

fishing

Teacher's Notes

Importance of fishing

*In the previous section we heard about food chains and the connections between sea creatures and humans. This section will cover the bigger topic of why fishing is important, how it's done and which creatures in the sea might be affected. KS1 pupils will learn about classifying sea creatures, and how to catch fish. The glossary at the back of the pack explains some words including **invertebrate**, **fish** and **mammal**. KS2 pupils will learn about fishing techniques and how fishing has influenced language and vocabulary.*

Fishing is the activity of hunting for fish. The term 'fishing' is also applied to hunting for other aquatic animals such as various types of shellfish as well as squid, octopus, turtles, frogs and some edible marine **invertebrates**. Wild fish are the last natural food resource still hunted on a large scale.

Fish is an essential component of our diets. Oil-rich fish contains **Omega 3** which is a special fatty acid with many beneficial health properties. It helps to keep bones strong, maintain a healthy heart and can improve concentration – an essential component for a quiet classroom! The *further resources* at the back holds more sources of information on the benefits of eating fish.

Fish production has increased dramatically over the last 50 years, and now a total of 132 million tonnes are caught each year. Around two thirds of this is from wild fisheries, and one third from **aquaculture** or **fish farming**. This is often seen as a solution to the problem of overfishing of the seas, but this isn't always the case. One of the environmental problems of fish farming is that wild fish are caught to feed some farmed fish and that means wild species are under even more pressure.

Introduce this section with the **fishing** discussion card called '**A day in the life**'.



One reason for the increase in wild fish capture is the improvement in fishing technology to track and catch fish around the world. Another reason is the ability of fishers to freeze their catch at sea which means they can travel further, catch more fish and stay at sea longer.

Commercial fishing is the term used when fishers catch fish to sell and this can be carried out from boats of all sizes, from huge supertrawlers to small rowing boats. The use of large boats with large capacities is usually referred to as **industrial fishing**. The type of fishing that most children will be familiar with is **recreational**, which refers to fish caught for pleasure or competition. There are some other types of fishing including **subsistence**, where people just catch enough food to feed their families. There are also the fishers that still fish today using traditional methods that have not been very affected by modern technologies. These are generally referred to as **artisanal** fishing methods and although they are simpler, some of these techniques can still catch high volumes of fish.

Most of the fish eaten in the UK and Europe comes from industrial fishing and fish farming. Some of the many methods of fishing are described in activity sheet *Go fishing!* on page 14. The environmental impact of each method varies depending on how the fishers carry out the work and this is discussed in the next section, *the impact of fishing*.

Often it is difficult for children to relate the fish that they eat to the fish that swim around in the sea. To help make this link, show them some photos:

- **www.fishonline.org** --> **search** --> **simple**. Type in fish species like cod, haddock, salmon, mackerel, pollock and mussel.
- **www.arkive.org** --> in search box, type in various fish species and see what pictures and footage are available.

KS1 Lesson plans – Fishing



What's in the sea?

Learning objective: to group living things according to similarities and differences. *Science 2: 4b.*

Starting point: Show some pictures of different animals. Ask the children which are found in the sea. Discuss what makes the other animals different (some have fur and live on land, others have feathers and can fly). Talk about the different kinds of creatures you might find in the sea. Visit www.fishandkids.org for some pictures.

Support: Draw some animals that live in the sea.

Extension: Is a whale a fish? Discuss with the children the difference between a mammal and a fish. How can you tell if something is an invertebrate? Classify the animals into different categories (mammals, fish, invertebrates). See glossary for definitions.

Plenary: Play the 'Who am I?' game with the class. Decide what animal you are, or ask a few of the children to think of an animal they would like to be. Ask the rest of the class to guess what animal they are by asking simple questions with yes and no answers, e.g. Can you swim? Have you got fur? Have you got legs?

How are fish caught?

Learning objective: to identify different fishing methods and what marine creatures they are designed to catch. *Science 1: 2b.*

Starting point: Ask the children how fish are caught. Talk about the different types of fishing. Discuss how some methods of fishing are better to catch different kinds of fish. Discuss how knowing a lot about fish can help us to catch more fish. You might want to complete the activity sheet as part of a teacher-led discussion.

Support: Think about what seafood you like to eat. Can you guess how it might be caught?

