RUBIO

The art of learning



OCEANOGRÀFIC
VALENCIA

EXCLUSIVE EDITION

Reading comprehension

+8 years

It belongs to .....



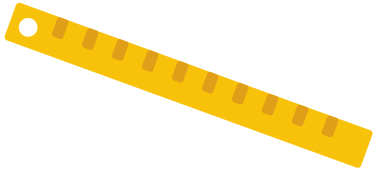
What do you know about sharks? Put your knowledge to the test and be amazed by this exclusive edition.

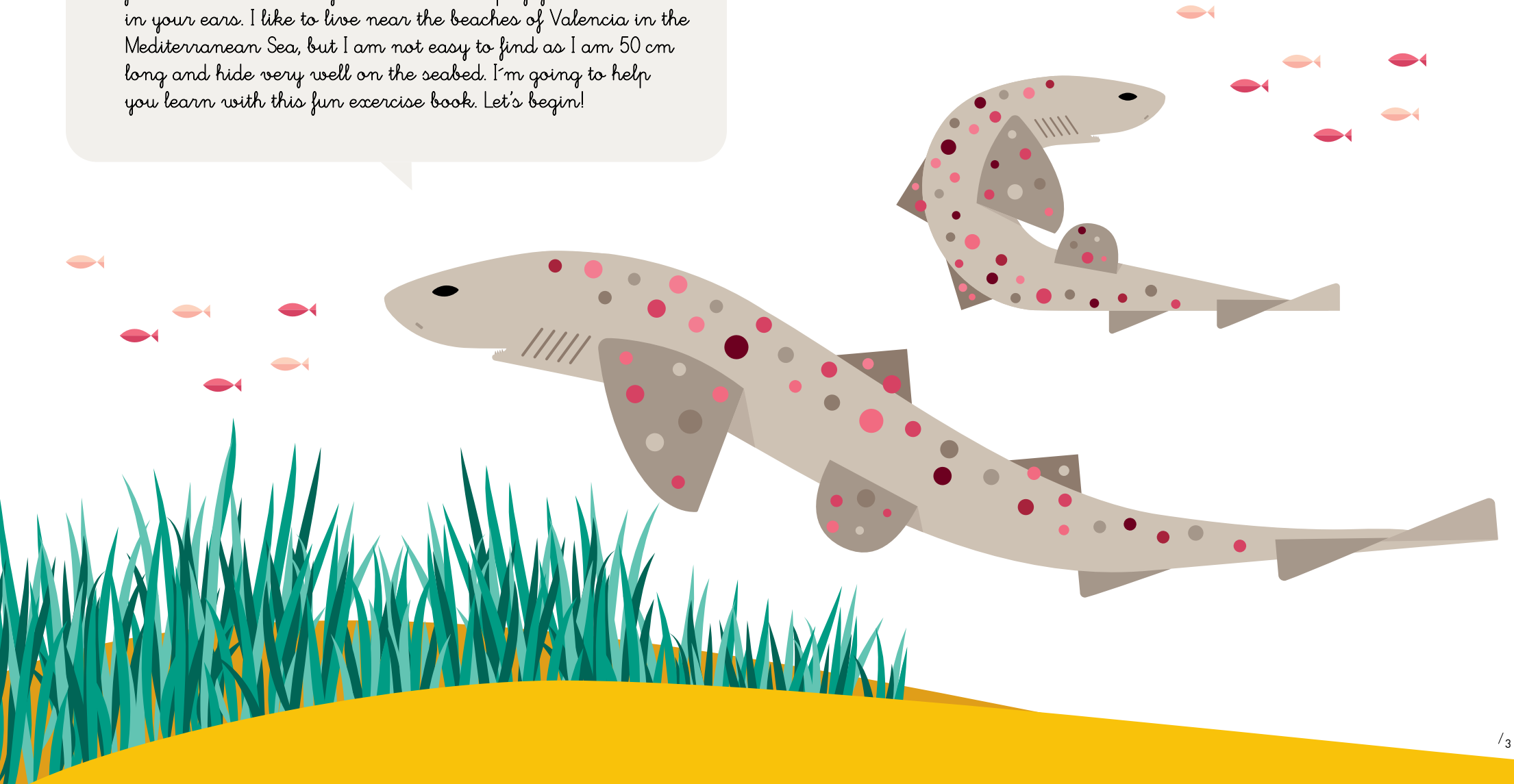
Learn by playing and become an Oceanogràfic professional of València.

Hello. I'm Pintoja Pintarroja, better known to my friends as the small-spotted catshark, because I have elongated eyes like felines. I am brown with reddish spots on my back. My skeleton is not made of bones, but of cartilage, like the flexible material that you have on the tip of your nose and in your ears. I like to live near the beaches of Valencia in the Mediterranean Sea, but I am not easy to find as I am 50 cm long and hide very well on the seabed. I'm going to help you learn with this fun exercise book. Let's begin!

RUBIO & OCEANOGRÀFIC / Sharks

▶ Check my size with a ruler. Take a ruler and see how long 50 cm is. That's how long I am!





What is a shark?

▶ Read this informative poster closely:



A shark is a fish with a cartilage skeleton that began to populate oceans over 400 million years ago. It is very old and appeared long before the first dinosaurs did.

Sharks breathe through gills and have 5 to 7 gill slits on both sides of their head.

