

Plastic pollution:

This game is part of a series of games created in the Games for Goals project.

AQUAHEROES



Find the other mini-games on chemical pollution, drought, water misuse, flooding and more on:

www.gamesforgoals.eu



Co-funded by the Erasmus+ Programme of the European Union



Please share feedback on the game and help measure its impact!



<https://tinyurl.com/CFG-impact-EN>



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Add this presentation card to the game materials!



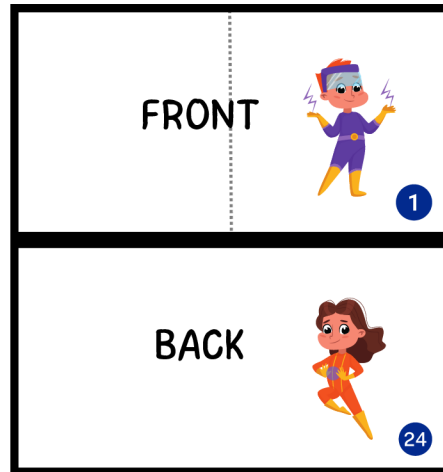
Printing instructions

Print pages 1-30, double-sided and flip them on the short side.

Fold the booklet sheets as follows.

Use the dotted line to guide you (keep it on the outside).

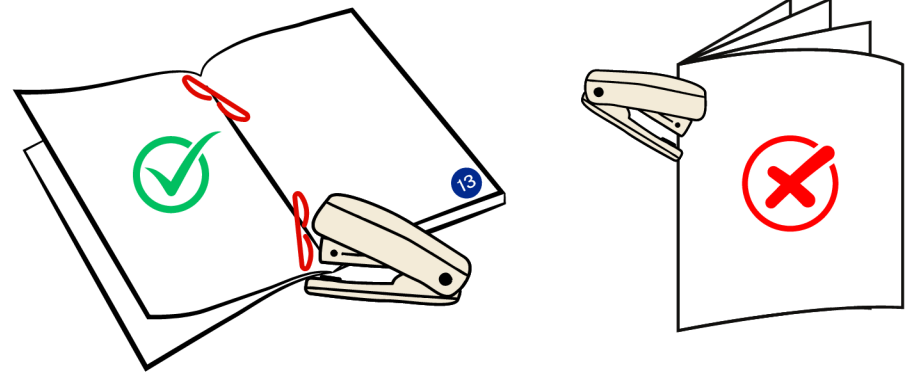
Then staple the booklet.... it's now ready!



Tip!

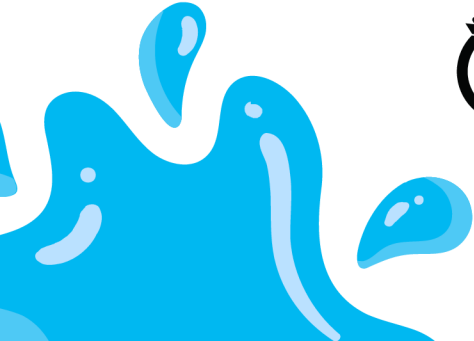
Make sure to fold the pages according to the mode on the left. Then place the folded sheets inside each other and make sure the pages are organised in the right order.

Use a stapler to attach the pages. We recommend trying to staple 'from the inside' rather than 'from the outside' so it's easier to open the booklet completely.



When you're ready, fold this sheet so that these instructions are on the inner side and add this presentation card to the game materials!

Activity Sheet



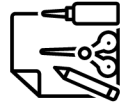
LEARNING OBJECTIVES

- The pupils think about the impact of plastic in the water.
- The pupils think about how to reduce plastic pollution.



MATERIALS

- The booklet
- A pen and piece of paper
- The game envelopes
- The crossword, puzzle, river items (pictures) and question cards



PREPARATION

- Glue the 3 envelopes into the right place in the booklet.
- Put the 16 puzzle pieces into envelope A.
- Put the 6 questions cards into envelope B.
- Put the 57 river items into envelope C.
- Laminate the crossword.
- Place the start card face up on the table.