Extension: Ask the children to think about how cavemen would have caught fish, and to draw a picture. Remind them that tools were very primitive (spears, harpoons).

Plenary: Talk about some of the problems fishermen might come across when they go out on their boats, e.g. rough seas, very few fish to catch, mechanical breakdowns. Extend this discussion using the second activity on the discussion card.

KS2 Lesson plans – Fishing



Go fishing!

Learning objective: to understand why the world's seas and oceans need to be managed sustainably, and that living things and the environment often need protection. *Geography: 5b. Science 2: 5a.*

Starting point: Talk about fish being the last wild food resource, and the methods we use to catch fish. Discuss different types of fishing, including industrial and recreational. See further resources at the back of the pack for some ideas.

Support: Ask the children to imagine being stranded on a desert island with only basic resources. How would they catch fish? What problems would they have? How would they solve them?

Extension: Investigate some of the different types of fishing that take place around the world e.g. India, Far East, Arctic. Find some pictures of people fishing in different countries.

Plenary: Hot seat some children to discuss ways in which fishing has changed over time. Think way back to the time of cavemen, through small fisheries with rods and lines, to sailing ships and the super trawlers of today.

Plenty more fish in the sea?

Learning objective: to understand that sayings should not always be taken literally, and to use vocabulary in creative ways. *English 2: 2b. English 3: 1b.*

Starting point: Talk about the history of fishing. Many seaside towns have a port or harbour for fishing boats. See www.polperro.org/fishing.html for a case study of a Cornish fishing village through the years. Our long association with the fishing industry has rubbed off in our culture and can be heard in our language.

Support: Make sentences using the sayings on the worksheet.

Extension: Discuss the saying 'plenty more fish in the sea'. When do people use this expression? Is the literal meaning of this expression still true? Think of some more animal related sayings and use them to describe something.

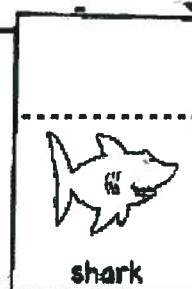
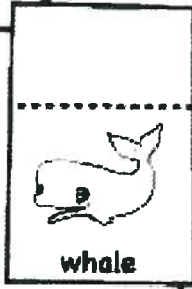
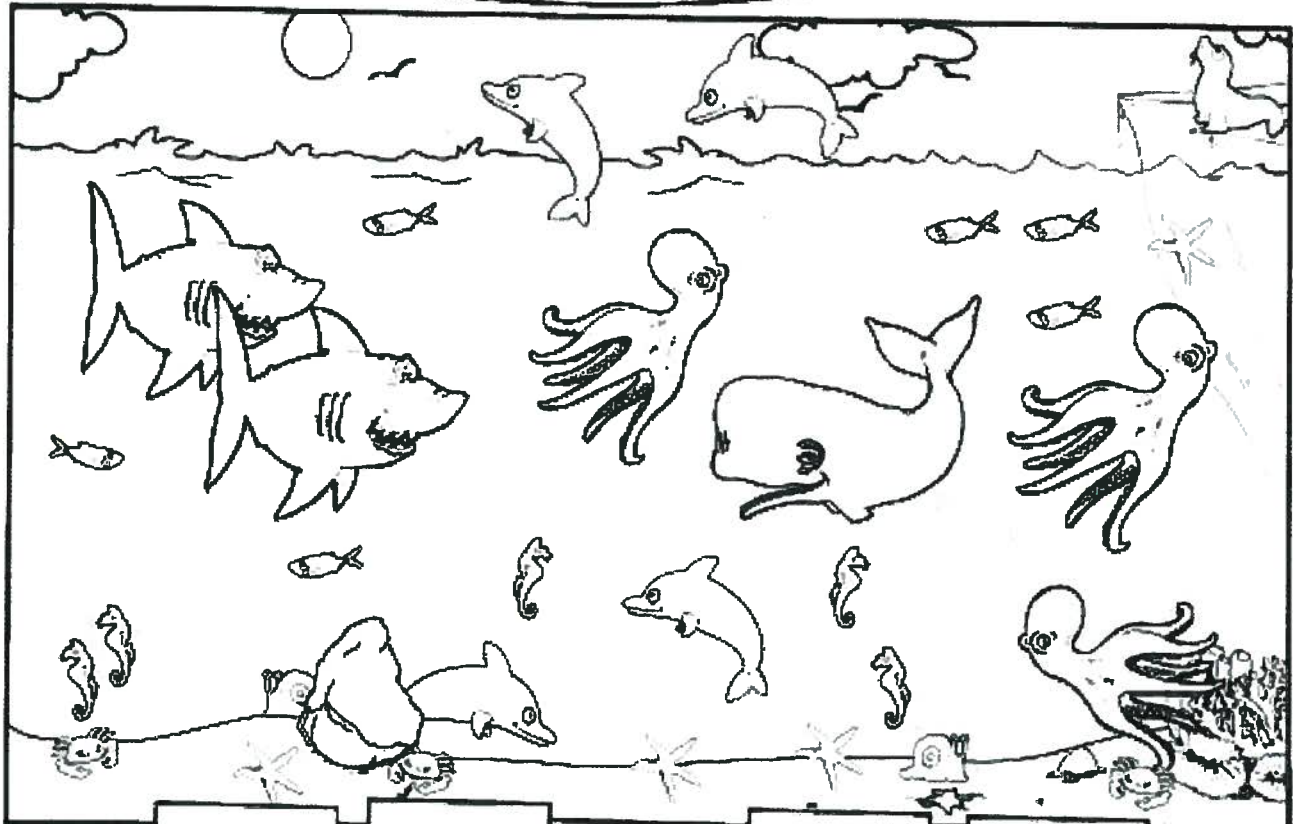
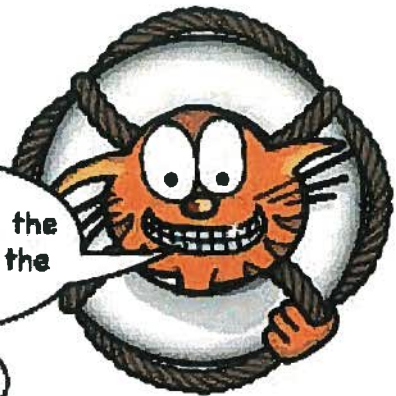
Plenary: Ask the children to think of any songs or poems they know that mention the sea. What films and television programmes have they seen that are about the sea?



