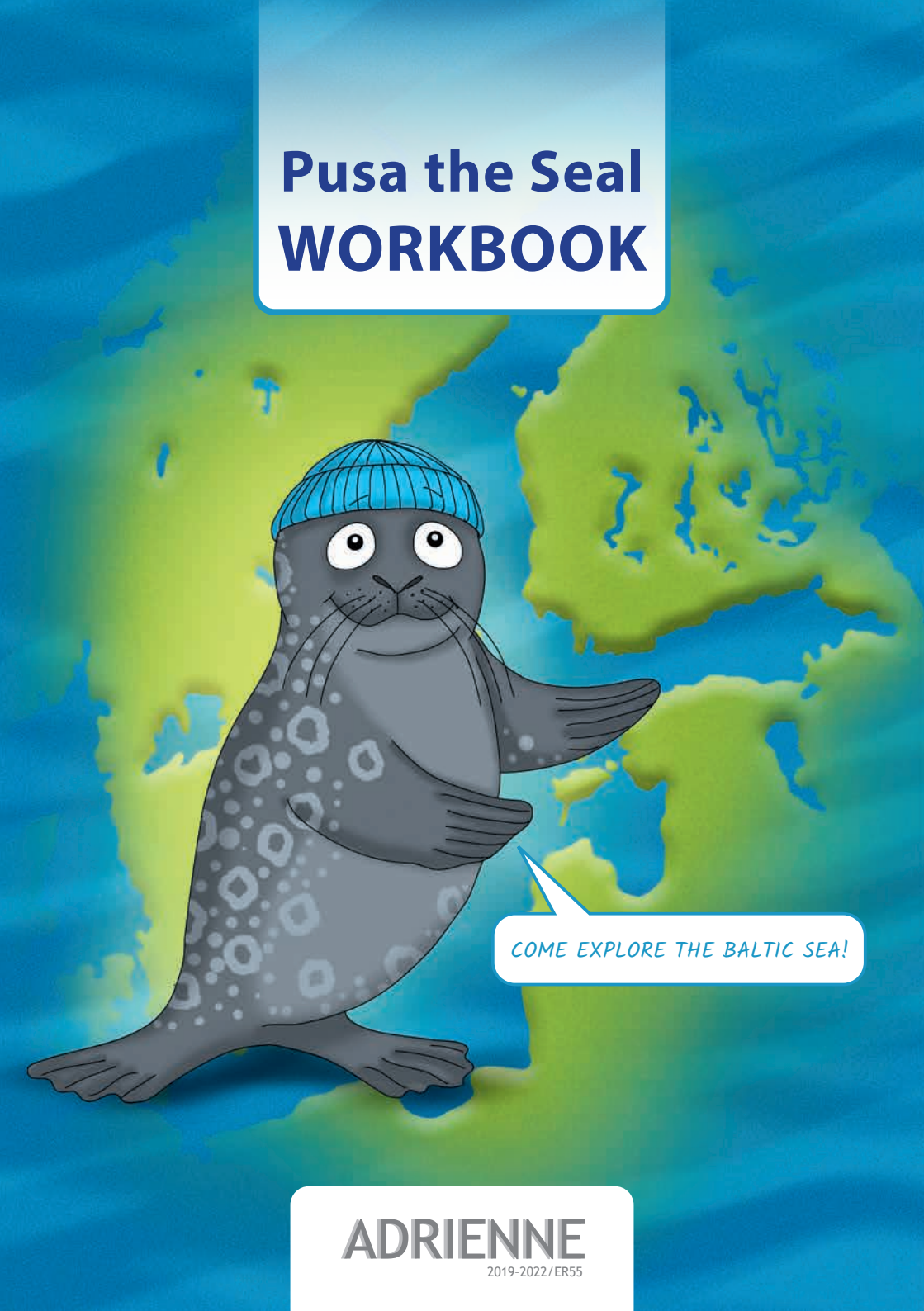
Pusa the Seal
WORKBOOK



ADRIENNE
2019-2022/ER55

Task. How far from the sea do you live?

My name is _____

I live in _____,

which is _____ **km from the sea.**

We live by a special sea – the Baltic Sea. Estonians call it Läänemeri, the **West Sea**. But did you know that the Swedes, Finns, Danes, and Germans call this sea the **East Sea** instead? Or that Latvians, Lithuanians, Poles, and Russians also call it the **Baltic Sea**? A precious child has many names, but the different names of this sea seems to depend on from where you are looking at it.

The Baltic Sea is connected to the salty North Sea and the Atlantic Ocean by the Danish Straits. However, this connection is very narrow, and the water exchange is poor, which is why the Baltic Sea is called an internal sea.

We live by the easternmost part of the Baltic Sea – the Gulf of Finland. While there are a total of nine countries by the Baltic Sea, there are three by the Gulf of Finland – Estonia, Russia, and Finland.

Task: Write the name of the country next to each national flag.

SALINITY

The Baltic Sea is the largest brackish waterbody in the world, meaning it is much less salty than the ocean. The farther from the Danish Straits and the ocean, the fresher the water of the Baltic Sea becomes. Many large rivers carry a lot of fresh water to the Baltic Sea. Salt water flows into the Baltic Sea only from the North Sea – through the Danish Straits.

Different organisms live in places with different salinity. For example, a starfish needs saltier water and therefore does not live in the Gulf of Finland. Edible mussels can be found in Estonian waters, but due to the low salinity here, they are much smaller than their relatives in the salty North Sea.

You may have noticed that swimming in a lake or a river is more difficult than in the sea. Seawater is salty and this salty water carries your body easier than freshwater does. For example, in the saltiest waterbody in the world, the Dead Sea, you do not have to do anything – the salt water makes it incredibly easy to float.

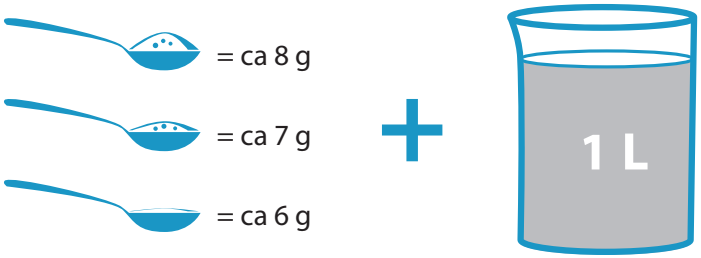
Task. Find the sea creatures on the sticker sheet and place them onto the correct spot.