Activity Sheet



ACTIVITY DESCRIPTION

By reading the booklet during the game, the pupils will explore the river in the village and discover what the problems with the plastic are!

The booklet will function as a *choose-your-own-adventure* book, and invite the pupils to make strategic choices together.

They start by opening the first page of the booklet and reading the instructions.



KEYS TO LEAD THE DISCUSSION

- What is the main problem in the village?
- What are the causes behind this problem?
- What solutions did you find?
- What daily activities generate plastic pollution? Why & How?
- What can you do to reduce plastic pollution?
- Why is it important not to pollute rivers?



AQUAHEROES

Plastic pollution





REFLECTION

Now it's your turn – check how much hidden plastic is in your:



- Pencil case
- School bag
- Classroom
- Playground
- ...



Hi, I'm Max and I live in a small village.
My grandparents always tell stories about
how clean and beautiful the village used to be.
But now our village is very dirty and full of
waste. Together with my friends I'm going to
find out why.

When instructed to do so, pass the book to the next
player in a clockwise direction.

In the fact check, you will learn specialised
information about this topic. Memorise it well!



The youngest player starts !
Take a blank sheet of paper for notes
and start with page 2.

Here's the model of the puzzle:



GREAT! Now you are water 'HEROES'

You can do something every day to keep water clean. Look at the picture below. You will see that plastic is all around us!

In how many of the 15 circled objects is there hidden plastic ?

Use your own rough paper to count! Then go to the page number that corresponds to the number of items with plastic that you found (for example: if your answer is 12, go to page 12).

If you don't see our four friends at the beach, come back to this page and count again!

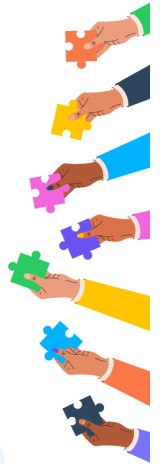
Glue the envelope here



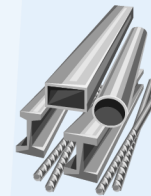
Take the puzzle pieces out of the envelope.



Solve the puzzle inside to find out the river's problem. Focus on the background and you'll find the right solution!



If your solution is :



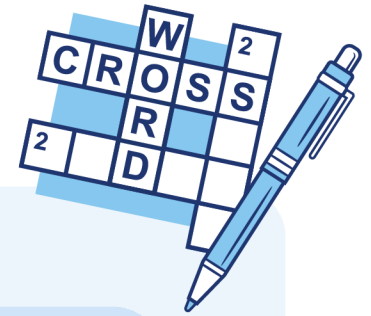
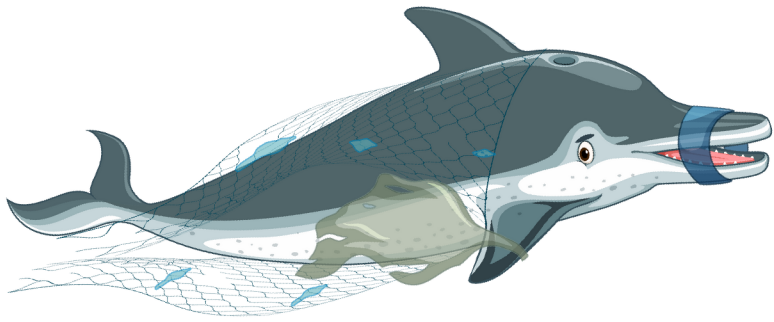
METAL: go to page 4



PLASTIC: go to page 6



GLASS: go to page 7



If your solution is :

a) HERMES -> go to page 20

b) HEROES -> go to page 24





Oh no, there are almost no fish left in the river.

To find the fish, you have to find an object in the picture:



'I am an object, both clear and hard,
but in the sea, be on your guard!
Turtles and fish, they get confused
Once I'm inside, I can't be removed.'



Who am I ?