What's in the sea?

Help me count the animals in the picture. Put the number of each animal in the correct box.

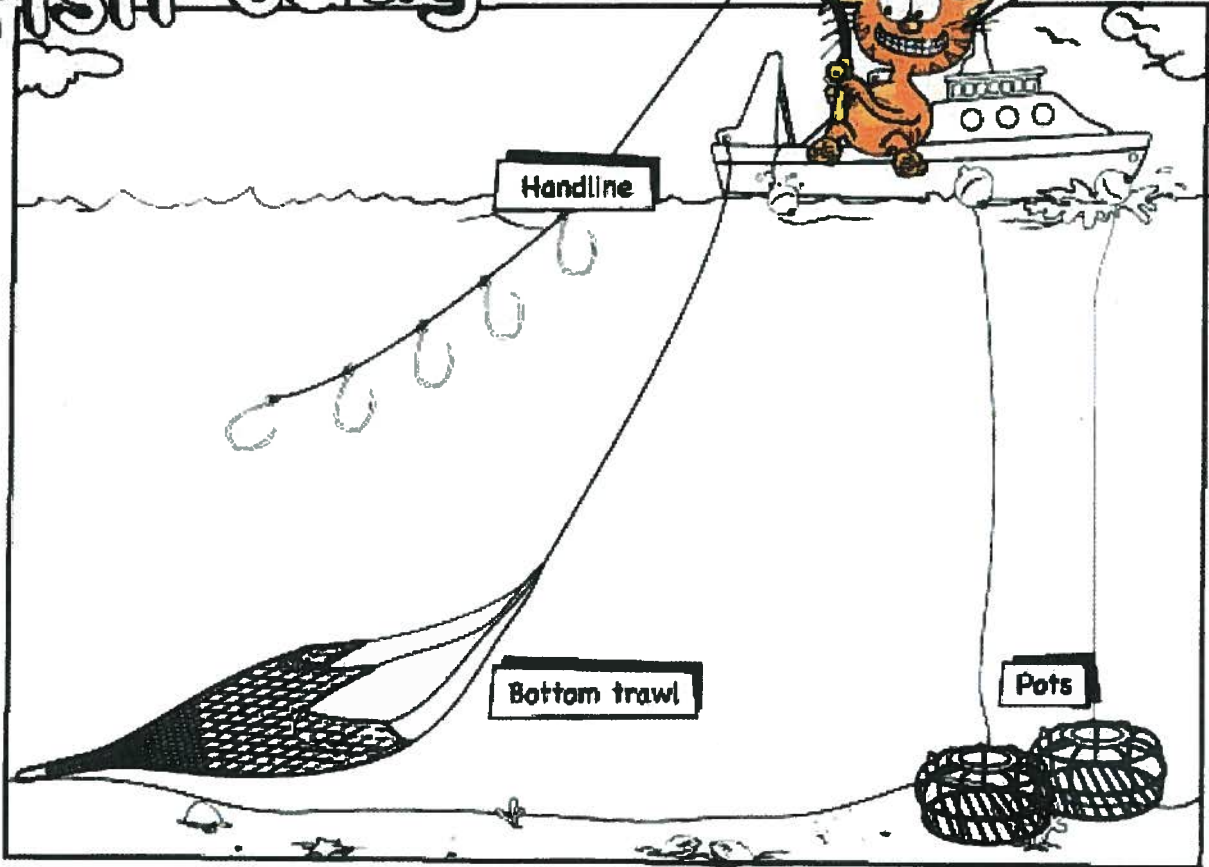
Colour the picture in and see what other sea creatures you can name.