HOW SALTY ARE THE WATERS OF DIFFERENT SEAS?

The salinity of seawater is measured in parts per thousand (per mille), which shows how much salt the seawater contains.

1 per mille = 1 gram of salt per 1 litre of water.

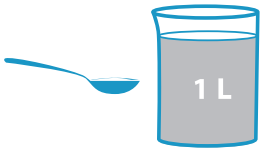
- Take table salt, water, a teaspoon, and one or more 1-litre containers.
- Take 1 litre of tap or well water and start adding salt



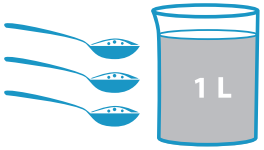
Taste the water with your tongue. Do you notice the difference in salinity?

1. **RIVERS AND LAKES:** do not add salt.

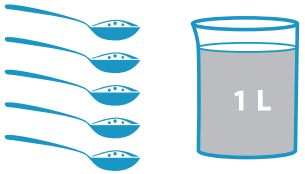
2. **BALTIC SEA WATER IN ESTONIA** (6 per mille)**:** dissolve 1 teaspoon (approximately 6 g) of salt in 1 litre of fresh water.



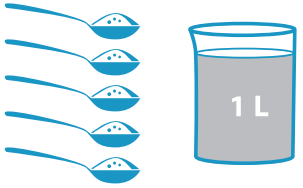
3. **BALTIC SEA WATER IN DENMARK** (20 per mille)**:** dissolve 3 teaspoons (approximately 20 g) of salt in 1 litre of fresh water.



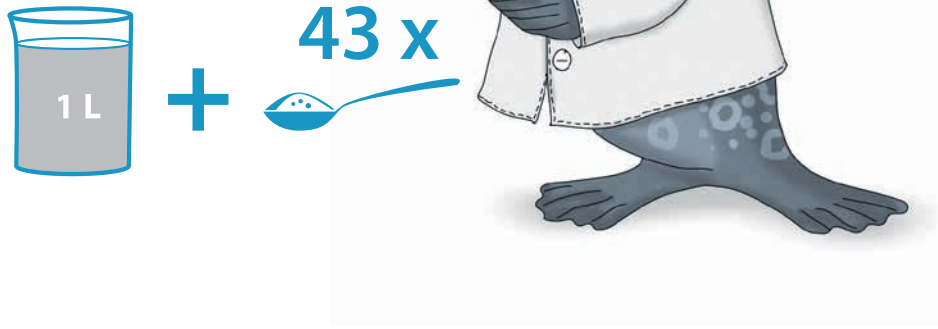
4. **THE OCEAN** (35 per mille)**:** dissolve 5 teaspoons of salt in 1 litre of fresh water.



5. **THE MEDITERRANEAN SEA** (38 per mille)**:** dissolve 5 big heaped teaspoons of salt in 1 litre of fresh water. Can you taste the difference with the Baltic Sea water?



THE WORLD'S SALTIEST WATER IS IN THE DEAD SEA - 342 PER MILLE. THIS IS EQUAL TO 43 BIG HEAPED TEASPOONS OF SALT PER A LITRE OF WATER.