They use their fins to swim. The pectoral fins on both sides of their body help them to turn. The dorsal fins on the upper part of their body allow them to stabilise themselves. The caudal fin on their tail allows them to propel themselves.

The organ that takes up the most space in their body is the liver, which helps them to float.

Their skin is hard. If you touch them anywhere from their tail to their head, they feel like sandpaper.

They have thousands of teeth throughout their lifetime, which are usually arranged in five disordered rows. They lose them when they feed, but they grow back.

▶ Choose the right answer to each question:

1. When did the first sharks appear?

- ☐ a. 400 million years ago before the first dinosaurs.
- ☐ b. 250 million years ago, like the first dinosaurs.
- ☐ c. 50 million years ago, when dinosaurs became extinct.

2. How many gill slits can a shark breathe through?

- ☐ a. From 1 to 2
- ☐ b. From 3 to 5
- ☐ c. From 5 to 7
- ☐ d. From 7 to 8

3. What are fins that allow sharks to stabilise themselves when swimming called?

- ☐ a. Caudal
- ☐ b. Dorsal
- ☐ c. Pectoral
- ☐ d. Pelvic

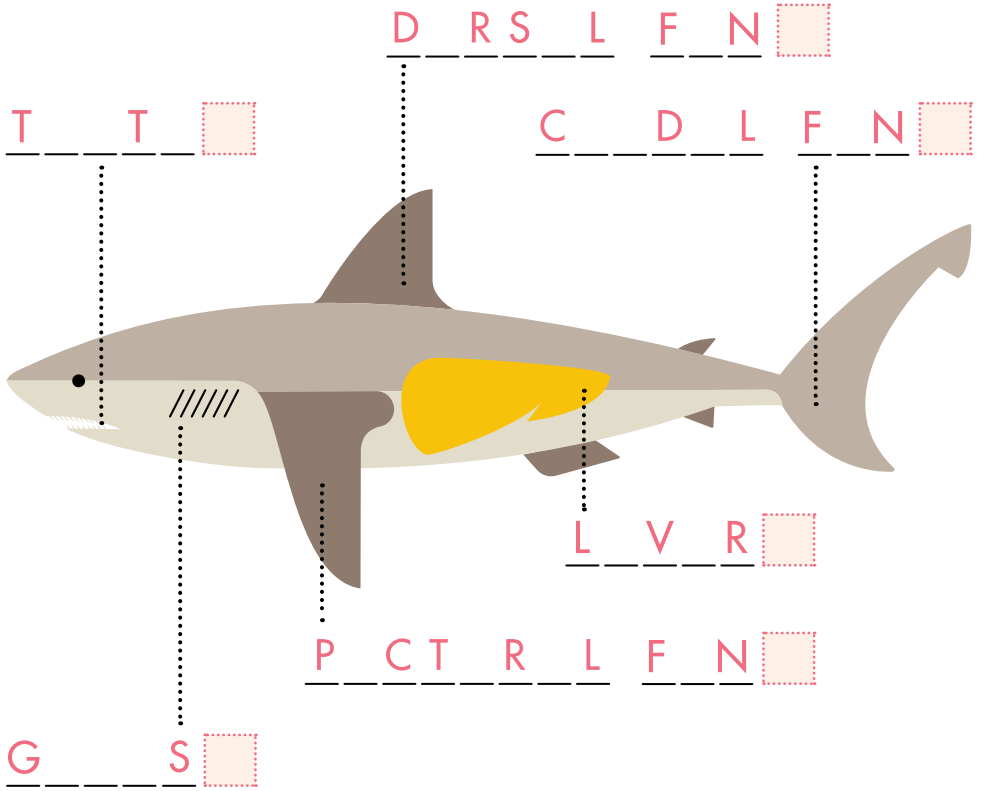
4. Which organ takes up the most space in a shark's body?

- ☐ a. Heart
- ☐ b. Stomach
- ☐ c. Kidney
- ☐ d. Liver

/5

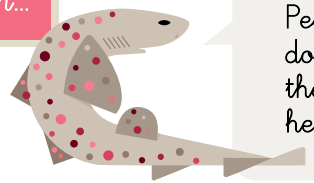
5. Write the name of each part of a shark in the corresponding place. Count the syllables of each word and indicate the number in the box.

SYLLABLE:
All the divisions forming a word.
FOR EXAMPLE: car-ti-lage has three syllables.



6. Draw a shark with each fin in its place.

Remember...



Pectoral fins help them to turn, dorsal fins allow them to stabilise themselves and the caudal fin helps them to propel themselves.

7. Look for two synonyms for the words in bold:

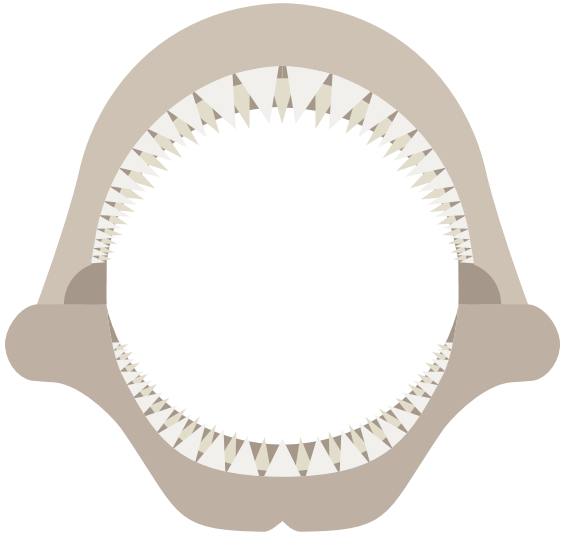
SYNONYM:
A word that has the same meaning as another word.