Now I know
The sea is home to lots of different animals, not just fish.
Animals can be put into groups. ✓

How are fish caught?

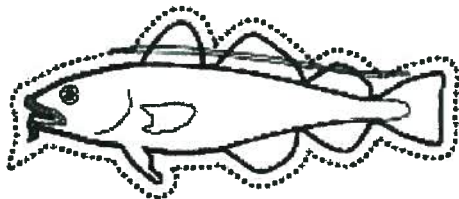
There are lots of different ways to catch fish. Cut out the three sea creatures and put them in the right place on the picture.



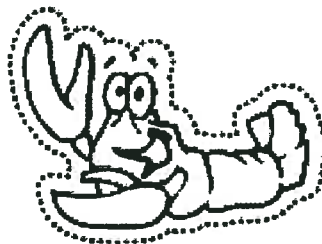
Now I know

There are different ways of fishing.
Some fish swim near the surface. ✓
Lobsters live at the bottom of the sea.

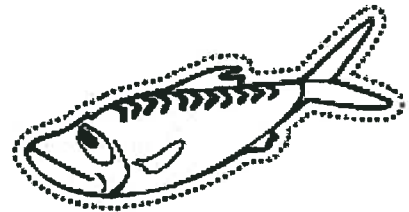
This cod swims near the bottom of the sea.



This is a lobster. It walks along on the seabed.