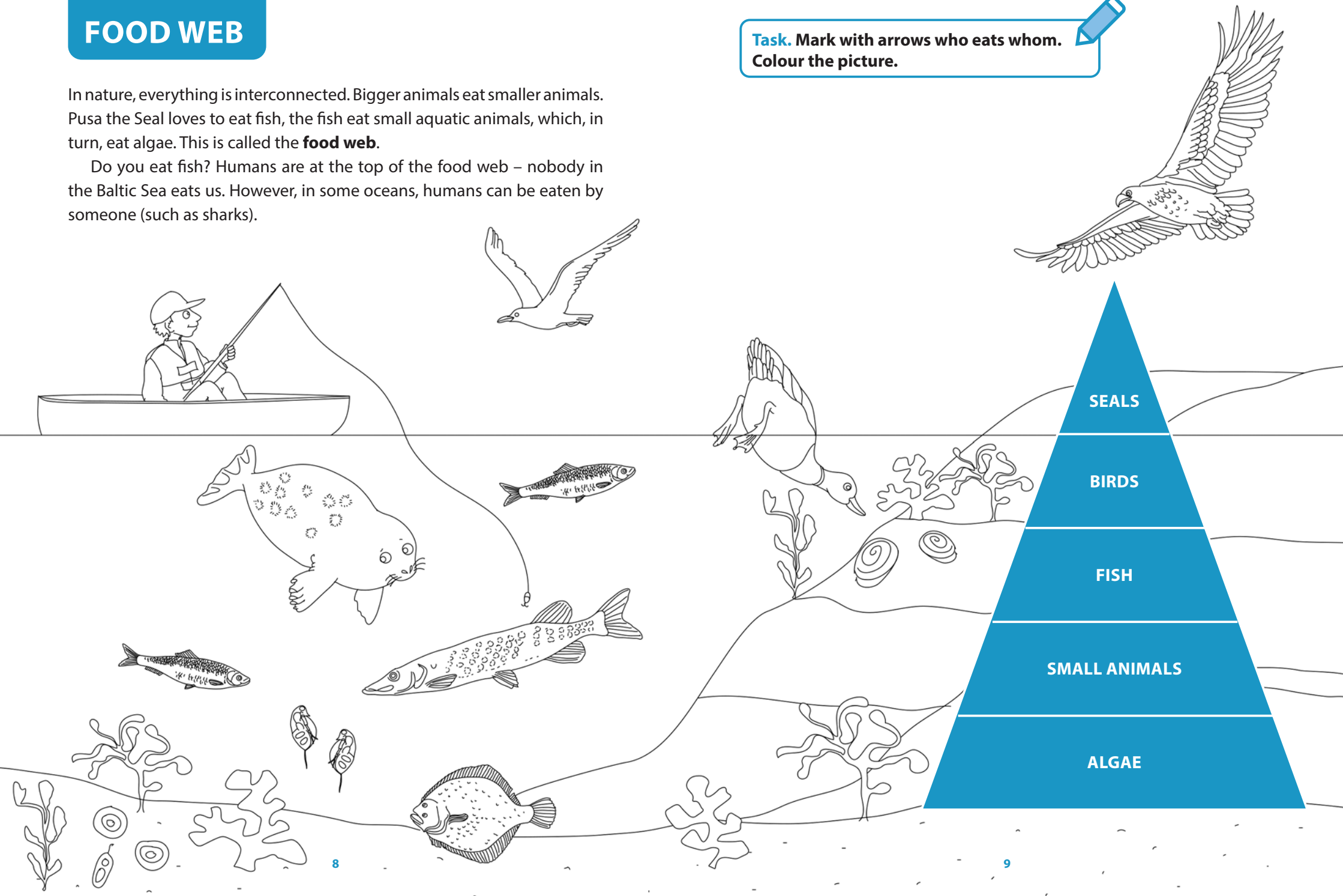


FOOD WEB

In nature, everything is interconnected. Bigger animals eat smaller animals. Pusa the Seal loves to eat fish, the fish eat small aquatic animals, which, in turn, eat algae. This is called the **food web**.

Do you eat fish? Humans are at the top of the food web – nobody in the Baltic Sea eats us. However, in some oceans, humans can be eaten by someone (such as sharks).

Task. Mark with arrows who eats whom. Colour the picture.

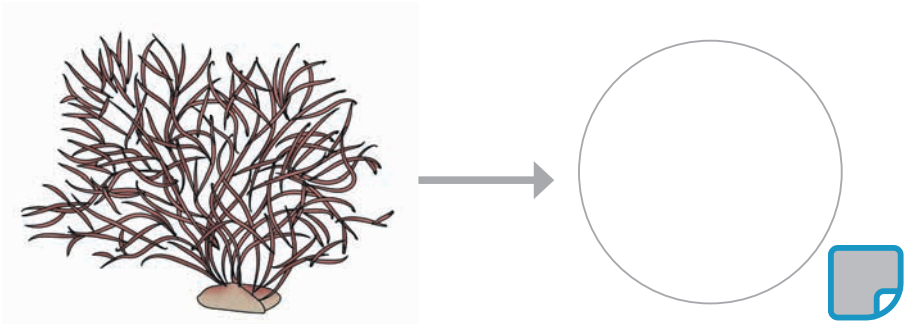


THE SEA IN OUR LIFE

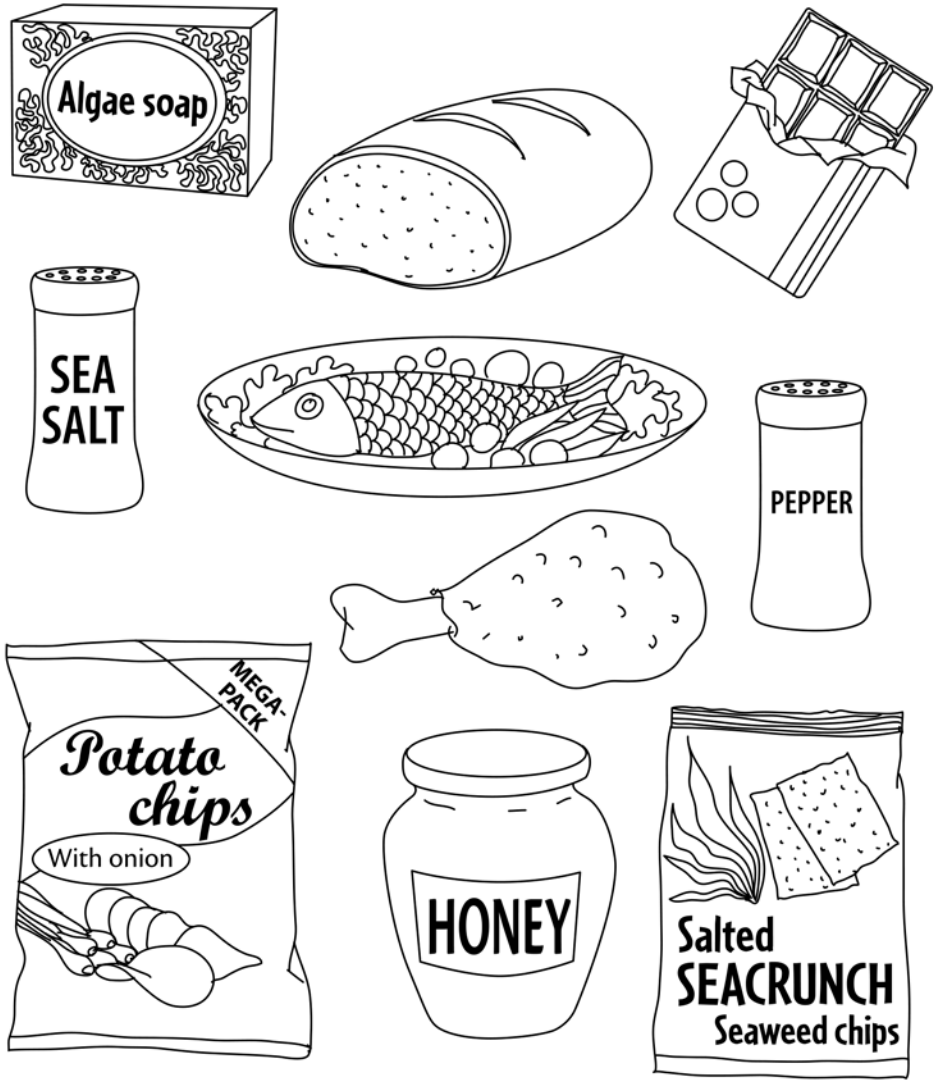
The importance of the sea is difficult to overestimate. The sea provides humans with food. Fish contain many useful and valuable vitamins that help us grow and become stronger. Thursday is called Fish Day, for example, the day when a variety of fish dishes are served in kindergartens or schools.

In southern countries algae, oysters, crabs, octopuses and other seafood is also eaten, but none of these organisms live in the Baltic Sea.

- **Did you know that we need algae to harden jelly candy?** We can use our own algae – Clawed fork weed (*Furcellaria*).



Task. Colour those products which are made with the help of the sea.



