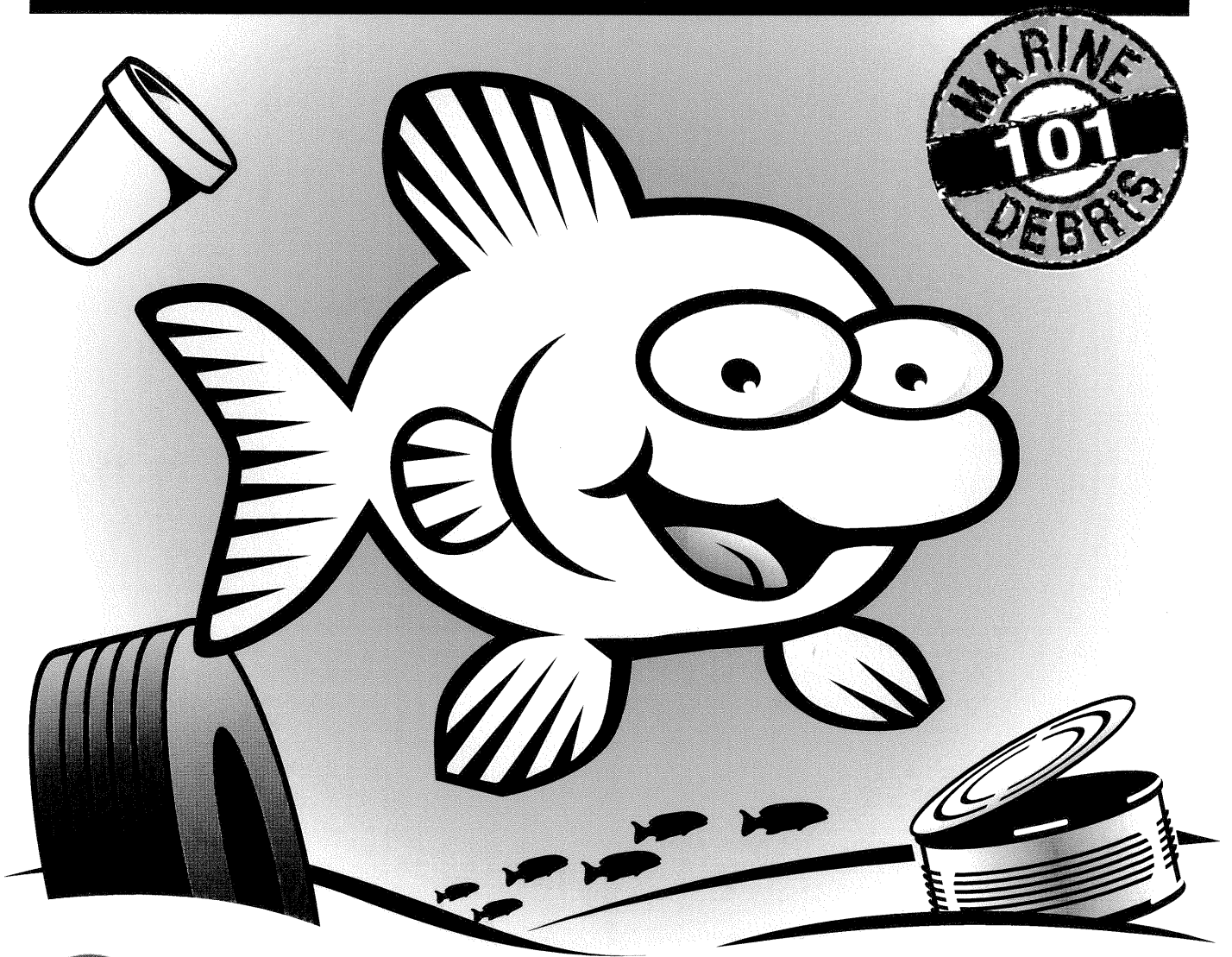


# UNDERSTANDING MARINE DEBRIS

GAMES & ACTIVITIES FOR KIDS OF ALL AGES



NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION





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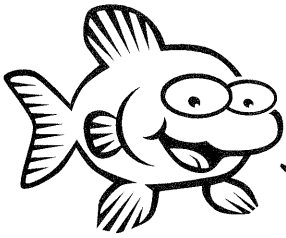
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|--|---|

*Making photocopies of the activities is recommended*

The production of this educational document was provided with support from the National Oceanic and Atmospheric Administration's Marine Debris Program and was developed by Sheavly Consultants through Contract Project Number AB133F06CN0193, "Web-based Education Campaign for Marine Debris Awareness & Prevention."



# 13 Million Pounds?!



It is estimated that 13 million pounds of litter are put into the ocean each year.\* This litter is generated by many sources, from boats and oil rigs on the water to picnickers, fisherman, 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!

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

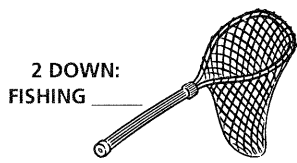
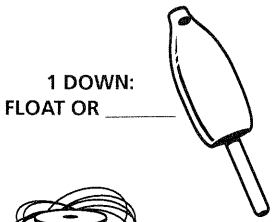
*These hidden words are found horizontally, vertically and diagonally. (Answers on page 21).*

- |                |              |              |             |           |
|----------------|--------------|--------------|-------------|-----------|
| BAIT CONTAINER | CRATE        | FISHING NET  | LUMBER      | SHOE      |
| BALLOON        | CUP          | GLASS BOTTLE | PAINT BRUSH | SODA CAN  |
| BUCKET         | DIAPER       | GLOVE        | RADIO       | STRAW     |
| BUOY           | DOLL         | HARD HAT     | ROPE        | TIRE      |
| CIGARETTE      | FISHING LINE | HOSE         | RUG         | TRASH BAG |

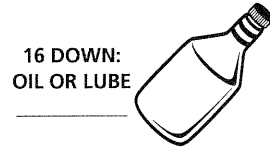
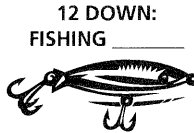
*\*1997 U.S. Academy of Sciences study.*



