answers on page 16.)

Unscramble the words below to reveal how you can help!

I F D N

T U O

B T U O A

C E L N A

P U

T I V C A I S I T E

N I

O Y R U

T C I M Y O M N U



Cleaning Up the Beach



This is a game that can be played with two people, but we recommend playing it with a group. The READER asks each person (in turn) to call out a word until the blanks are filled in. Then the READER reads the entire silly story to the group.

Last year, we had a very successful beach clean up in our community.

_____ helped out along with _____ ,
FEMALE CELEBRITY MALE FRIEND

_____, and _____ .
FEMALE FRIEND MALE CELEBRITY

I got the _____ job of picking up all of the _____
ADJECTIVE NOUN PLURAL

and I found _____ of them. _____ had a
NUMBER MALE FRIEND

_____ job himself. He wore gloves so that he
ADJECTIVE

wouldn't get any _____ on his hands. We all yelled
TYPE OF GARBAGE

_____ when _____ found a
EXCLAMATION! FEMALE FRIEND

_____ stuck in the sand. But the most _____
NOUN ADJECTIVE

piece of garbage we found was a _____ . By the end of the day,
NOUN

we had found _____ , _____ , and _____
NUMBER NOUN PLURAL NUMBER NOUN PLURAL NUMBER

_____ . The beach was a much cleaner, safer place to play!
NOUN PLURAL



Hugo Cleans Up

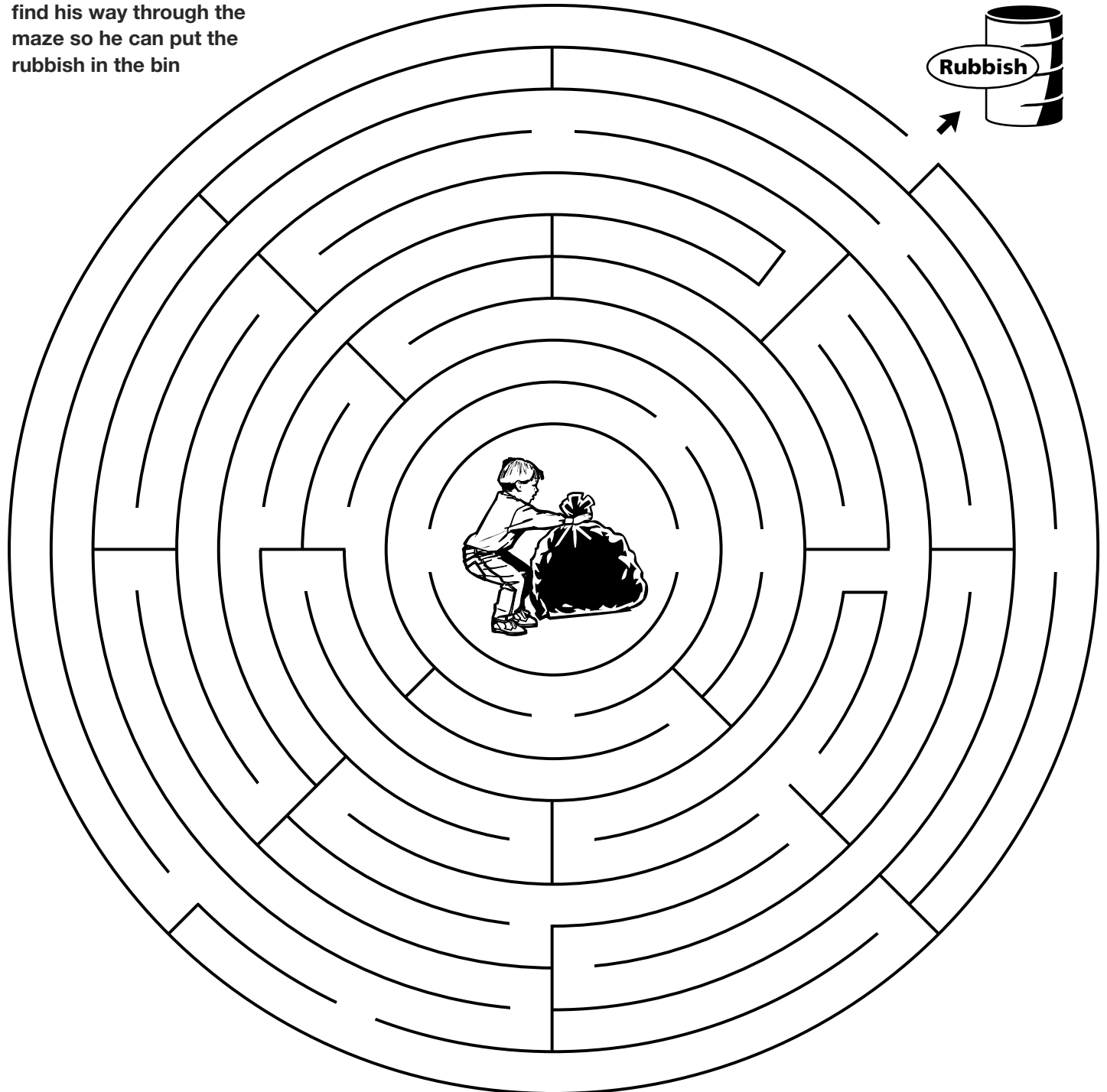


Help Jonno put his Rubbish in the Bin