THE SEA IN OUR LIFE

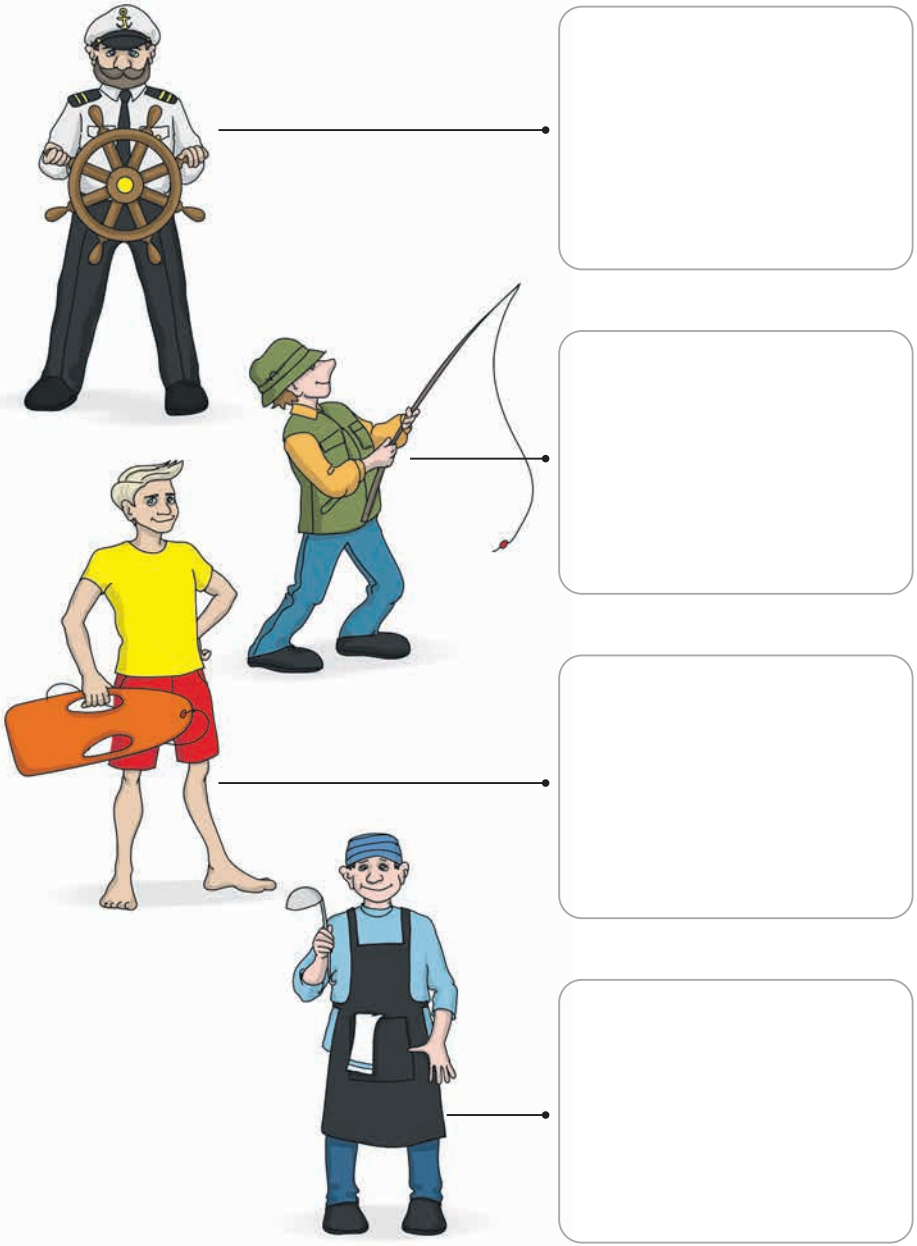
Thanks to the sea, we can discover foreign lands like the first explorers once did, as well as transport goods and people. Have you taken a ferry to Saaremaa or a ship to Finland?

The sea provides jobs and food for many – sailors, fishermen, fish farmers, divers, food producers, and others. People go on vacation by the sea.

We make various products from marine organisms, for example, your soap or your mother's hand cream may contain algae.

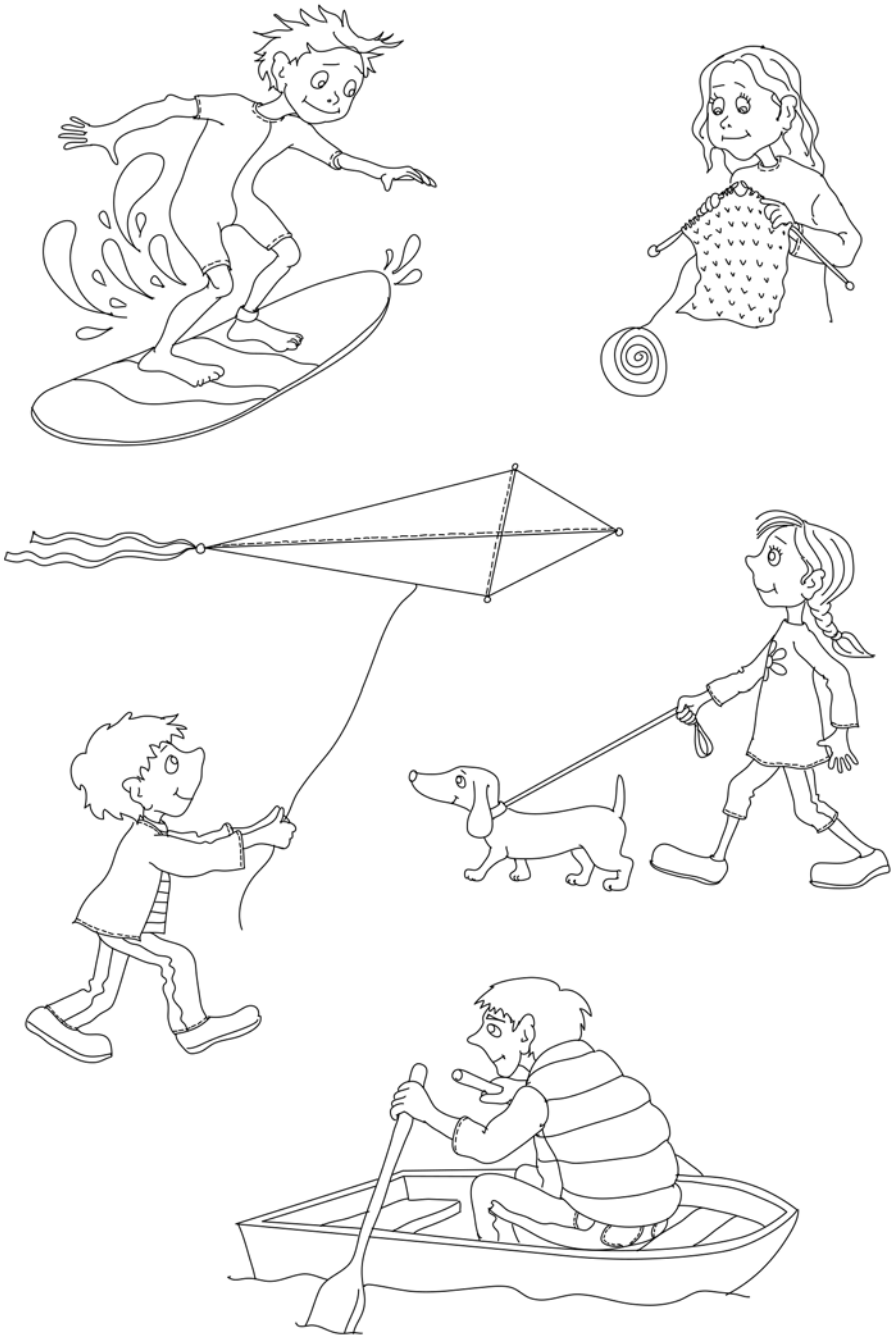
Task. Make a decoration for your home. Collect beautiful rocks and seashells from the beach. Put them in a glass jar. You can also make beautiful jewellery from seashells or stones with holes in them.