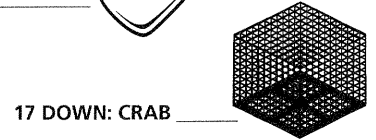
# Types of Marine Debris



11 ACROSS:  
CHILDREN'S \_\_\_\_\_



14 DOWN:  
WOODEN \_\_\_\_\_



**MARINE DEBRIS COMES FROM MANY SOURCES**

**ACROSS:**

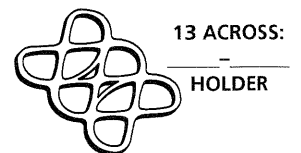
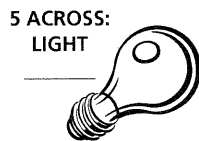
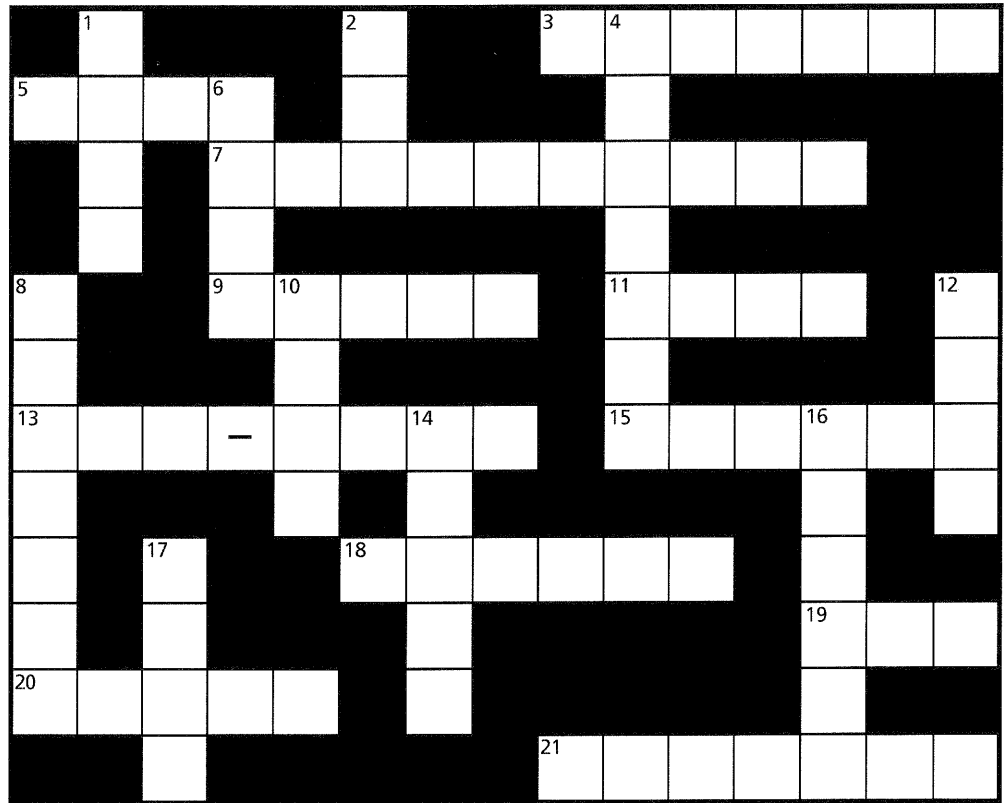
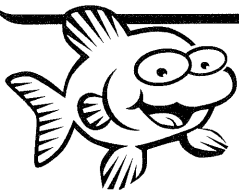
These litter items are generated by people on land such as beachgoers, picnickers and those who improperly dump their trash.

**DOWN:**

These litter items are generated by people at sea such as boaters, fisherman and passengers on cargo or cruise ships.

**PARENTS CAN HELP!**

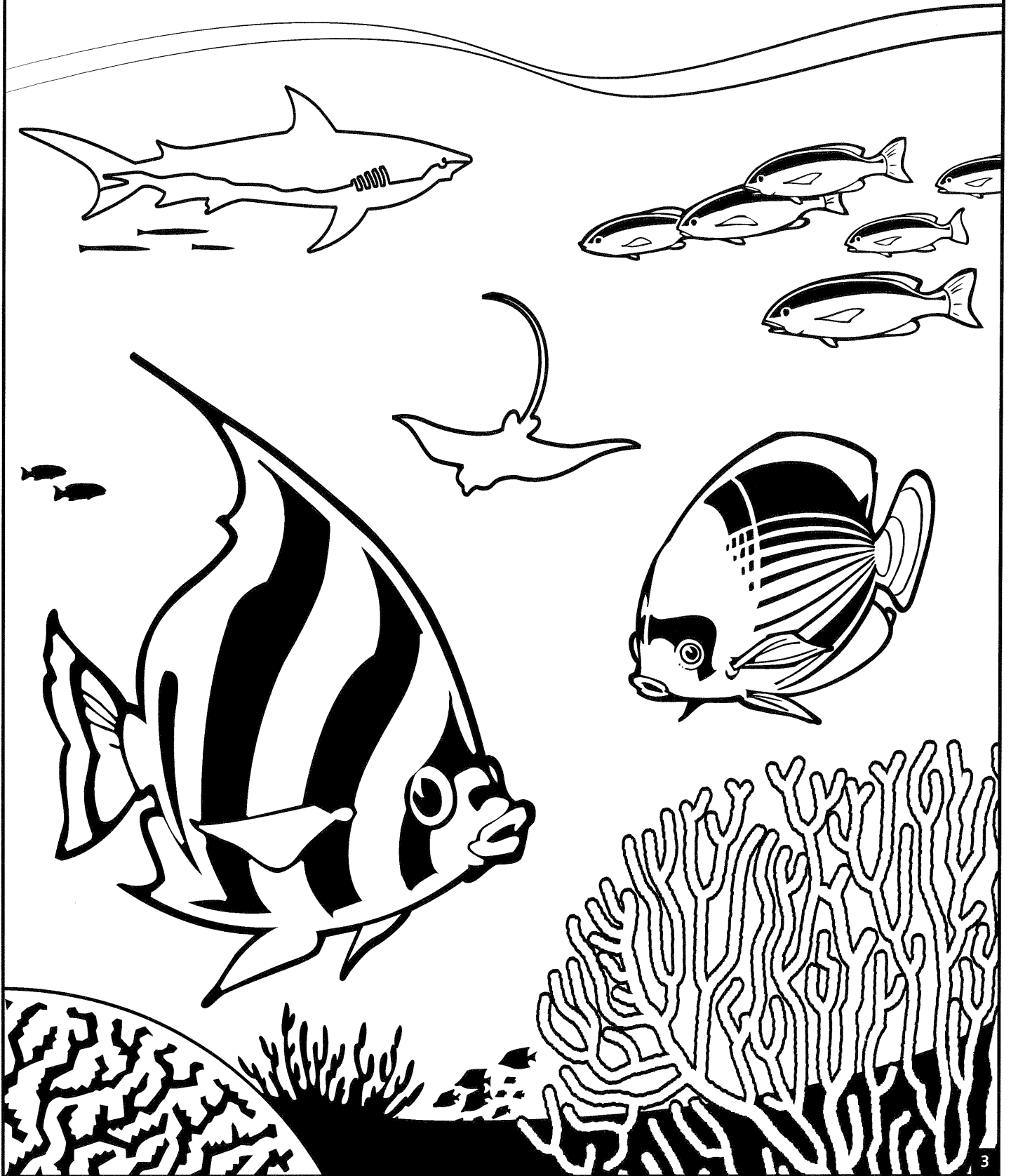
(Answers on page 21)







# Healthy Coral Reef



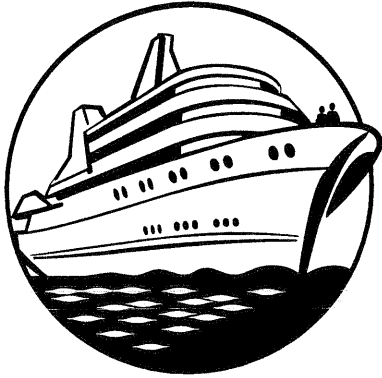




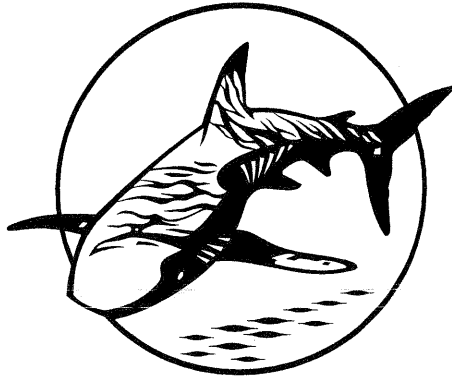
# The Source of the Problem

PARENTS CAN HELP!