If your answer begins with an F: go to page

22

If your answer begins with a P: go to page 9

“Bad luck, not the right answer, this is a little clue to help you find the answer:”



Please go back to [page 3](#).

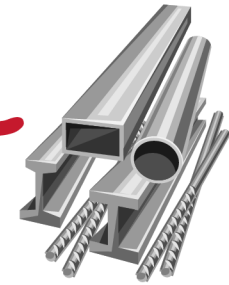
FUN FACT

The world uses 5 trillion plastic bags a year, enough to orbit the earth seven times !





METAL



"Oh-oh! Not the correct answer, but maybe we could use a magic potion against plastic pollution."

Please go back to page 2

FUN FACT

Every year, an estimated 8 million tons of plastic are dumped into the oceans - the equivalent of one dustbin lorry a minute.





"Bad luck, not the right answer, but don't throw in the towel - throw plastic waste out of the river instead!"



Please go back to [page 18](#).

FUN FACT

Microplastics can even be found in the most remote regions of the world, such as the Arctic.



You walk further along the river and see a factory that produces plastic.

The factory has a broken pipe and everything is pouring into the river. But there's far too much to clean it up by hand.

Do you have something to help clean up the river faster? Maybe the oddly sorted letters can help you.



When you have found it, pass the book to the next child in a clockwise direction and go to page 16.

"It wasn't the solution, but plastic in the water is like a troublemaker at a marine life party!"



Please go back to [page 10](#).

FUN FACT

Plastic waste in the water can serve as a floating island for creatures from one habitat, which then cause problems for species living in different habitats.





Did you say



PLASTIC ?

Great! You have found the right answer.

The river is polluted by people's plastic waste.

While you are cleaning the river, you realise that there is still more rubbish. So you go upstream to work with the villagers to clean up the river together.



Pass the book to the next child in a clockwise direction and turn to page 3.

"Wrong guess, but hey, even the smartest fish make mistakes sometimes - we're working on it!"



Please go back to [page 9](#) and count again! You might have included some natural elements in your rubbish pile...

FUN FACT

A lot of plastic waste in the oceans consists of lost or discarded fishing nets, known as 'ghost nets'.





GLASS



"Unfortunately wrong, but what would you call super heroes who are against plastic pollution in rivers?"

Please go back to [page 2](#)

FUN FACT

A single plastic straw may be small, but they are one of the most common plastic items found during beach cleans.



Did you count 28?



Well done! It is quite a lot of rubbish,
right?

Let's see if we can understand the
problem in a bit more detail...



Take the cards out of the envelope and
answer all the questions.

Your answers will tell you where to
continue :

If you have mostly	<input type="checkbox"/>	-> go to page 8
If you have mostly	<input type="checkbox"/>	-> go to page 12
If you have mostly	<input type="checkbox"/>	-> go to page 14
If you have two of each	<input type="checkbox"/>	-> go to page 21

Glue the envelope here



WOW!!!

Well done, you found lots of good answers!

The correct answers were:

1. Microplastics 
2. Materials from the land, like plastic bags, bottles 
3. It never dissolves completely 
4. Three times the size of France 
5. Sea turtles 
6. Half of all seabirds 

Good work - Now you know some of the plastic problems facing living things in the water! Continue your search.

Pass the book to the next child in a clockwise direction and turn to page 5

"That was close, just like a fish swimming past a plastic bag. Let's change that!"



Please go back to [page 9](#) and count again! You might have forgotten some rubbish...

Glue the envelope here



FUN FACT

Microplastics are very small plastic pieces. They can be eaten by marine life. Then you end up eating it again in your next fish finger.



The answer was...

Plastic bag!



Great!



Now the fish are safe for the time being.

Take all the things out of the envelope. These are often found in a river, but not everything belongs there.

Count the number of natural and rubbish items you have found. The number of rubbish items will lead you to the next task.

- a) 25: go to page 17
- b) 28: go to page 18
- c) 30: go to page 19



Pass the book to the next child in a clockwise direction.