Sometimes it takes a couple more steps to get to a bin where you can properly discard your rubbish. But these extra steps are important for the health of our waterways and environment. Always put your rubbish in a bin, and always look for recycling bins for your glass, plastics, cardboard, metals and newspapers.



Using a pencil help Jonno find his way through the maze so he can put the rubbish in the bin



Protect Waterways from Litter



Every person can choose to protect and promote a clean, safe environment through their own actions. Hidden in the phrase below are the five most important words to remember if you want to help our waterways and marine wildlife. Link the missing letters in the phrase (in order) to spell out these three words. (Answers on page 16.)

Reduce the amount of potential litter by avoiding the purchase of disposable items, and by using items that you would otherwise throw away. Choose renewable resources rather than plastic. Think about what products you buy.

Recycle as much as possible. Respect the environment we live in and make sure rubbish is always put in the bin. Every person makes a difference. Please do the right thing for clean, safe waterways in Queensland.

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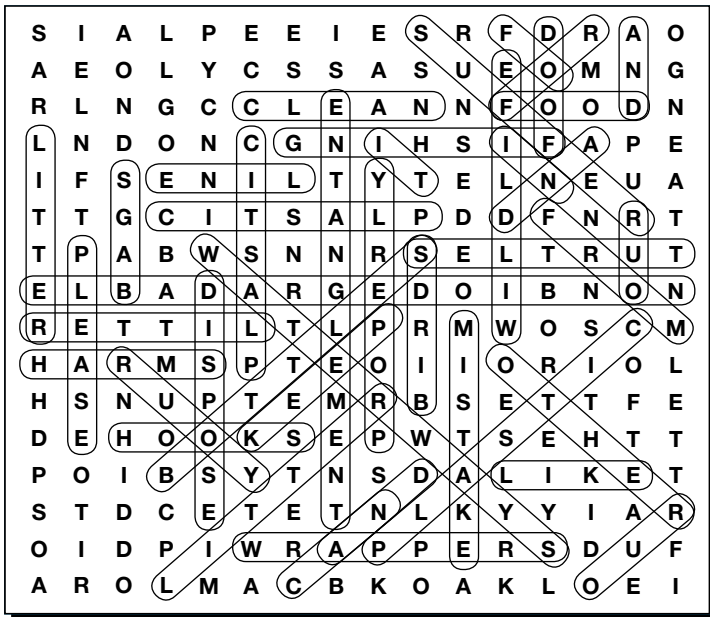
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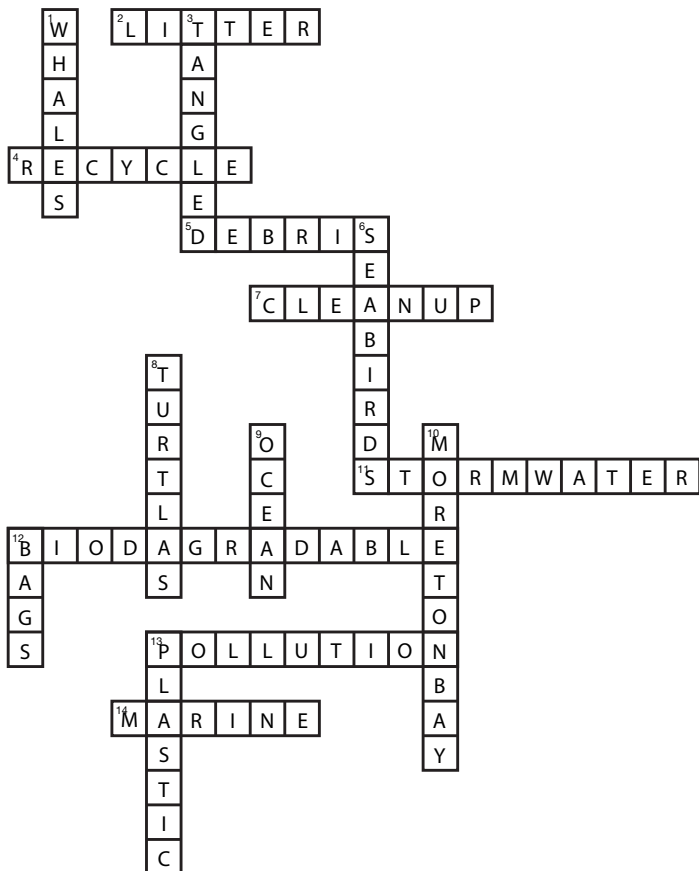