Task. Find the sticker for each profession on the sticker sheet and place them onto the correct spot.



THE SEA IN OUR LIFE

Task. **Colour the activities that are related to the sea.**

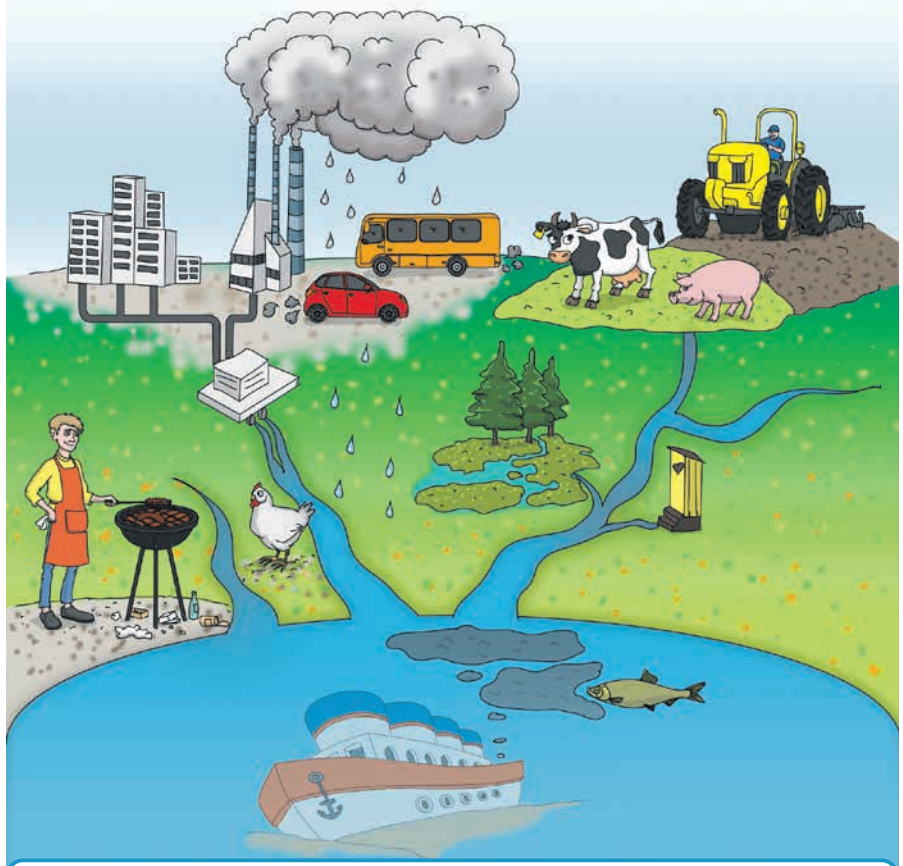


CATCHMENT AREA

The catchment area is the part of the land from which the water body receives its water. The water in the catchment area flows downwards, which means that rain first reaches ditches, from them flows into rivers and lakes, from them into larger rivers, and finally into the sea. **The catchment area of the Baltic Sea is about 5 times larger than the sea itself.**

Unfortunately, the water from the catchment area also carries different pollutants into the sea. For example, if too much fertiliser is used in a field, the plants will not be able to use it all, and the extra will be carried by the rain into rivers and from the rivers into the sea. This fertilizer causes excessive plant growth in waterbodies, algal blooms, reduced water transparency and other problems for aquatic life.

Wastewater from urban and industrial wastewater treatment plants also flows into the sea. Shipping accidents may cause oil spills, which kill marine life and birds.



When you are walking outside, you are actually walking in a catchment area! So do not litter – your trash will end up in the sea and become marine litter.