GOOD
JOB



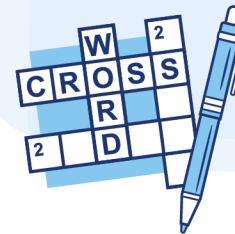
With the fish net, you can collect more rubbish from the river and the factory workers will also help you.

But we all use a lot of plastic in our everyday lives.

Are there better ways?



Solve the next crossword puzzle as a team and find out what you can do in your everyday life.

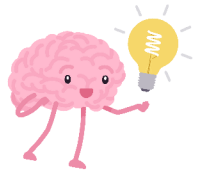


Go to [page 10](#) to find the definitions for the crossword

Glue the envelope here

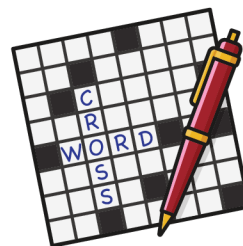


Find the matching words for the questions in the following list and solve the crossword puzzle as a team :



- 1) Plastic bags are very harmful to the environment. That's why more shops are now offering ... bags.
- 2) If you throw plastic in the plastic bin too, then it can be...
- 3) What could you wrap your sandwich in instead of disposable plastic packaging?
- 4) What do you call a bottle that can be used many times?
- 5) What was the cause of pollution in the river?
- 6) What do you take from home when you go shopping to pack your groceries?

Reusable	Waste	Bags	Recycled	Water	Pollution
Rubbish	Plastic	Paper	Factory	Lunchbox	Litter



Pass the book to the next child in a clockwise direction and check the solution on [page 23](#)

"That wasn't the solution, but plastic in water is like a bad joke - nobody laughs at it!"



Please go back to [page 8](#).

FUN FACT

Plastic bags in water can endanger animals for many years. For example, by posing a choking hazard.



**WELL
DONE**

Here are the 11 items that contain plastic :

Sunglasses, beach umbrella, beach ball, sandal, chip bag, sunscreen, folding beach chair, plastic bottle, handbag, swimsuit and beach bucket



Pass the book to the next player in a clockwise direction and turn to page 13.



"Not the answer you were looking for, but remember that plastic in the sea is not a swimming aid for animals!"

If you were answering questions, please go back to [page 18](#).
If you were looking for plastic things at the beach, go to [page 24](#).

FUN FACT

The majority of our plastic waste floats into the sea from the rivers.





"Unfortunately wrong, but maybe together we can find a solution to the plastic problem in the ocean."

If you were answering questions, please go back to [page 18](#).
If you were looking for plastic things at the beach, go to [page 24](#).

FUN FACT

Plastic waste in the water is harmful to living corals and destroys entire ecosystems, such as coral reefs.



AMAZING



You have cleaned up the river, helped the village and now know how you can help in everyday life.