There are nine pictures below. Circle the pictures which you believe could be sources of marine debris or ocean trash. When you have finished, write down what these pictures have in common. Answers on page 21.



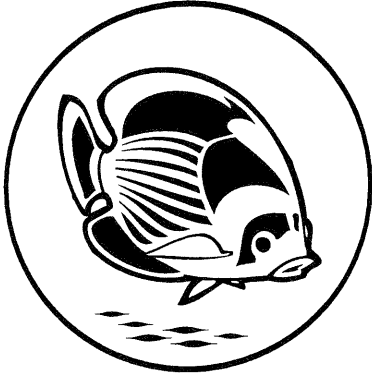
A CRUISE SHIP



A SHARK



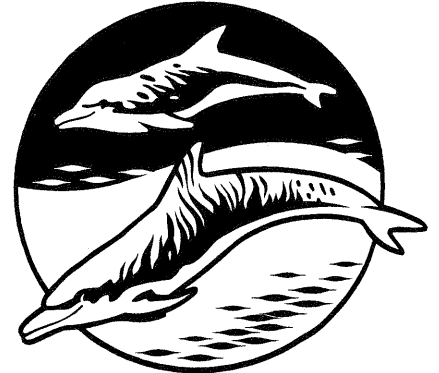
PICNICKERS



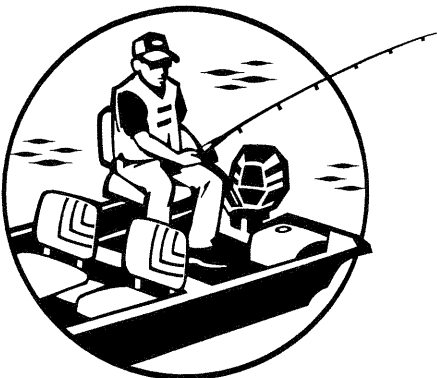
A FISH



A MAN WASHING HIS CAR



DOLPHINS



A FISHERMAN



SEA GULLS



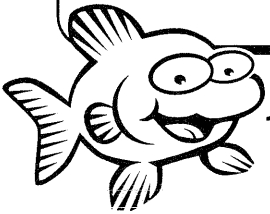
A BEACHGOER



# Litterless Lunches



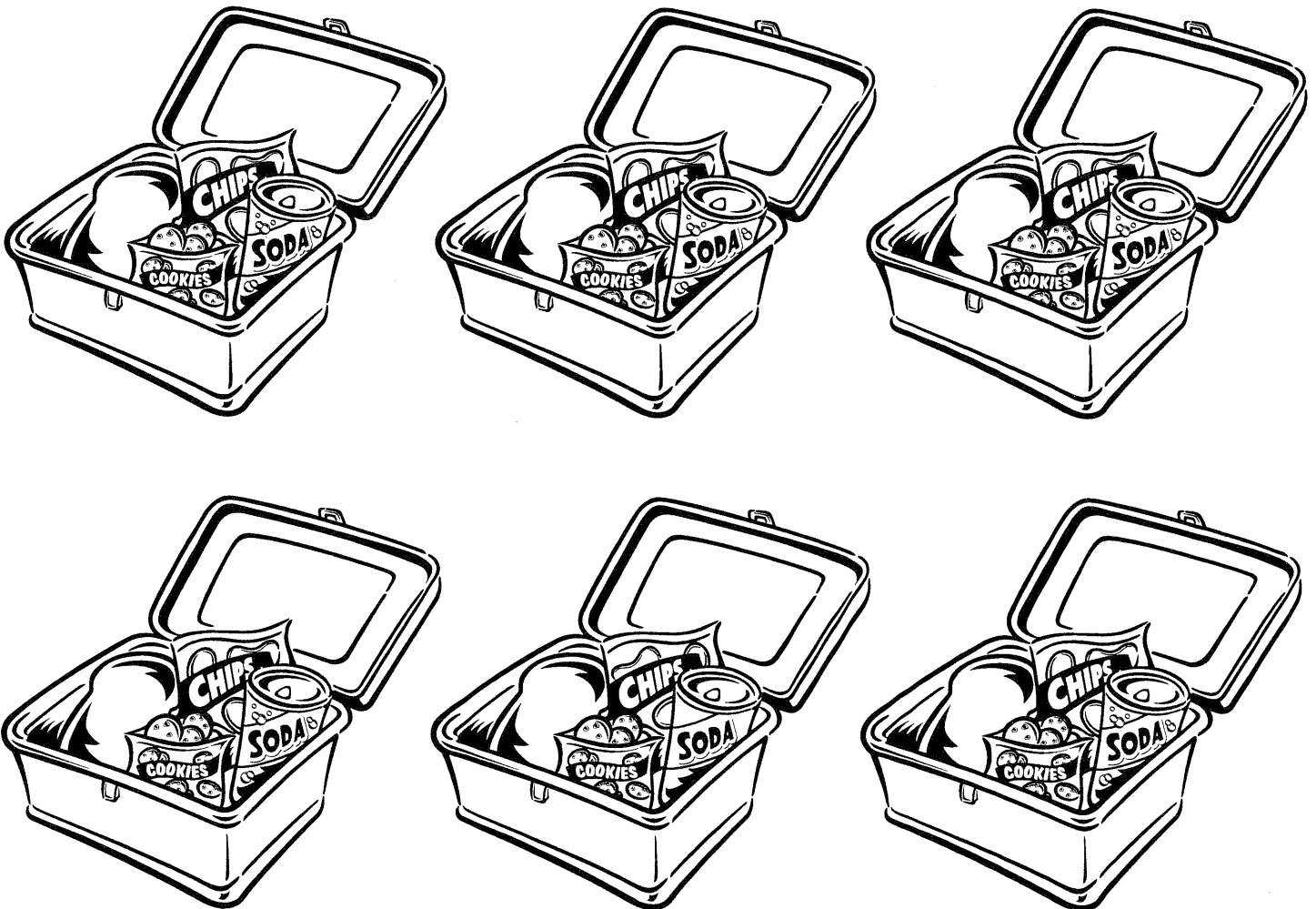
There are six packed lunches pictured. One of them is different from all the others. **Can you find the one that is different?**



## 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 12 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 aluminum cans, glass bottles, plastic bottles and plastic containers found in your packed lunch.