Rotate: .....

Stabilise: .....

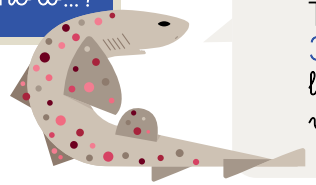
Propel: .....

8. Underline the characteristics that correspond to the description of a shark.



- gills
- fish
- mammal
- several rows of eyes
- cartilage skeleton
- lungs
- several rows of teeth
- bone skeleton

Did you know...?



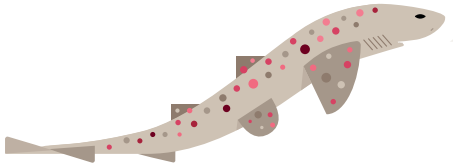
The lemon shark can produce 30,000 teeth throughout its lifetime because they fall out when it feeds.

9. Look for information on the lemon shark and write about the most surprising thing that you have discovered:

.....

.....

Did you know...?



Sharks use their liver to float, which is full of oil and fat. Although this helps them, they never stop swimming, not even to sleep, or they will drown.

10. Experiment to understand why a shark floats. Follow the steps and circle the result.

1 EQUIPMENT:

- $^1/_2$ glass of oil.
- $^1/_2$ glass of mineral water.

2 PROCESS:

Mix them.

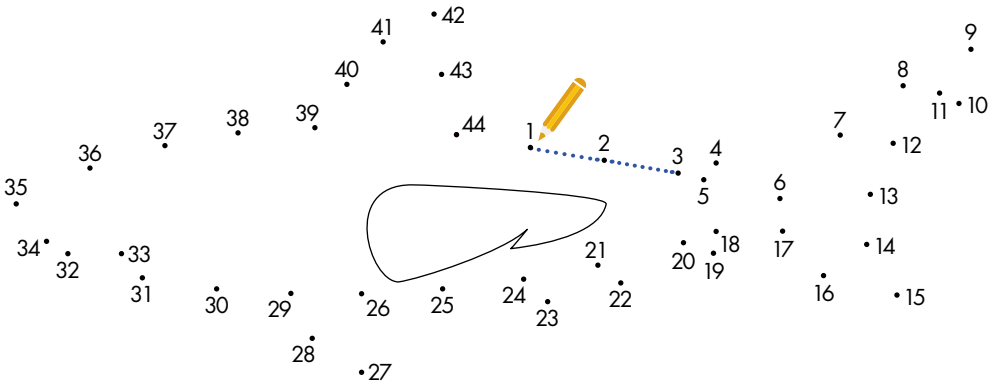


3 SOLUTION:

A. Does water sink?

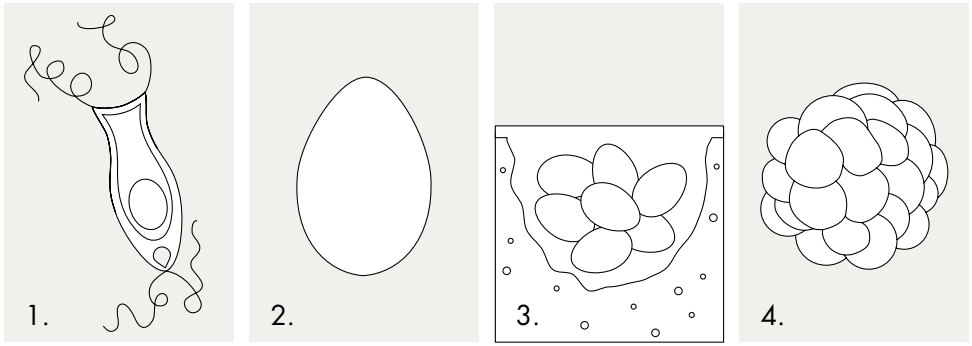
B. Does oil sink?

11. Join the dots.



Let's learn a bit more...!

12. Sharks can reproduce in three ways: one was is through eggs. Colour the shark egg.



13. Answer the questions to learn the other forms of shark reproduction.

a. What is the type of reproduction where mothers lay eggs called?

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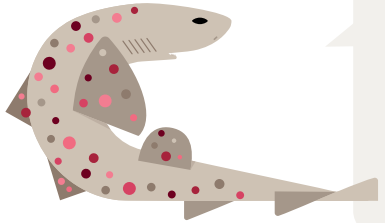
b. What is the animal reproduction, similar to humans, when a baby is formed in its mother's body called?

.....

c. If eggs break inside the mother's body, what is this type of reproduction called?