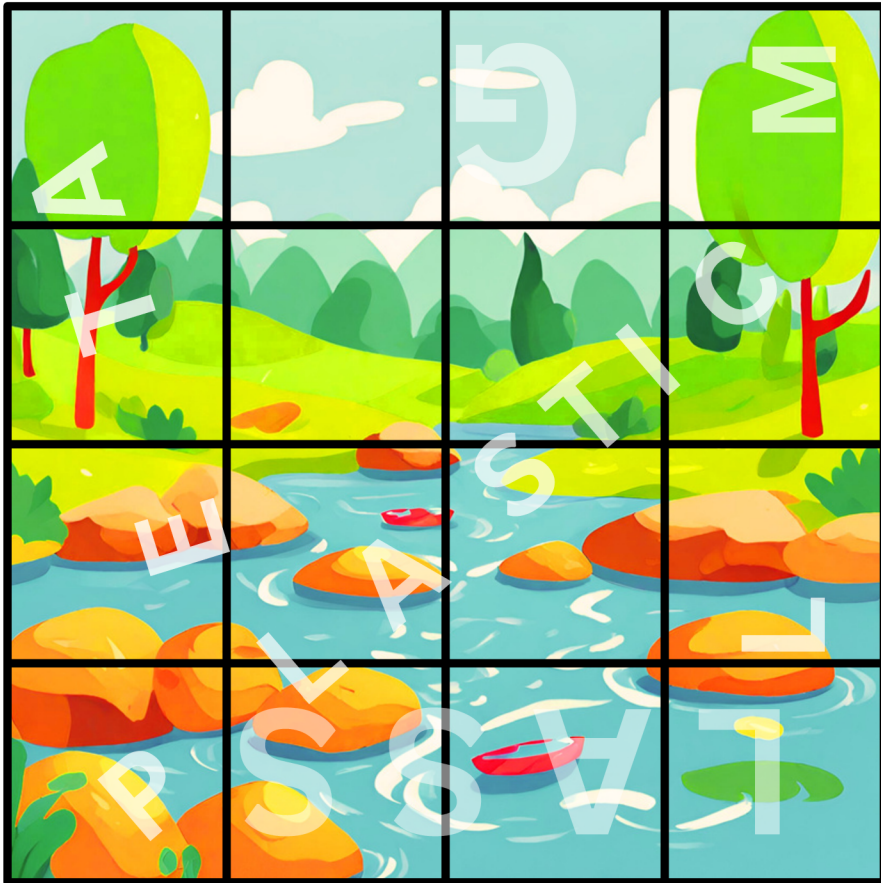
Your next mission: meet up with other children and discuss how to protect your environment. Together you will show the effects of environmentally harmful behavior and motivate people around you to choose a cleaner future.



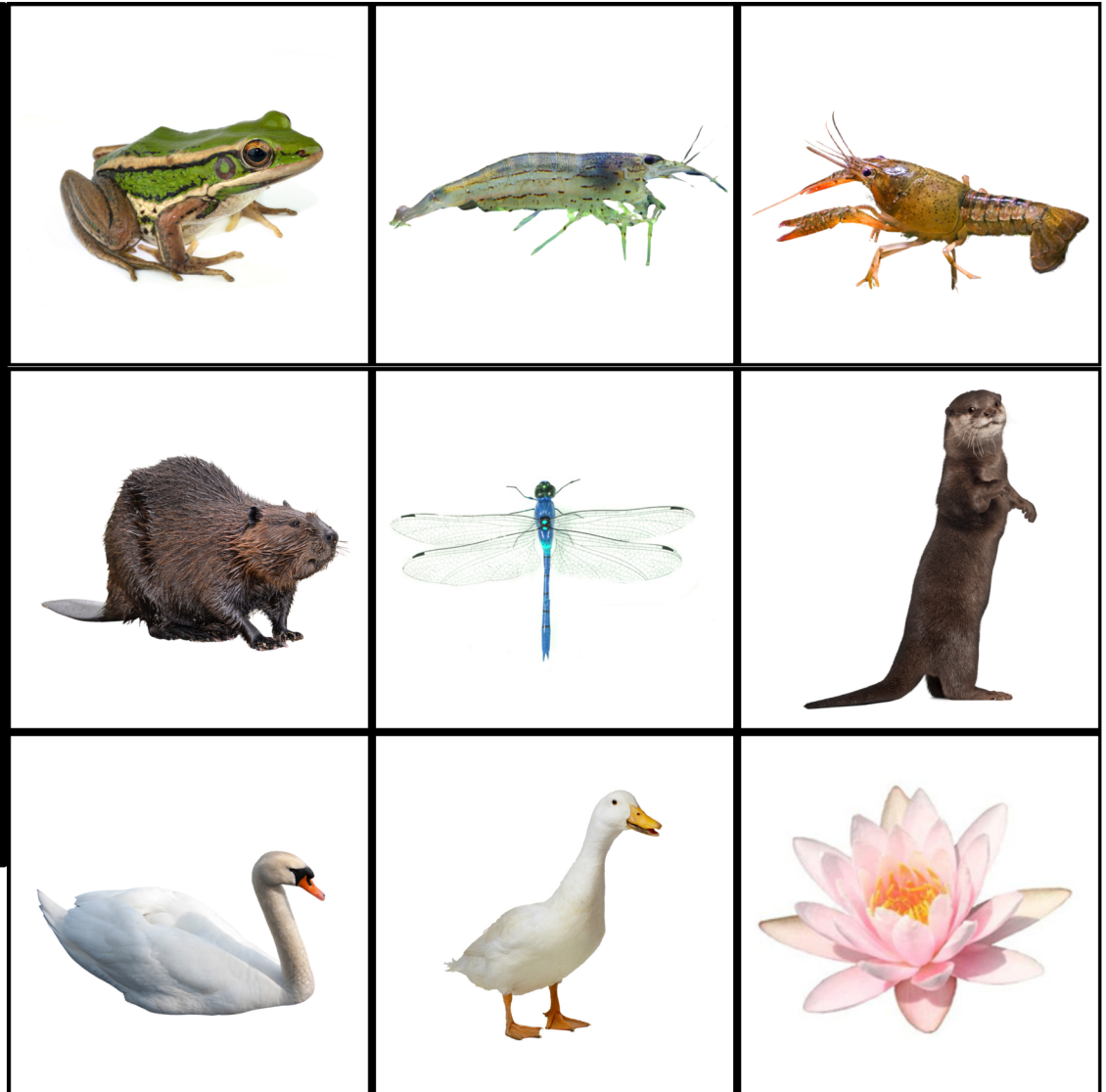
Please go to page 25 while waiting for the other groups.