(Answer is on page 21)





# Go Fish!







# Learn to Be a Drain Brain!

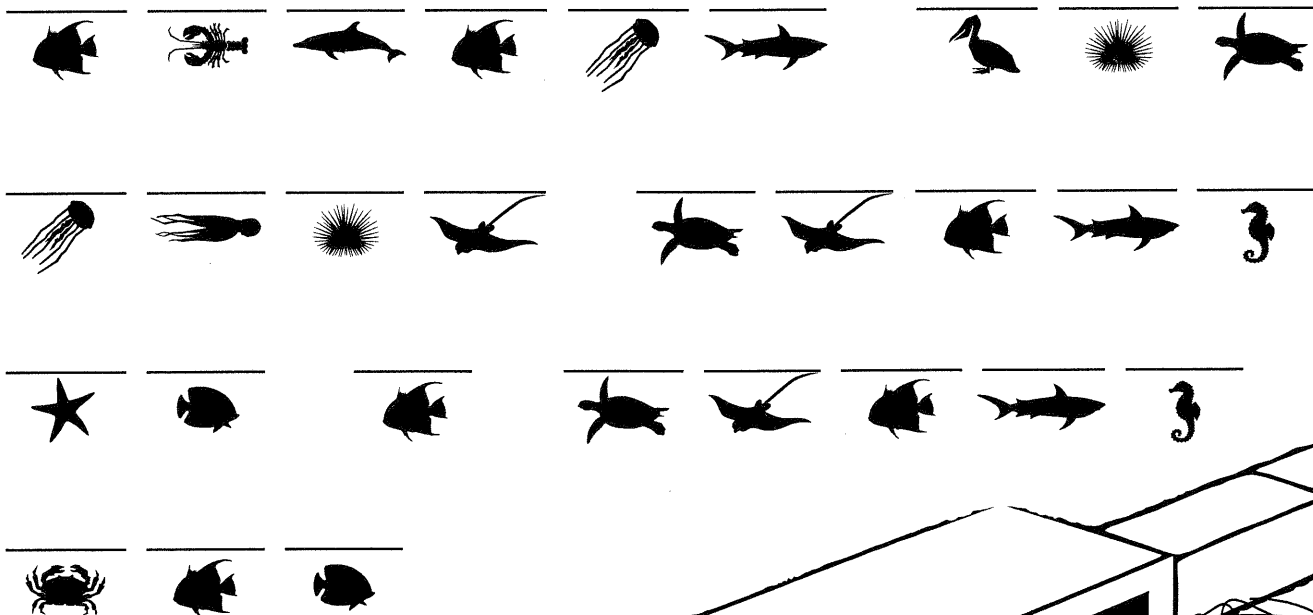
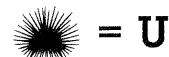
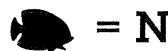
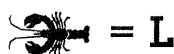
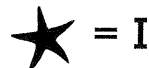
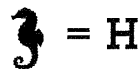
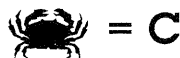
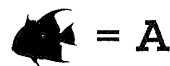


Unlock the Secret Message and Discover How You Can Become a Drain Brain!

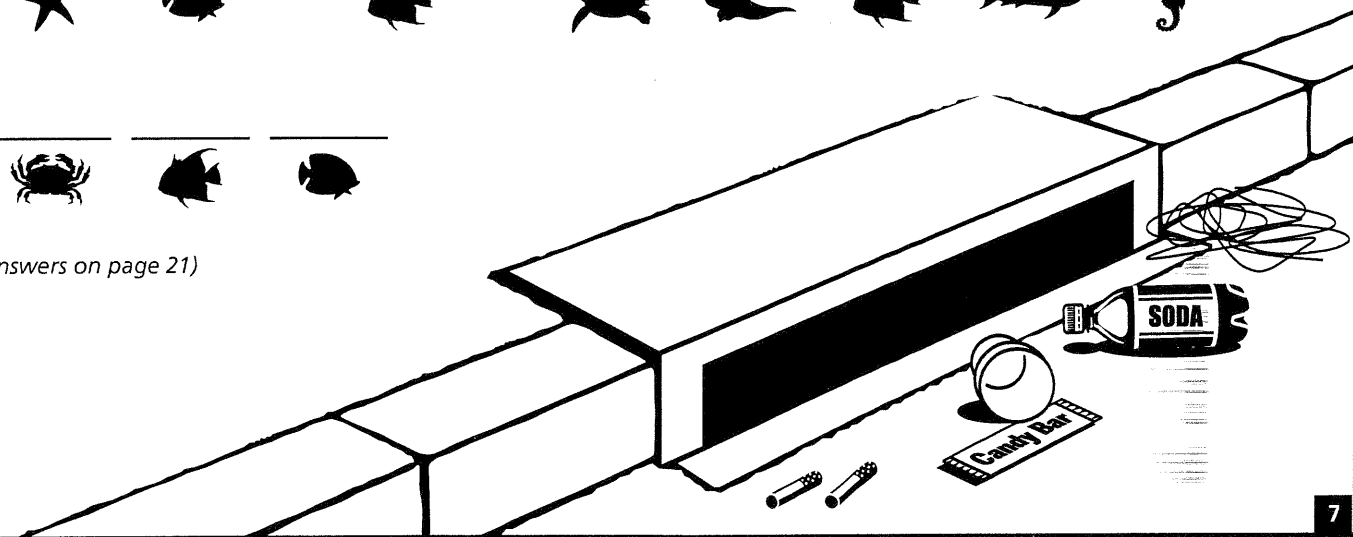
Have you ever wondered what those holes are at the edge of the sidewalk? They're called **storm drains** and they carry rain water off the street and into streams and rivers.

Soda bottles, paper cups, candy wrappers, cigarette butts and all of the trash in the street gets carried into storm drains with the rain water until it finally reaches the ocean and becomes debris.

Unlock the secret message by using the chart below to replace the shapes with the letters they match up with.

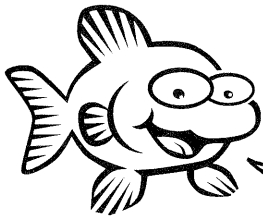


(Answers on page 21)





# Beat the Clock!



Find a friend and see which one of you can list the most number of new words created by using the letters found in the words **MARINE DEBRIS**. Set a timer for 10 minutes. The person with the most number of words WINS! See rule about using double letters.