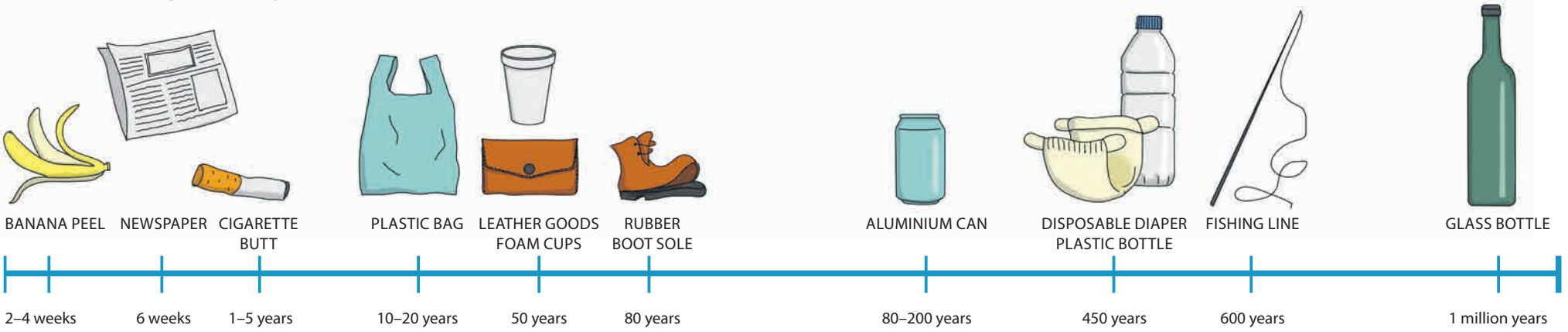
MARINE LITTER

Marine litter is a major environmental problem in the world. Fortunately, the situation in the Baltic Sea is currently not very bad. Waste and harmful substances end up in the sea and on the coast from ships and river basins. For us, it simply looks ugly, but for aquatic life it is dangerous. Marine animals may get stuck in the litter or think that small pieces of waste, such as plastic particles, are food and eat it. Unfortunately, the ingested pieces of litter can be toxic to them and when swallowed these pieces enter the food web, which means that we might end up eating them, too. This does not mean that we should not eat fish – after all, the fish is prepared before we eat it.

Task. See how much litter you can find on a 100-metre stretch of beach. If you find less than 20 litter items, it indicates a good environmental status. If 100 metres is too long, see how much you can find in 10 metres. You should not find more than 2 items. Pick up the trash you find and throw it in the trash bin, so you make the beach cleaner! I suggest you wear gloves for this!

IF YOU HAVE A PICNIC BY THE SEA OR GO SUNBATHING, TAKE YOUR RUBBISH WITH YOU AND THROW IT IN THE TRASH CAN INSTEAD OF LEAVING IT ON THE BEACH.
ALSO LETTING GO OF BALLOONS IS NOT A GOOD IDEA BECAUSE THEY TURN INTO PLASTIC WASTE.

HOW LONG DOES IT TAKE FOR WASTE TO DECOMPOSE IN THE ENVIRONMENT?



TAKE CARE OF THE SEA!

WHAT CAN I DO TO PROTECT THE MARINE ENVIRONMENT?

Although the sea is large and wide, we can start protecting it in small steps. You can also help. The sea and the coast, and really the entire natural environment, are home to someone. We also live here. We must protect our home to ensure we can all live here.

People have the greatest impact on the environment through their consumption. Try to buy fewer things because producing and transporting them from one end of the world to another produces harmful greenhouse gases. Climate-friendly people use their items for as long as possible and do not consume disposable products. They prefer walking, cycling or public transport wherever possible. You should also save electricity – for example, when you leave the room, turn off the lamp and turn off devices that you are not currently using (do not leave them in sleep mode). Even taking only as much food as you will eat will reduce waste and help the environment.

- Choose local goods – this way, you support the local producer and in addition, the transport costs of these products are lower. This helps to save the environment.
- When you go to the store, try to find products that have an eco-friendly label – this means they are environmentally friendly products. There are many different eco-friendly labels and they are also different in different countries.

EU Ecolabel

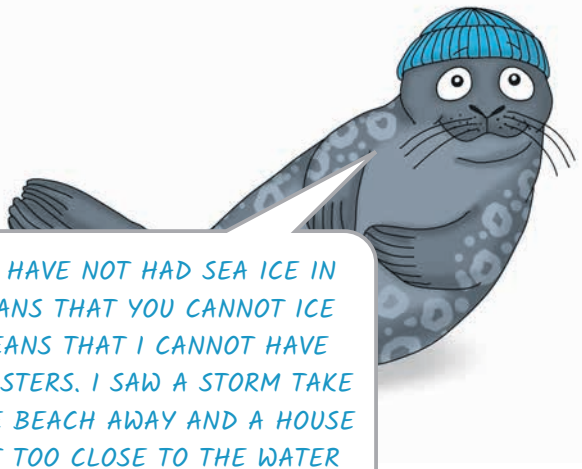
Nordic Ecolabel

One of the oldest (since 1978), German Ecolabel

EU Organic logo

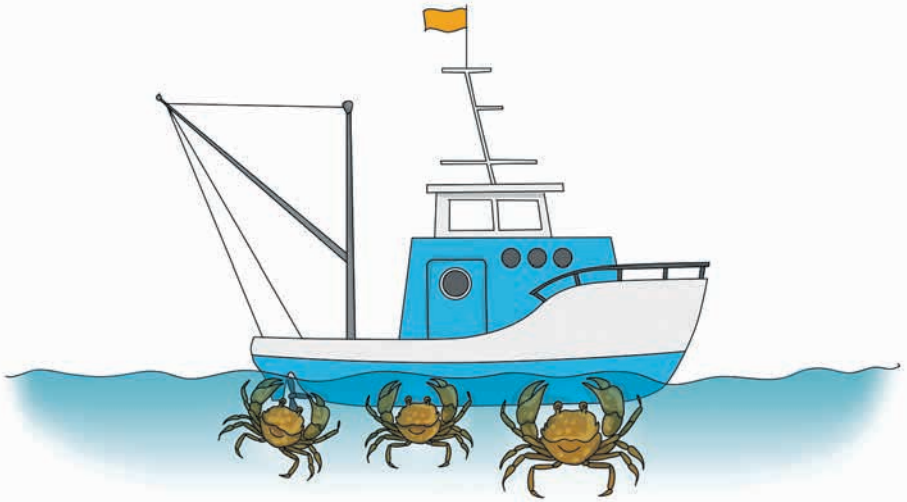
Task. What can and cannot be done by the sea? Draw a blue circle around the activities you are allowed to do.