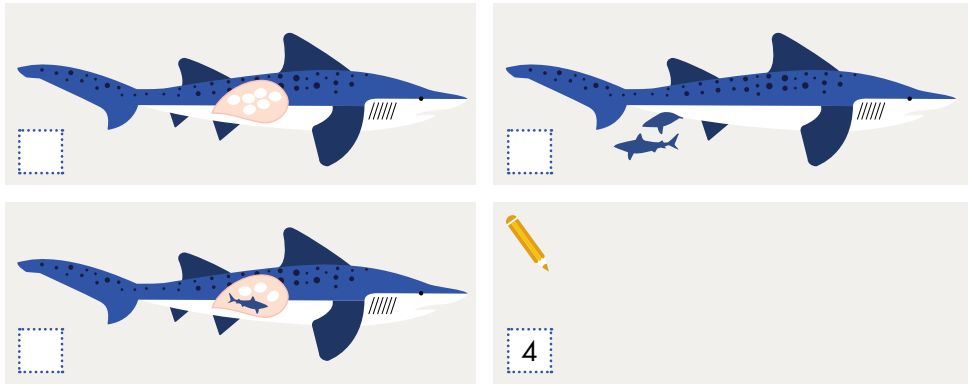
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Did you know...?

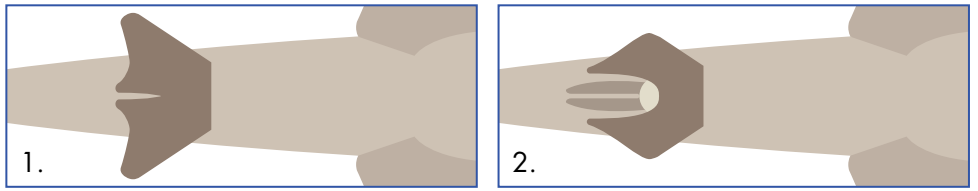


Bull sharks are ovoviviparous and keep the eggs inside the body of the mother. The two sharks born first eat the other eggs and continue their development, becoming strong. They will be the only ones born from the mother's belly. This process is known as intrauterine cannibalism.

14. List the bullet points of the comic following the *intrauterine cannibalism* process. Imagine what happens next and then draw the end of the story.



15. Sharks can be male or female. Circle the pelvic fin that you think belongs to a female shark.



Where do sharks live?

There are over 500 types of shark in the world, and they are found in almost all the world's oceans.

Some prefer cold polar waters, while others prefer warm tropical seas. Some choose deep seas, while others like to swim near the surface. Many live on coasts, while others live in open seas. The most unusual sharks even decide to approach lakes and rivers.



16. If you were a shark, where would you want to live? Explain why.

.....

.....

.....

.....

▶ Read the story about my friend Sailor Constantino and circle the names of all the shark species you find.

THE STORY OF SAILOR CONSTANTINO



This is the story of Sailor Constantino, who sailed the seas with a clear goal. He wanted to find a great treasure which he had heard was hidden under the sea.

On his long journey, Constantino saw different shark species in the water: a mako shark in trouble, a nurse shark with whiskers, a 2-metre grey reef shark and the famous 5-metre long white shark. He also saw sharks in the shapes of wild animals: a 1'5 metre long leopard shark, a tiger shark and a bull shark that was almost 3 metres long. He also discovered others shaped like objects, like a sawfish and a guitarfish. Constantino always asked them all the same question, and always received the same answer.

— Hello, Mr Shark, can you help me? I am looking for treasure and I can't find it.

— Hello, Seaman, I'll tell you. Do not look for gold or jewels. The treasure you seek is closer than you can ever imagine.

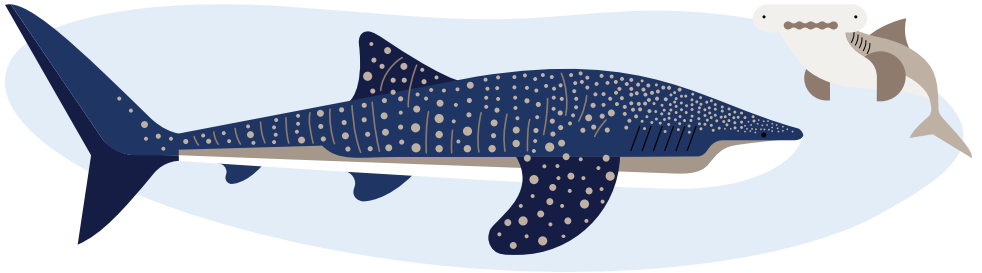
He could not understand this answer, but enjoyed his journey.



On his journey, he learned the differences between a manta and a ray. A manta's mouth is in front, between its two structures that look like horns. Rays, however, do not have these horns, and their mouth is next to their gills, on the lower section of their body.

He was also surprised to learn that the whale shark is as long as a bus (12 metres), can live over 100 years and feeds on plankton. He learned that people are, therefore, not on its menu, and that sharks are no danger to us.

He also lived an experience he would never forget. He helped a hammerhead shark that was in trouble. It could not see through one of its eyes because a piece of plastic had stuck over it. Constantino helped him to see again and learned a lesson. He realised that water was full of rubbish and thought that if humans stopped throwing rubbish into the sea, then animals would not face serious problems.



Finally, after all his experiences, Constantino understood the answer to his question. The treasure he was looking for was not gold or jewels, but something more valuable: the animals of the sea! Thanks to them, he understood the importance of protecting oceans so as to not lose the true treasure of the sea.

17. Can you see the punctuation mark in the text that represents dialogue between two people? Write it down here.

.....

18. Write the word from the family of words of the term SEA.

FAMILY OF WORDS:

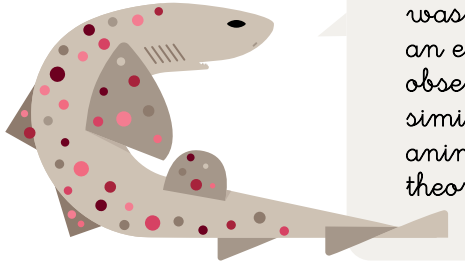
Terms taken from the same root with a related meaning.