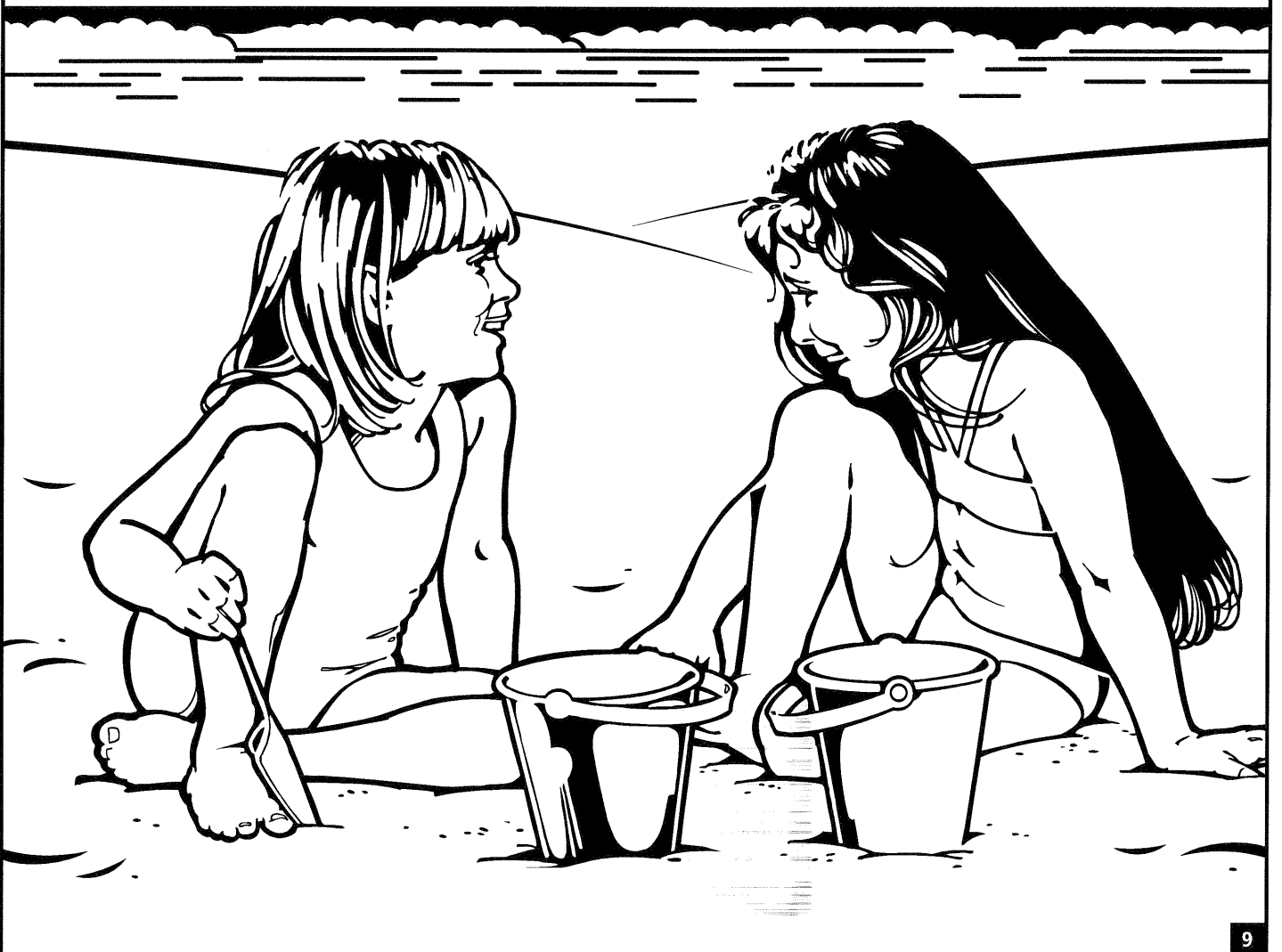
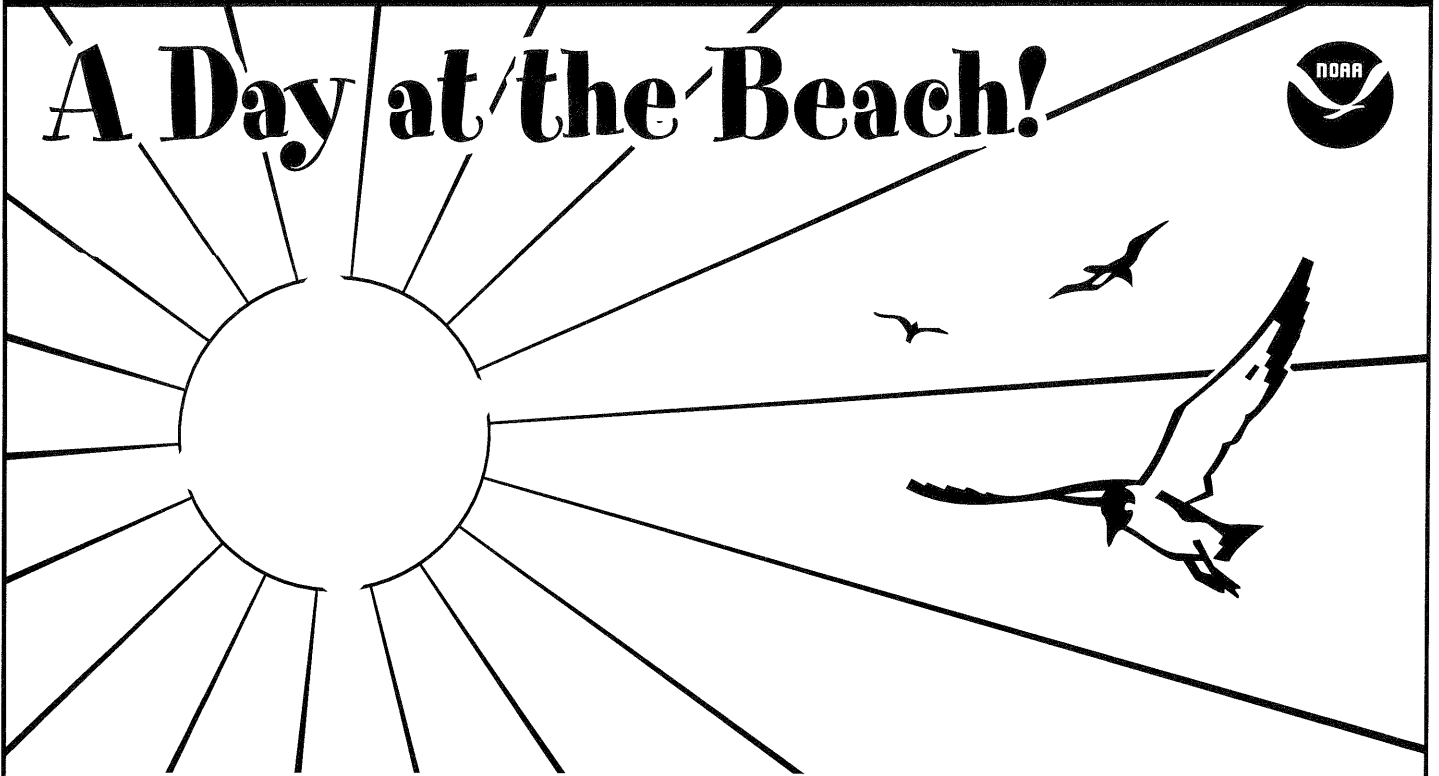
**MARINE DEBRIS** contains two "R"s, two "E"s, and two "I"s. It is acceptable for your new words to contain **these** double letters.

Example: <b>N E E D</b>	13.) _____	27.) _____
Example: <b>B A R N</b>	14.) _____	28.) _____
1.) _____	15.) _____	29.) _____
2.) _____	16.) _____	30.) _____
3.) _____	17.) _____	31.) _____
4.) _____	18.) _____	32.) _____
5.) _____	19.) _____	33.) _____
6.) _____	20.) _____	34.) _____
7.) _____	21.) _____	35.) _____
8.) _____	22.) _____	36.) _____
9.) _____	23.) _____	37.) _____
10.) _____	24.) _____	38.) _____
11.) _____	25.) _____	39.) _____
12.) _____	26.) _____	40.) _____





# A Day at the Beach!

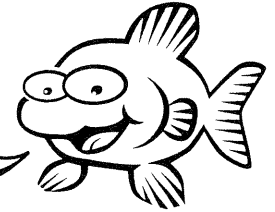




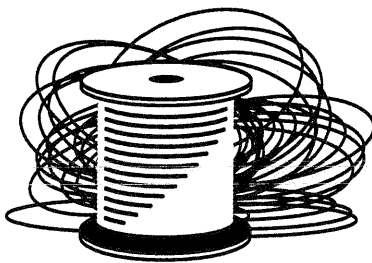
# How Long Will it Take?