Answer Key

Tonnes of Litter (Page 1).



Types of Marine Debris (Page 2).



The Source of the Problem (Page 3).

Wherever you find people you find a potential source of waterway litter and marine debris.

Litterless Lunches (Page 4).

The lunchbox which is different is number 5.

Learn to be a Drain Brain (Page 6).

ALWAYS PUT RUBBISH IN THE BIN

How Long Will it Take? (Page 7).

- Banana peel - 2-5 weeks
- Cigarette butt - 1-5 years
- Plastic bag - 10-20 years*
- Styrofoam cup - 50 years*
- Aluminium can - 80-200 years
- Plastic Bottle - 450 years*
- Fishing line - 600 years*
- Glass bottle - 1 million years

Decomposition times from Ocean Conservancy's Pocket Guide to Marine Debris
*Plastic never fully decomposes, over time it breaks down into smaller and smaller pieces called micro-plastic.

True or False (Page 10).

Dolphins are to blame for the growing problem of marine debris. **FALSE**

Stormwater drains carry litter from the street into our waterways and ocean. **TRUE**

Plastic bags break down into nutritious turtle food in 2-5 weeks. **FALSE**

Marine debris is found in every part of the world's oceans, even on the most remote islands. **TRUE**

The growing population in Australia contributes to the problem of marine debris. **TRUE**

If you have a good excuse it's ok to litter. **FALSE**

Cruise ships are the largest mammals in the world. **FALSE**

Every person can promote a healthy, safe environment through their own actions. **TRUE**

How can I Help? (Page 11).

FIND OUT ABOUT CLEAN UP ACTIVITIES IN YOUR COMMUNITY.

Protect Waterways from Litter (Page 15).

Reduce, reuse, recycle, renew, respect.

References

1. UNEP 2005, *Marine litter: An Analytical Overview*, http://www.unep.org/regionalseas/marinelitter/publications/docs/anl_oview.pdf
2. Planet Ark 2009, *Plastic Bag Reduction*, <http://plasticbags.planetark.org/about/wildlife.cfm>
3. Ocean Conservancy 2005, *Pocket Guide to Marine Debris*, http://www.cobsea.org/cleanupeas/docs/ICC_PocketGuide_EN.pdf



It is surprising how much litter ends up in our waterways. Queensland has the highest amount of litter of all mainland states in Australia. Litter dropped on land is washed by wind and rain into stormwater drains and transported into our waterways where it becomes a serious pollution problem affecting our wildlife, aquatic habitats, water quality and recreational use.

During a flood, the amount of litter that enters our waterways heavily increases.

We can all make a difference by:

- keeping rubbish where it belongs
- planting trees along our waterways
- disposing of chemicals properly.

Get involved today. Let's keep our waterways clean and healthy!