FOR EXAMPLE: from the root SNOW, we have different words such as SNOWshoes, SNOWboard and SNOWstorm.

SEA: .....

.....

Did you know...?



There was a real person like Sailor Constantino. Charles Darwin was a naturalist who set sail on an expedition to travel the seas observing the differences and similarities between different animals. He also published his theory on how they evolved.

19. List some of the sharks you circled in the *The Story of Sailor Constantino* with these objects, colours and animals.

1 

..... shark.

2

..... shark.

3 

..... shark.

4 

..... shark.

5 

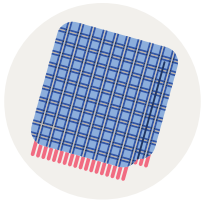
..... shark.

6 

..... fish.

7 

..... fish.

8 

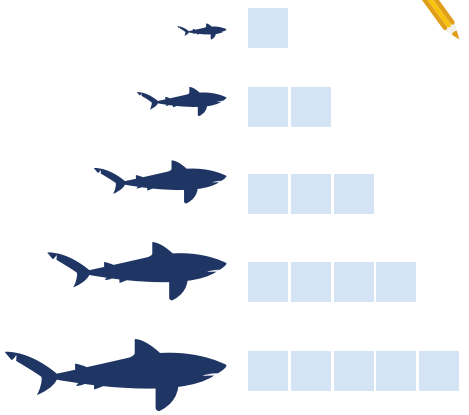
.....

9 

..... shark.

As you can see, the names of sharks are polysemic because one word can have different meanings.

20. Look for another player and play "Battleship". In this case instead of boats, you are looking for sharks. Look at the lengths of the sharks in the story and list them from the shortest to the longest in the boxes below.



Leopard shark: 1'5 m

.....

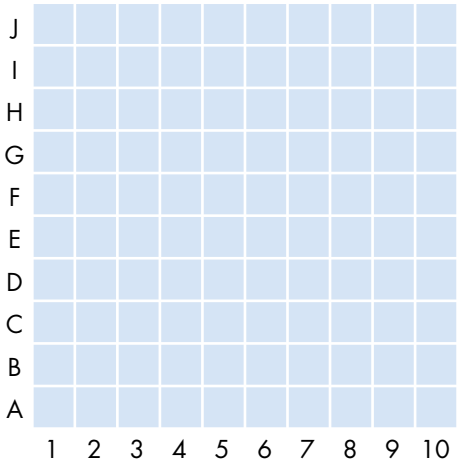
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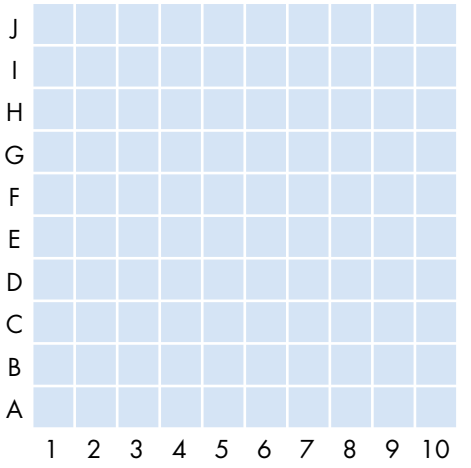
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Ready to play?

Draw your five sharks here:



Use this grid to guess the other player's:



How do sharks live?

A DAY IN THE LIFE OF A KEEPER

Many people work in an aquarium and care for animals. The Oceanogràfic shark aquarium is the largest in Europe. It has sand tiger sharks, sand bar sharks, nurse sharks and rays, among others. Do you want to know what a keeper does every day? Let's interview one.

INTERVIEWER: Good morning. What is the first thing you do when you get to work?

KEEPER: The first thing is to register and check that all the sharks are there.

INTERVIEWER: How do you identify each shark?

KEEPER: It's like being at school: we have one list per species with the name of each shark and the markings that differentiate it from the rest. For example, the large sand tiger shark is called Amparo. It is important to recognise them to check that they are eating and they take their medicine if they are unwell.



INTERVIEWER: I understand. Just out of curiosity, how many times a week do you usually dive in to feed a sand tiger shark? I imagine that with it being so large, it would need to eat a lot.

KEEPER: That's not the case. A few times a week is enough.

INTERVIEWER: What a surprise! People eat more often than them! In any case, there must be a risk of being bitten if you enter the water with food.

KEEPER: Well, it's a bit like me offering you the food you usually eat and you decide to eat the fork or my hand... It would be a bit strange, wouldn't it? We use a type of long metal prong to give them food and to stay alive. The shark is not as aggressive as people think.

INTERVIEWER: It's hard to believe. How do you stay under the water for so long?

KEEPER: We use a scuba diving suit and an air tank to breathe under water. When we clean the aquarium, we also spend a lot of time under water, which we couldn't do without this suit.

INTERVIEWER: Interesting! I would love to work here and care for sharks. Thanks to the animals that live in the aquarium, we can learn more about them.

KEEPER: Of course, all the information is used by scientists to improve the lives of sea animals. I'm glad that you like my work. I hope you have a good day learning at the Oceanogràfic.