It takes just a moment for an item to be carelessly discarded or blown by wind into the ocean, but it can take many, many years for that item to completely decompose. Test your knowledge about decomposition times. Draw a line between each item (left) to its corresponding decomposition time (right).



## How Many Years Will it Take for These Items to Decompose in the Ocean?



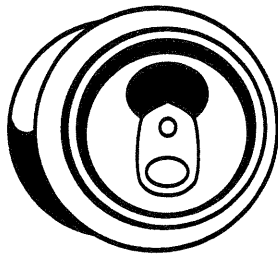
Fishing Line



Cigarette Filter

Undetermined

600 Years



Aluminum Can



Glass Bottle

450 Years



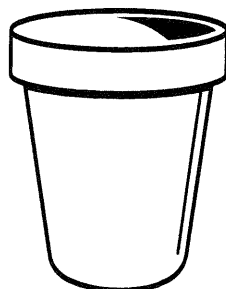
Banana Peel

200 Years

50 Years



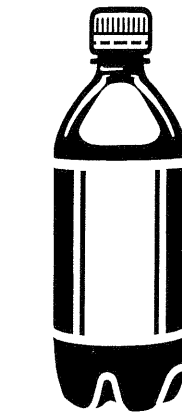
Milk Carton



Styrofoam Cup

1-5 Years

3 Months



Plastic Beverage Bottle

2-6 Weeks





# Sailing Away





# Marine Match-Up



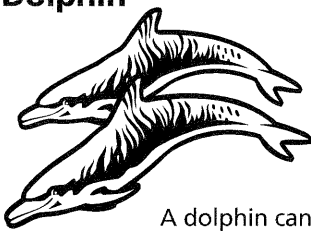
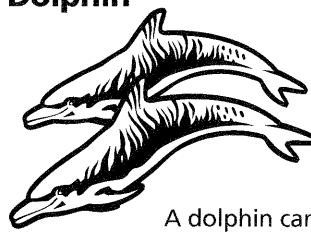


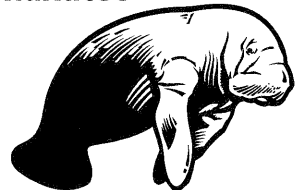




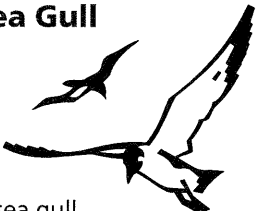
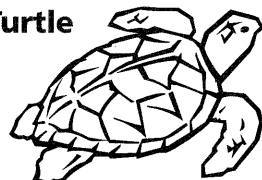
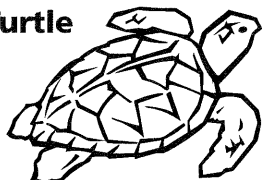


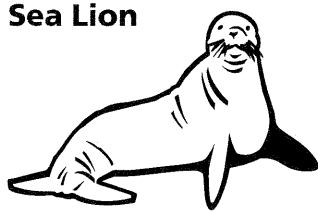
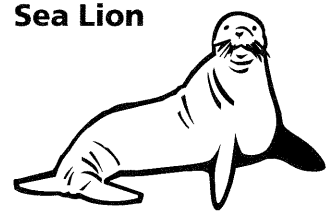
What do you think happens when an animal comes across litter in its natural habitat?

A sea turtle can choke on a plastic sandwich bag that it mistakes for food. A curious sea lion can get entangled in discarded commercial fishing nets.

Play the MARINE MATCH-UP game to learn more about how litter harms marine animals.

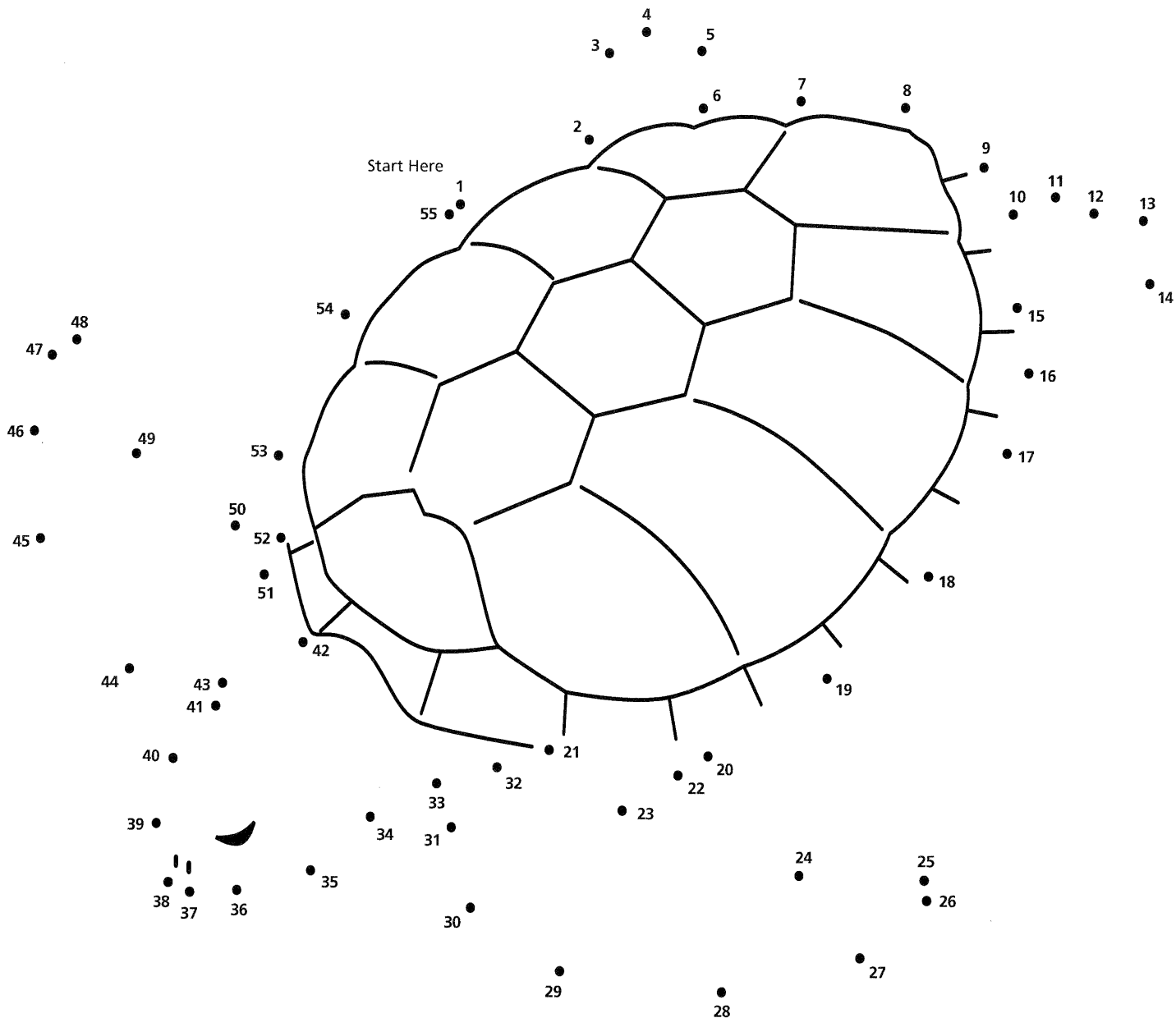
## HOW TO PLAY (FOR TWO PLAYERS)

- 1.) Cut out the squares and place them face down.
- 2.) Player 1 turns over two squares.
- 3.) If a match is revealed, the player gets to keep the two squares.  
For example, if the player reveals two Dolphins, he gets to keep the two squares. However, if the player reveals two animals which DO NOT match, then both squares are turned face down again and Player 2 takes a turn.
- 4.) When all the squares are gone, the player with the most number of squares wins.