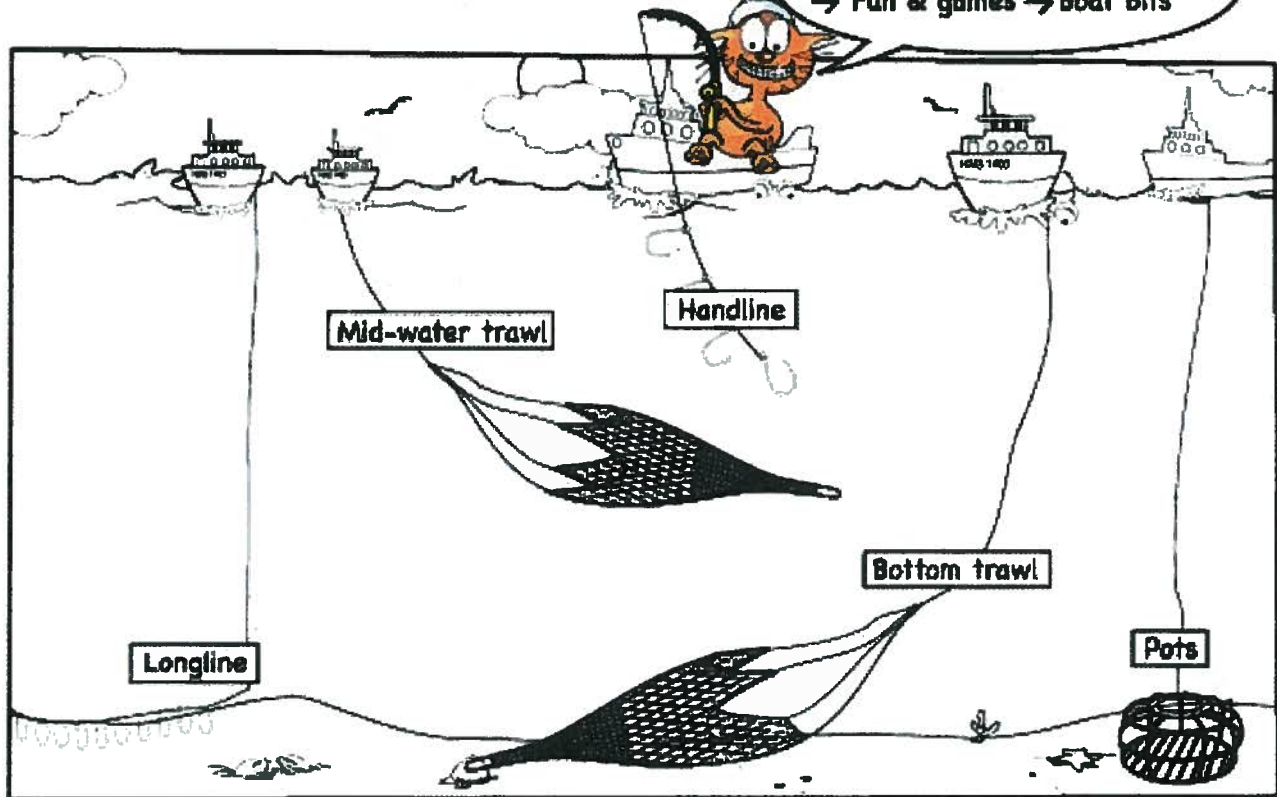
This fish is a mackerel. It swims near the top of the sea.



Go fishing!

Using the information below, find out which method of fishing is used to catch different sea creatures. Write the name of one sea creature in the table for each different method of fishing.

Use the website for clues:
www.fishandkids.org → Playroom
 → Fun & games → Boat Bits



herring prawns tuna cod mackerel lobster

Method	Description	Species caught
Mid-water trawl	A boat pulls a net through the water below the surface but not along the bottom.	
Bottom trawl	A boat pulls a net through the water either rolling along or just above the seabed.	
Longline	A boat reels out a very long fishing line with a number of hooks all the way down (sometimes baited).	
Pots	A boat drops down a cage and marks it with a buoy. The cage has with a one-way door and contains bait.	
Handline	A boat drops a line with 20 - 30 baited hooks over the edge of the boat but they don't go to the bottom.	

Now I know

There are lots of different ways to catch fish.
 Different species of fish swim at different depths in the sea.



Plenty more fish in the sea?



Think about what these seafaring sayings mean. Match the sayings on the left with their correct meaning.

Saying

- 1 As slippery as an eel.
- 2 To have other fish to fry.
- 3 A fish out of water.
- 4 Plenty more fish in the sea.
- 5 To be in the same boat.

Meaning

- A To be in a similar situation as someone else.
- B To be untrustworthy.
- C To be uncomfortable in your surroundings.
- D To have other things to do.
- E To have other choices.

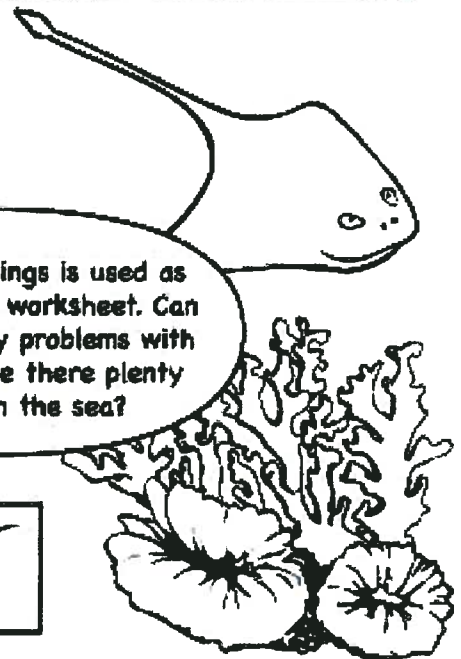
Answers

1	2	3	4	5

One of the sayings is used as the title of this worksheet. Can you think of any problems with this saying? Are there plenty more fish in the sea?