Make one-sided prints of all the remaining pages.

Cut up this puzzle and put it into envelope A



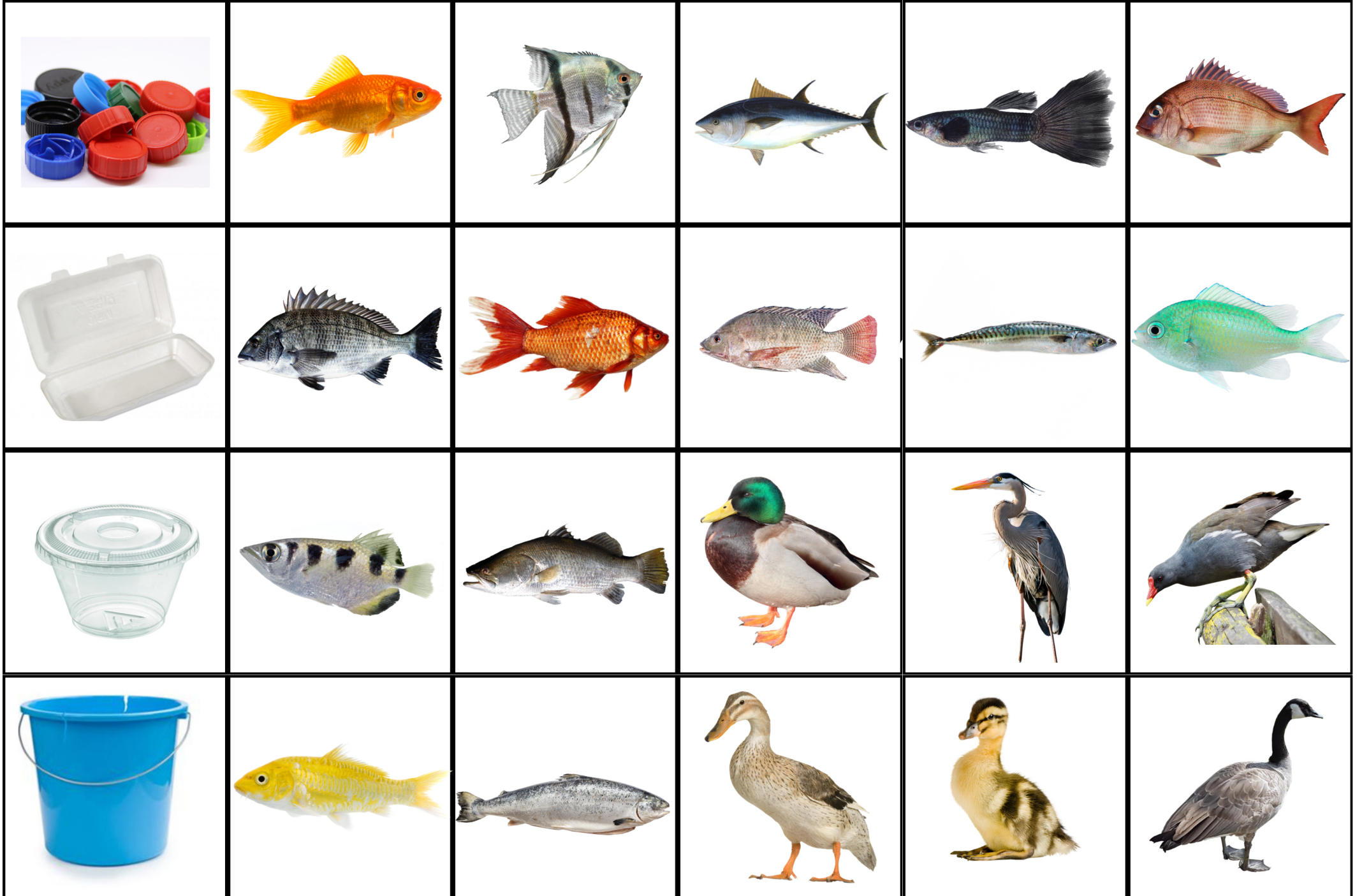
Cut up these items and put them into envelope B