<p><b>Dolphin</b></p>  <p>A dolphin can get tangled in fishing gear</p>	<p><b>Dolphin</b></p>  <p>A dolphin can get tangled in fishing gear</p>	<p><b>Pelican</b></p>  <p>A pelican can get its neck stuck in a six-pack holder</p>	<p><b>Pelican</b></p>  <p>A pelican can get its neck stuck in a six-pack holder</p>
<p><b>Manatee</b></p>  <p>A manatee can get tangled in discarded fishing line</p>	<p><b>Manatee</b></p>  <p>A manatee can get tangled in discarded fishing line</p>	<p><b>Raccoon</b></p>  <p>A raccoon can cut its paws on broken glass</p>	<p><b>Raccoon</b></p>  <p>A raccoon can cut its paws on broken glass</p>
<p><b>Sea Gull</b></p>  <p>A sea gull can become entangled in discarded fishing line</p>	<p><b>Sea Gull</b></p>  <p>A sea gull can become entangled in discarded fishing line</p>	<p><b>Sea Turtle</b></p>  <p>A sea turtle can choke on a plastic bag</p>	<p><b>Sea Turtle</b></p>  <p>A sea turtle can choke on a plastic bag</p>
<p><b>Beaver</b></p>  <p>A beaver can get its head stuck in a tin can</p>	<p><b>Beaver</b></p>  <p>A beaver can get its head stuck in a tin can</p>	<p><b>Sea Lion</b></p>  <p>A sea lion can become entangled in ropes and nets</p>	<p><b>Sea Lion</b></p>  <p>A sea lion can become entangled in ropes and nets</p>

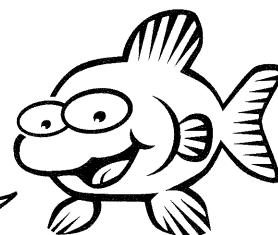


# A Sea Turtle's Story



## How Can Litter Be Deadly to a Sea Turtle?

Sometimes sea turtles mistake litter in the water as food. Plastic bags look like jellyfish, sea turtles' favorite 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.





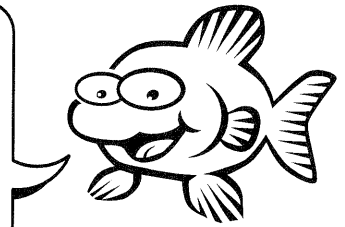
# No Excuses



**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 checkmark 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 trash away in a trash can.



- |   |  |
|---|--|
| <input type="checkbox"/> There's already trash there.                                 | <input type="checkbox"/> Nobody told me not to.                        |
| <input type="checkbox"/> Why shouldn't I?   | <input type="checkbox"/> The trash can 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 trash can.                           | <input type="checkbox"/> It's so tiny, it won't matter.                |
| <input type="checkbox"/> Mom would get upset if she knew I ate a snack before dinner. | <input type="checkbox"/> Bees were around the trash can.               |
| <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 candy 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.                     |



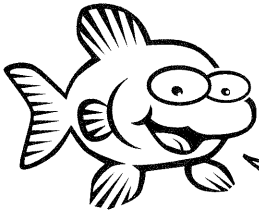


# Beach Cleanup





# How Can I Help?



Beach or coastal cleanups can be found in many communities. During these cleanups, kids and adults work together to collect the trash that has been thrown into their waterways. Cleanups make the environment a cleaner, safer place for people and animals.

**Unscramble the words below to reveal how you can help!** Answers on page 21.

I F D N      T U O      F I

E H R T E      S I      A

L T A C S O A      L A P U C E N

N I      O Y R U

T C I M Y O M N U

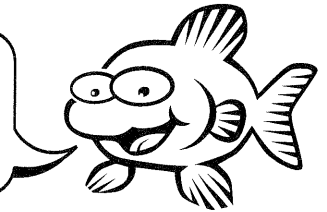




# Cleaning Up the Beach



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 cleanup in our community.**

\_\_\_\_\_ helped out along with \_\_\_\_\_ ,

FEMALE CELEBRITY

MALE PLAYER

\_\_\_\_\_, and \_\_\_\_\_ .

FEMALE PLAYER

MALE CELEBRITY

I got the \_\_\_\_\_ job of picking up all of the \_\_\_\_\_

ADJECTIVE

NOUN PLURAL

and I found \_\_\_\_\_ of them. \_\_\_\_\_ had a

NUMBER

MALE PLAYER

\_\_\_\_\_ job himself. He wore gloves so that he wouldn't

ADJECTIVE

get any \_\_\_\_\_ on his \_\_\_\_\_ . We all yelled

TYPE OF GARBAGE

CLOTHING

\_\_\_\_\_ when \_\_\_\_\_ found a

EXCLAMATION!