INTERVIEWER: Thanks very much for your time.

21. Circle the punctuation marks in the interview.

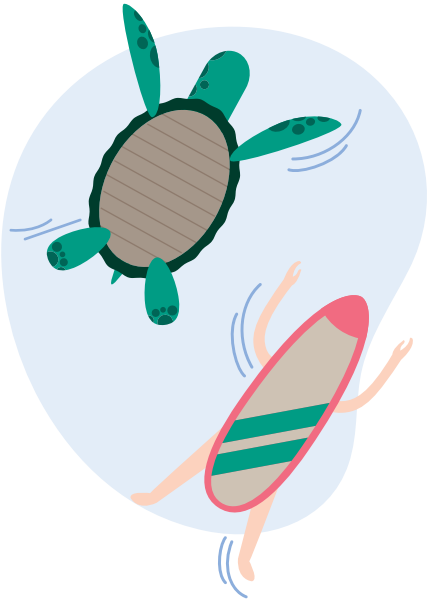
PUNCTUATION MARKS:
Symbols used in texts to give the appropriate oral intonation.
FOR EXAMPLE: *full stop (.), comma (,), exclamation mark (!), question mark (?)...*

22. Now read the interview with the intonation of dialogue.

▶ Is it difficult for you to believe, like it was for the interviewer, that sharks are not as aggressive as people think? Read this text closely and discover why.

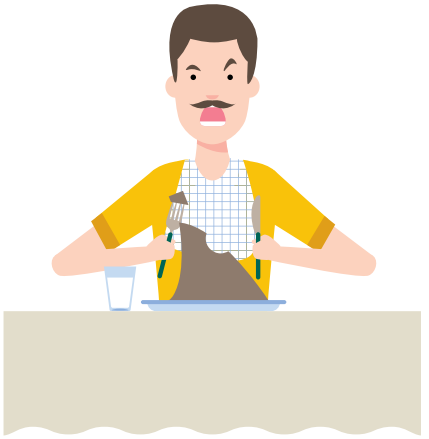
THE BAD GUYS

Have you ever seen a film with a shark in it? Are they usually the good guys or the bad guys? Humans think that they are not only bad in films, but also in real life. However, it is not as dangerous as believed. You are more likely to be struck by lightning than being bitten by a shark. Sharks feed on fish, seals and turtles, etc. Near beaches, they rarely confuse a swimmer or surfer with their prey.



DO YOU KNOW ABOUT THE *FINNING*?

It consists in cutting the fins off a shark and throwing their body back into the sea. Do you think that a shark can survive in the sea without its fins? Millions of sharks die every year from this, and some species disappear. Why do people want fins?



Some people use them as an ingredient to make shark fin soup in restaurants. Would you order this dish to eat?



▶ Explain your answer here:

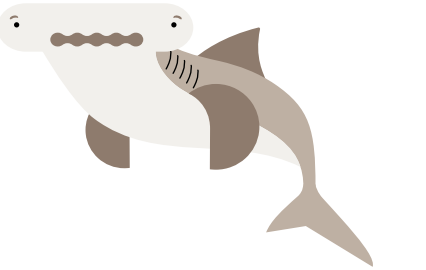
.....

.....

23. Look for threats to sharks in this word search:

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

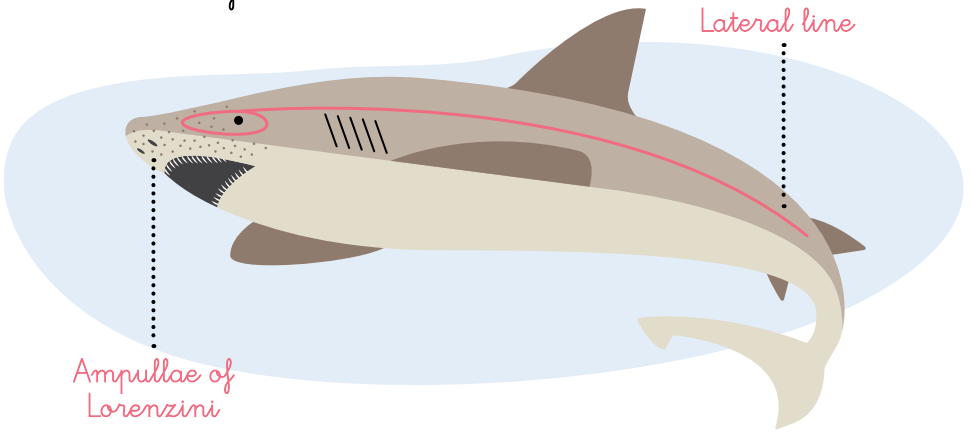
FINNING
FISHING
POLLUTION
NETS
PLASTICS



▶ Read the following text and answer the questions:

THE SEVEN SENSES OF SHARKS

Despite everything you already know about sharks, some people believe that they are more dangerous than people because they have a powerful sense of smell. However, they do not only use their sense of smell to look for food, but to also flee from their enemies or to reproduce. In addition to smell, their other senses are highly developed. They can see, taste, touch and hear. They also have a sixth and seventh sense. Do you want to know what they are?



One is on the lateral line, which allows them to detect movements in the water from long distances. The other is the receptors located around their head, used for finding prey that is buried or hidden in turbid waters.