Now I know

That sayings should not always be taken literally. ✓



Activity Sheet answers

Many of the answers are discussed in the teacher's notes.

Food chain

Who eats what?

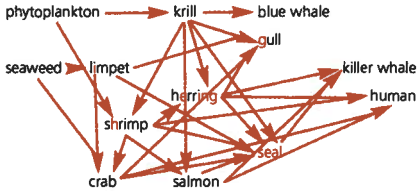
worm → fish → human
 leaf → caterpillar → bird
 pondweed → tadpole → fish → bird

What do you eat?

Grass → Shark (carnivore)
 Worms → Cow (herbivore)
 Fish → Human (omnivore)
 Banana → Fish (could be carnivore, herbivore or omnivore, depending on species)

A delicate balance

Most examples are shown here.



Chain of effect

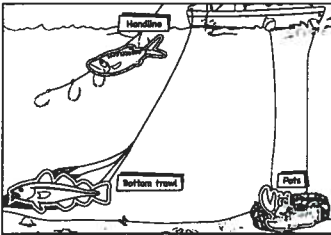
Potential roles to act out: 1) cod fisher 2) cod processor 3) snow crab fisher 4) lorry driver working for a transport company 5) supermarket manager (wants to buy cod and snow crabs from fishers, and then sell them to the public) 6) customer in a shop.

Fishing

What's in the sea?

Octopus = 3, whale = 1, starfish = 4, shark = 2, seahorse = 5.
 Other creatures found in the picture: dolphins, seal, crabs, snails, coral, gulls.

How are fish caught?



Go fishing!

Mid-water trawl – herring, mackerel
 Bottom trawl – prawns, cod
 Longline – tuna, cod
 Pots – lobsters, prawns
 Handline – mackerel, cod

Plenty more fish in the sea?

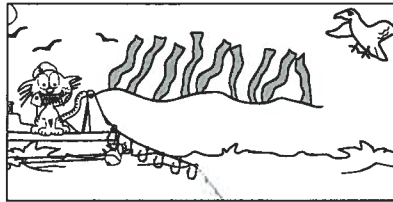
1b, 2d, 3c, 4e, 5a.

The Impact of fishing

Where would you go fishing?

Answer: picture 2. This shows a healthy ecosystem with lots of plants, fish and other marine creatures. Picture 1 shows a sea with very few fish and no plants or other sealife. There are also too many fishing boats.

Look after the seal



This is one simple idea for a marine bird scarer. There are lots of other possibilities!

All fished out

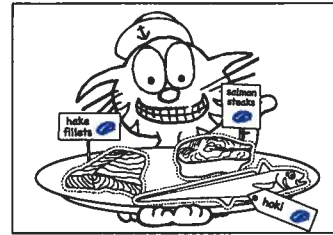
Picture 1 has been overfished. Other problems can include habitat destruction; bycatch of other fish, birds, mammals; increased competition for food for other creatures.

The future – sustainable fishing

- 1) ...allow small fish to get out.
- 2) ...warn dolphins to keep away.
- 3) ...keep birds away from fish hooks.
- 4) ...give fish a safe place to breed.
- 5) ...closed seasons.

Eco-labels

A visit to the shops



Look at the label

The picture could be of fresh fish, frozen fish, tinned, smoked, or a ready meal like a fish pie. Make sure there is a clear MSC logo to show that the fish is from a sustainable fishery!

What's inside?

Fish Fingers – product type and appearance, best before date, the fish is from a sustainable source.
 Peas – product type and appearance, weight, storage instructions.
 Potatoes – product type, country of origin.

Making your voice heard

Good things to include in the letter would be:
 - Introduction – summary of the problems (overfishing, bycatch).
 - Middle – shops and customers can help to support responsible fishers by choosing fish with the MSC eco-label.
 - Conclusion – we can all do our bit to encourage sustainable fishing.



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Suggestions and comments would be gratefully received after you have used the pack and website. There is a feedback form on the website - www.fishandkids.org/staffroom - or you can email kids@msc.org.

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