FEMALE PLAYER

\_\_\_\_\_ 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





# Diver Cleanup



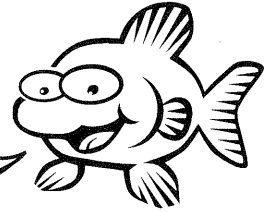




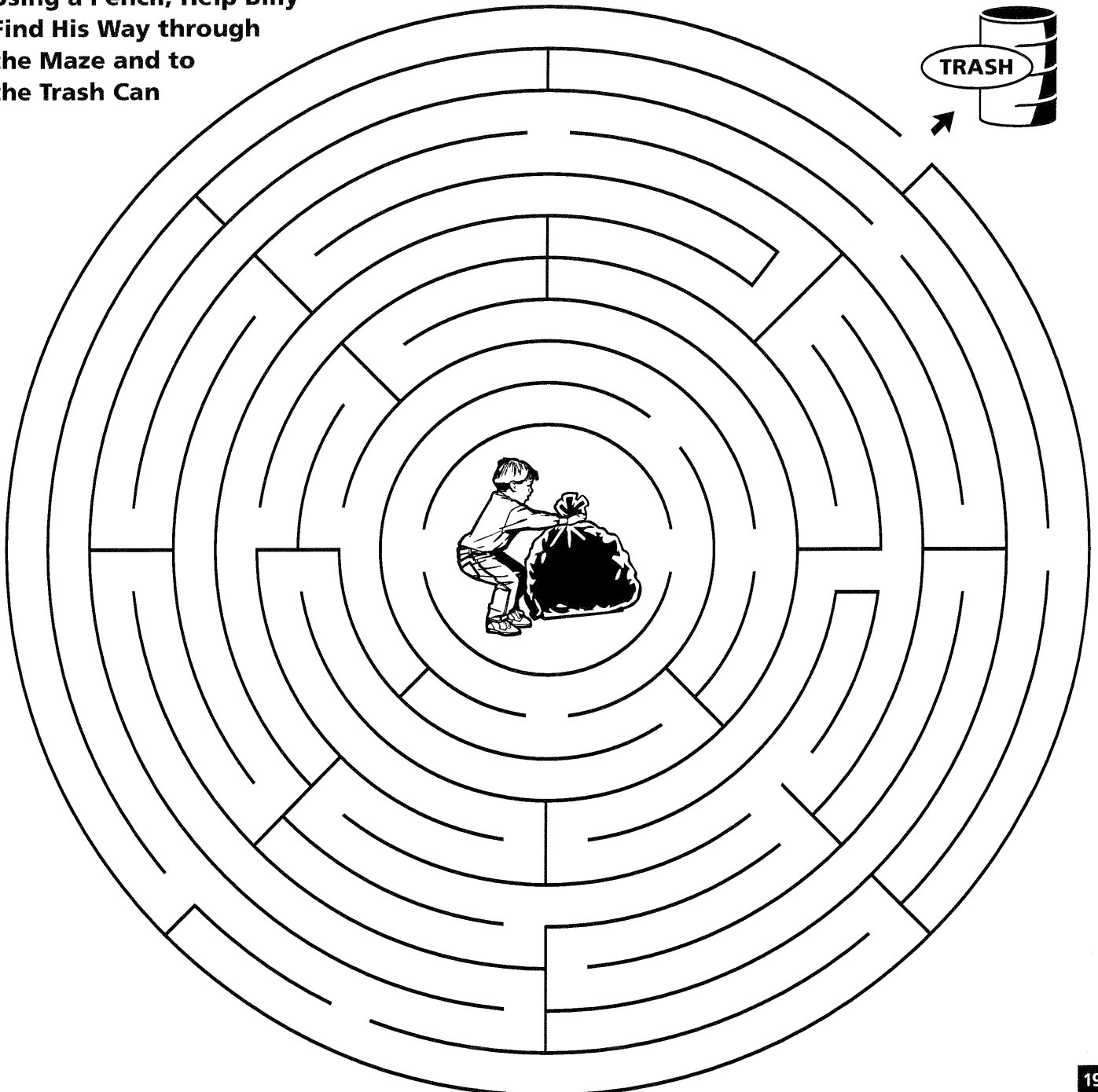
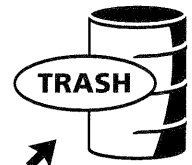
# Getting to the Trash Can



Sometimes it takes a couple more steps to get to a trash can where you can properly discard your trash. But these extra steps will make you a good steward of the environment. Always put your trash in a trash can and always look for recycling bins for your glass, plastics, cardboard, metals and newspapers.



**Using a Pencil, Help Billy Find His Way through the Maze and to the Trash Can**

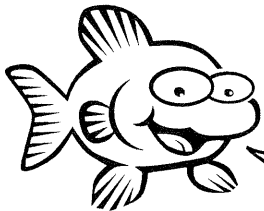






# The Three Rs of Good Stewardship

A **good steward** protects and promotes a clean, safe environment through their own actions—making our planet a place where future generations of both humans and animals will thrive.



Hidden in the phrase below are the three **most important words** to remember if you want to be a good steward of your environment. Link the missing letters in the phrase (in order) to spell out these three words. Answers on page 21.

Pu<sub>1.</sub>chasing and r<sub>2.</sub>using <sub>3.</sub>isposable prod<sub>4.</sub><sub>5.</sub>ts  
 lik<sub>6.</sub> plastic containe<sub>7.</sub>s, groc<sub>8.</sub>ry bags, foam c<sub>9.</sub>ps  
 and gla<sub>10.</sub>s jars reduces th<sub>11.</sub> amount of t<sub>12.</sub>ash we  
 gen<sub>13.</sub>rate thereby redu<sub>14.</sub>ing the man<sub>15.</sub> pieces of  
 litter that <sub>16.</sub>an possib<sub>17.</sub>y becom<sub>18.</sub> marine debris!

\_\_\_\_\_

1.                      2.                      3.                      4.                      5.                      6.

\_\_\_\_\_

7.                      8.                      9.                      10.                      11.

\_\_\_\_\_

12.                      13.                      14.                      15.                      16.                      17.                      18.

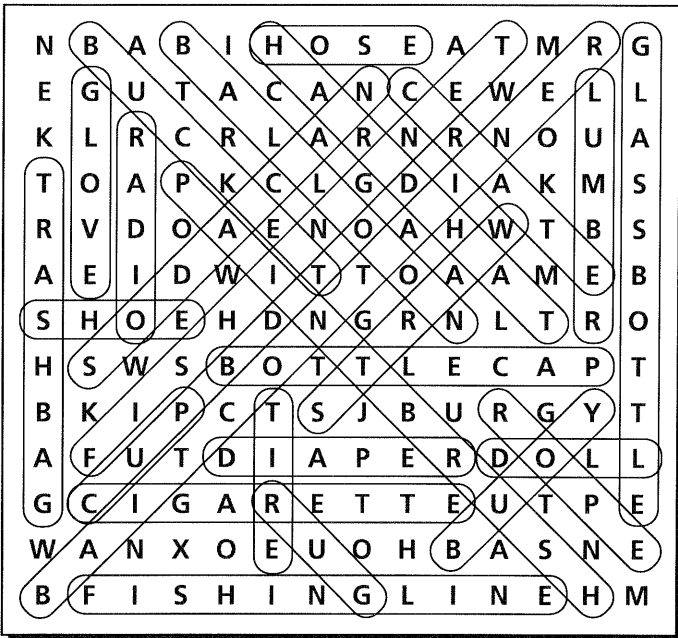




# ANSWER KEY

(Where applicable)

## Word Find (Page 1).



## Identifying the Problem (Page 4).

Wherever you find people, you find a potential source of marine debris. A cruise ship, picnickers, a man washing his car, a fisherman and a beachgoer are ALL potential sources of marine debris.

## Which One is Different? (Page 5).

The lunchbox which is different is found in the center of the bottom row of lunchboxes.

## Secret Code (Page 7).

ALWAYS PUT YOUR TRASH IN A TRASH CAN.

## Word Challenge (Page 8).

Here is a sampling of 40 words we found:

(I, a, in, is, as, me, red, bed, are, rid, arm, ear, bin, see, sin, bee, rim, rib, rind, dine, seem, bind, read, bare, darn, rain, main, need, bead, bear, rare, mine, dear, sire, beer, drain, bread, breed, inside, sardine, etc...)

## Picture Crossword (Page 2).



## Marine Debris Match Up (Page 10).

- Glass bottle = undetermined
- Fishing line = 600 years
- Plastic beverage bottle = 450 years
- Aluminum can = 200 years
- Styrofoam cup = 50 years
- Cigarette filter = 1-5 years
- Milk carton = 3 months
- Banana peel = 2-6 weeks

## Unscramble the Phrase (Page 16).

FIND OUT IF THERE IS A BEACH CLEANUP IN YOUR COMMUNITY.

## Debris Detective (Page 20).

REDUCE REUSE RECYCLE





NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