Although sharks appear to be merciless animals, they have enemies out at sea that wish to eat them. Eating and being eaten form part of the food chain as they depend on each other to survive. These enemies are natural, but many of the threats that sharks face are caused by human beings.

24. Who is the true enemy of the sea: sharks or people?

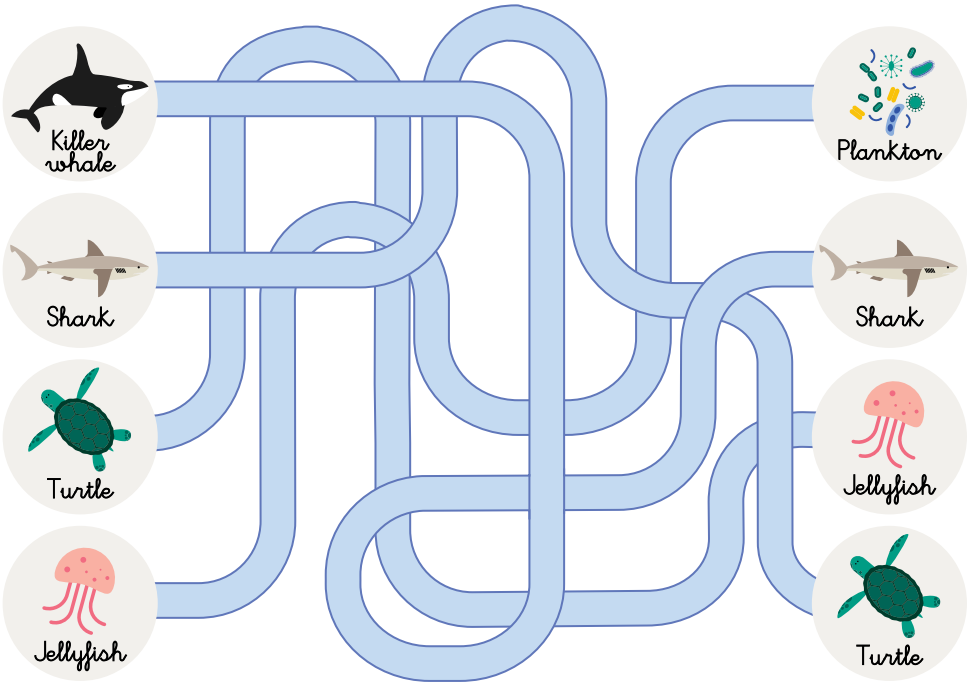
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25. What do you think you can do to stop being a shark's enemy?

.....

.....

26. Who eats who?



The 3 Rs: Reduce, Reuse, Recycle

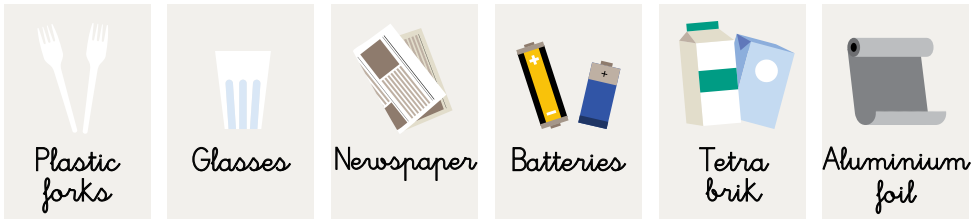
What do you do to recycle?

▶ We must reconsider how we act and how those around us act.

27. Match the waste and its bin using arrows.

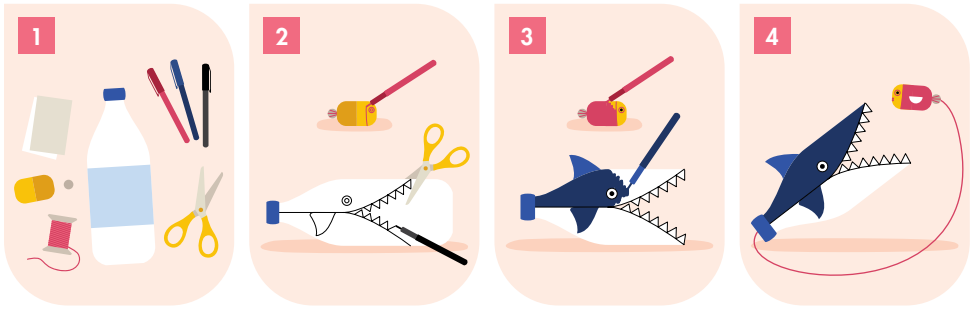






What do you do to reuse?

28. Make toys by reusing materials. Be creative and let your imagination run wild.



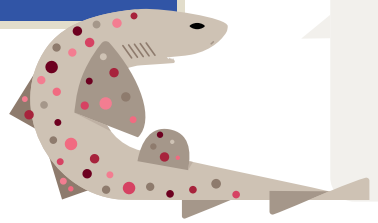
What do you do to reduce?

▶ Try using these materials less. For example: instead of taking a plastic bottle of water to school, use a canteen.

29. What else can you do?

.....

Did you know...?



We can participate in the elimination of waste on our beaches by helping to clean the beach. If you protect the sea, you will be protecting sharks.

30. Do you know how long rubbish takes to disappear from the sea? Days, months, years? Look online and estimate a time for each case.


Paper tissue .....