Cut up these items and put them into envelope B



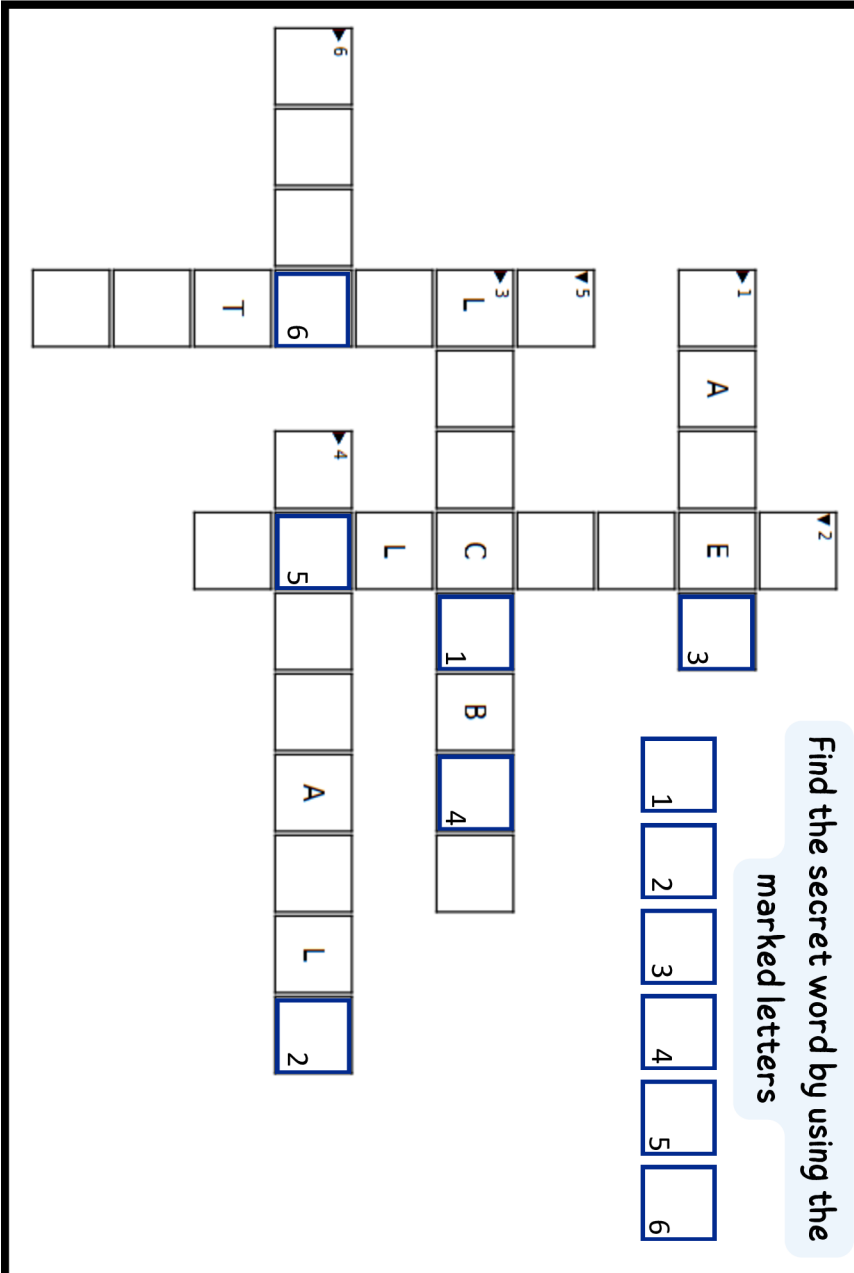
Cut up these items and put them into the envelope B