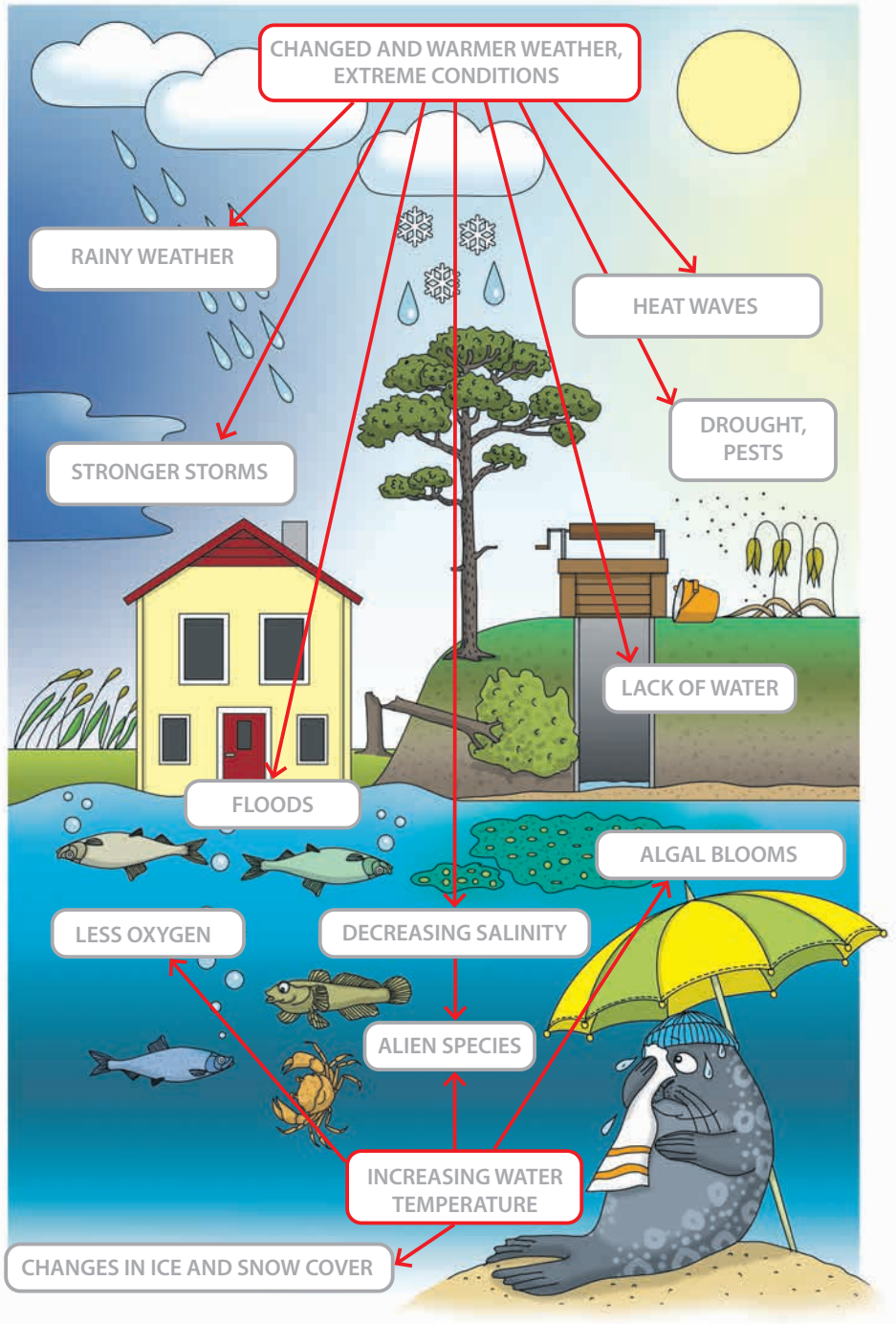
CLIMATE



IN RECENT YEARS, WE HAVE NOT HAD SEA ICE IN THE WINTER. THIS MEANS THAT YOU CANNOT ICE SKATE. FOR ME, IT MEANS THAT I CANNOT HAVE LITTLE BROTHERS OR SISTERS. I SAW A STORM TAKE A LARGE CHUNK OF THE BEACH AWAY AND A HOUSE THAT HAD BEEN BUILT TOO CLOSE TO THE WATER ALMOST FALL INTO THE SEA.

This is due to climate change – winters have become warmer, causing the loss of sea ice. As a result of climate change, storms will become more severe, with more rainfall and more floods. This makes the water of the Baltic Sea even fresher. However, not all species can tolerate fresh and warmer water and they may become extinct in the Baltic Sea. At the same time, alien species for which such conditions are convenient may end up in the Baltic Sea. Alien species can do a lot of damage to native species – taking over their habitats, eating their food or even spreading diseases.