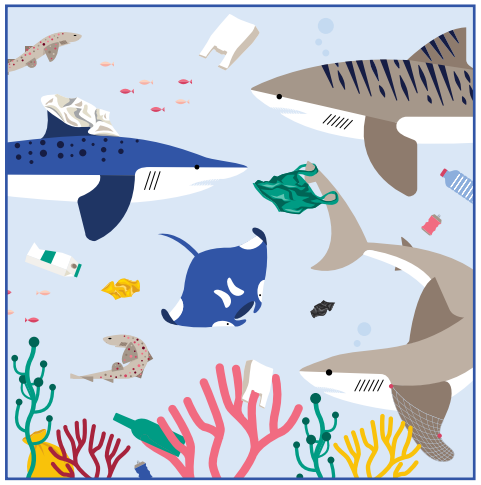
Plastic bags .....


Plastic bottles .....


Chewing gum .....


Tetra brik .....

31. Identify the rubbish in the sea and find the 8 differences between both pictures.





Answers

Page 5

1. a.
2. c.
3. b.
4. d.

Page 6

5. Teeth (1)
Dorsal fin (3)
Caudal fin (3)
Gills (1)
Liver (2)
Pectoral fin (4)

Page 7

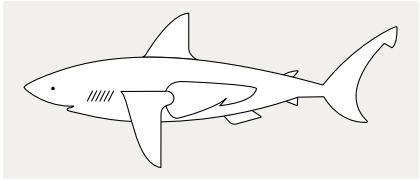
6. Personal activity.
7. Turn: rotate, twist; Stabilise: balance, settle; Propel: push, drive.

Page 8

8. Several rows of teeth, fish, gills, cartilage skeleton.
9. Personal answer.

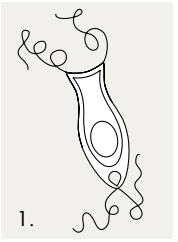
Page 9

10. B. The oil inside their liver allows them to float in water, a bit like the glass in your experiment.
11. The drawing should look like this:



Page 10

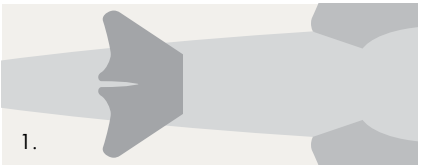
12.



13. a. Oviparous.
b. Viviparous.
c. Ovoviviparous.

Page 11

14. 1, 3, 2, 4.
15.



Unlike males, the pelvic fins of females cannot be seen at a glance as they are rolled and elongated.

Page 12

16. Open answer.

Page 13

Sharks that you found in the story of sailor Constantino: mako shrak, nurse shark, grey reef shark, white shark, leopard shark, tiger shark, bull shark, sawfish, guitarfish, manta, ray, whale shark and hammerhead shark.

Page 15

17. The dashes.

18. Seaman, seabed, seafood.

Page 16

19. Grey, white, leopard, tiger, bull, saw, guitar, manta, hammer.

Page 17

20. Leopard shark: 1'5 m.
Grey reef shark: 2 m.
Bull shark: 3 m.
White shark: 5 m.
Whale shark: 12 m.

Page 19

21. In the interview, circle the full stops (.), commas (,), colons (:) exclamation marks (!) and question marks (?)

22. Personal activity.

Page 21

▶ Personal answer. After reading, we must know that we should not ask for shark soup because millions of sharks die to make this soup and many shark species are disappearing.

23.

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

Page 23

24. People.

25. Personal answer.

26. The orca eats the shark, the shark eats the turtle, the turtle eats jellyfish and jellyfish eats plankton.

Page 24

27. Packaging: bags, tins, forks, tetra brik and aluminium foil.
Paper: newspapers.
Glass: bottles and glasses.
Resto: cigarette ends.
Clean point: batteries, nets and hooks.

Page 25

28. Personal activity.

29. Personal answer.

Page 26

30. Paper tissue: 2-3 months.
Plastic bag: 100-150 years.
Plastic bottle: 450 years.
Chewing gum: 5 years.
Tetra brik: 30 years.

31.



180 *sharks* DIE EVERY MINUTE from *human* ACTIVITIES

ONLY FIVE LETHAL ACCIDENTS CAUSED BY SHARKS TAKE PLACE EVERY YEAR



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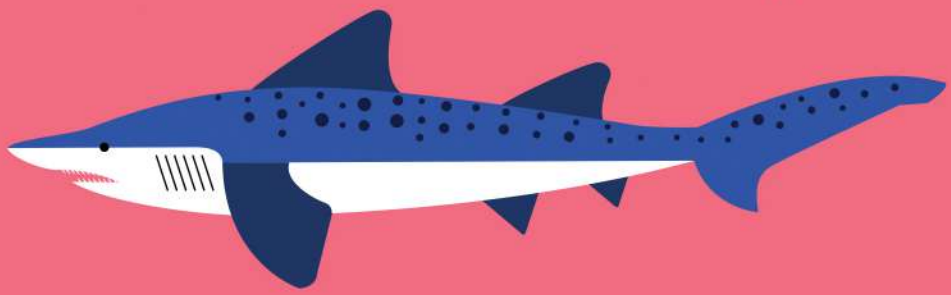
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READING COMPREHENSION / SHARKS

- Oceanogràfic of València and RUBIO have worked together to create this unique and specially edited notebook. The objective is to ensure the reading skill, and the important point is how we go about it: getting to know mysterious sharks well.

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  - Social and civic skills.
  - Awareness and cultural expressions.



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