Cut out these cards and put them into envelope D

<p>1) What happens to plastic in the sea?</p>  <ul style="list-style-type: none"> <input type="radio"/> It turns into fish food <input type="checkbox"/> It turns into many very small 'micro' plastic particles <input type="checkbox"/> It disappears completely 	<p>2) Where does most of plastic in the sea come from?</p>  <ul style="list-style-type: none"> <input type="radio"/> Cruise ships <input type="checkbox"/> Fishing boats <input type="checkbox"/> From land, such as bottles, bags etc.
<p>3) How long does it takes for a plastic bottle to dissolve in water?</p>  <ul style="list-style-type: none"> <input type="radio"/> 10 years <input type="checkbox"/> 100 years <input type="checkbox"/> It never dissolves completely 	<p>4) What is the approximate size of the largest rubbish patch in the Pacific Ocean?</p> <ul style="list-style-type: none"> <input type="radio"/> The size of a soccer field <input type="checkbox"/> Three times the size of France <input type="checkbox"/> The size of a swimming pool
<p>5) Which animal often mistakes plastic bags for jellyfish and eats them?</p>  <ul style="list-style-type: none"> <input type="radio"/> Sea turtles <input type="checkbox"/> Sharks <input type="checkbox"/> Clownfish 	<p>6) How many seabirds (e.g. seagulls) have plastic in their stomachs?</p>  <ul style="list-style-type: none"> <input type="radio"/> None <input type="checkbox"/> A few <input type="checkbox"/> Half of all seabirds

Print this page everytime you play the game or laminate and wipe clean between each group!



Find the secret word by using the marked letters

Answer sheet

Question 1 : Question 4 :

Question 2 : Question 5 :

Question 3 : Question 6 :

Cut this puzzle card and place it in envelop C

Cut around the outside lines and fold where indicated by dotted lines.

Glue this side to the booklet.



16 puzzle pieces

Please put all the pieces back in the
envelope

Cut out and glue at the corresponding location in the booklet (A, B, C or D).

Cut around the outside lines and fold where indicated by dotted lines.

Glue this side to the booklet.



57 river items

Please put all the pieces in the envelope

Cut out and glue at the corresponding location in the booklet (A, B, C or D).

Cut around the outside lines and fold where indicated by dotted lines.

Glue this side to the booklet.



1 crossword card

Please put all the pieces in the envelope

Cut out and glue at the corresponding location in the booklet (A, B, C or D).

Cut around the outside lines and fold where indicated by dotted lines.

Glue this side to the booklet.



6 question cards
1 answer sheet

Please put all the pieces in the envelope

Cut out and glue at the corresponding location in the booklet (A, B, C or D).