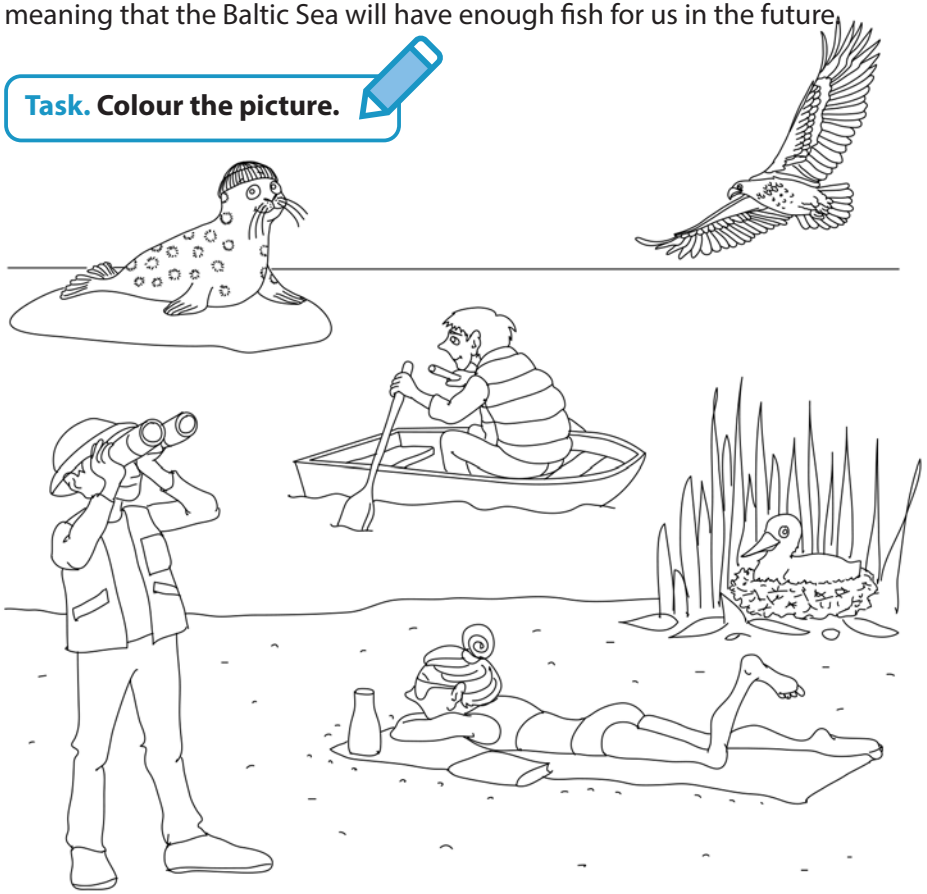


NATURE CONSERVATION

Some marine areas have been designated as protected areas. Birds and animals can live there peacefully because people are not allowed to go there, for example, during the nesting period of birds or during the breeding and molting season of seals, so as not to disturb the birds and animals.

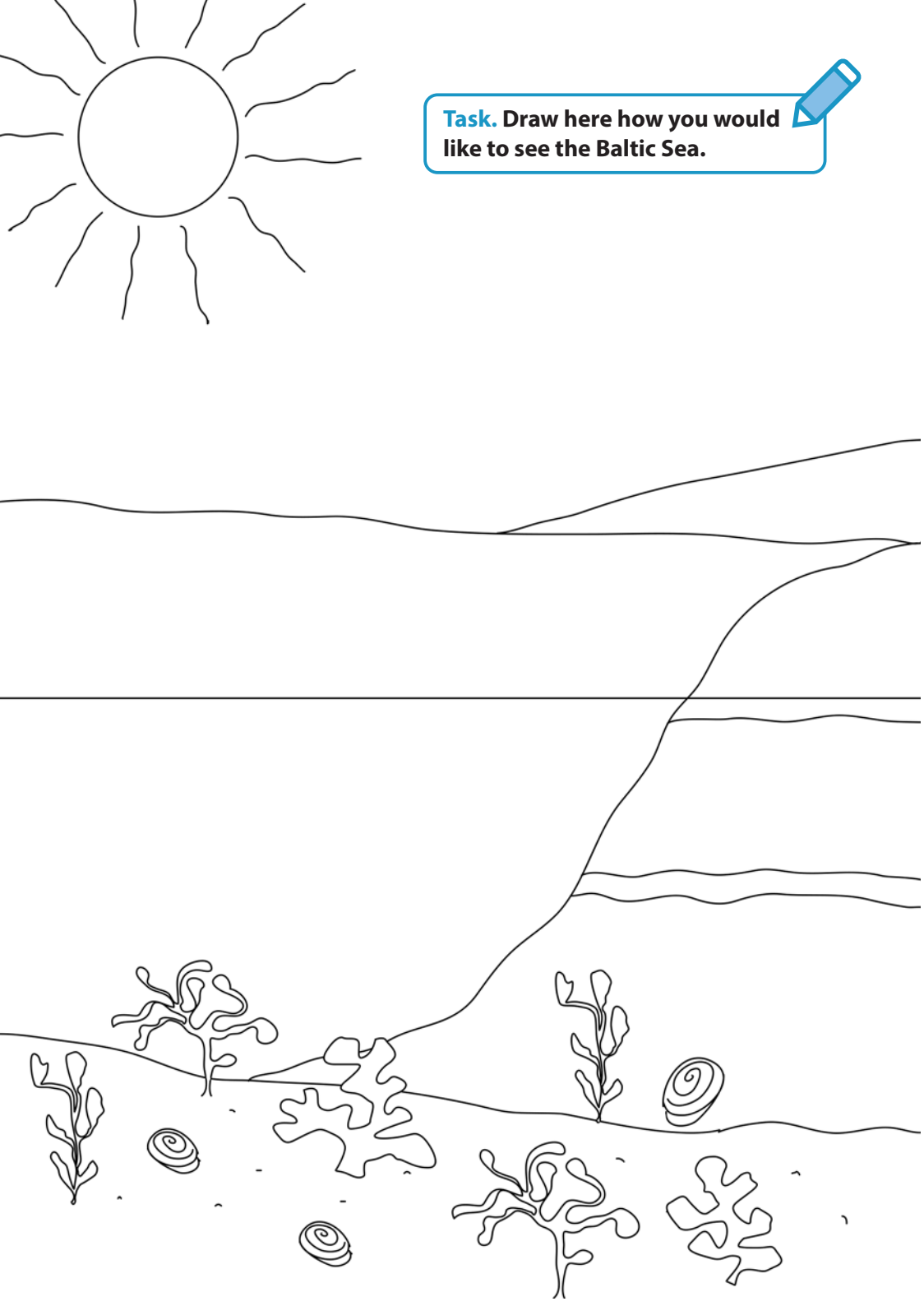
Once the young birds or seals grow older, everyone can visit the protected areas as well and admire their nature. In some estuaries, fishing is not allowed so that, for example, salmon can peacefully swim to spawn in the river. Fishing at sea may also be restricted, for example, during the spawning season. In this way, fish stocks can be successfully replenished, meaning that the Baltic Sea will have enough fish for us in the future.

Task. Colour the picture.



Task. Who is occupied with what?

Task. **Draw here how you would like to see the Baltic Sea.**



SEE YOU BY THE SEA!

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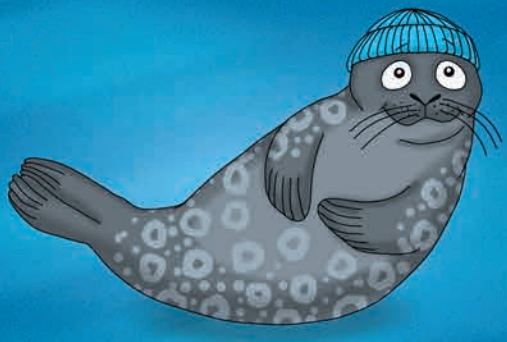

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