

Food chain

Resource card

Imagine life under the sea. It's a fascinating world teeming with weird and wonderful wildlife. The amazing plants and animals that live in the five oceans of the world form a complex marine ecosystem made up of intricate food chains and webs.

A delicate balance

Draw this simple marine food chain on the board. Energy passes along the chain in the direction of the arrow.

phytoplankton → shrimp → herring → cod → human

Remind the class that plants are primary producers and animals are consumers. Ask the class what the words predator and prey mean. A predator is an animal that hunts other animals for food, and the hunted animals are known as prey.

- 1) Which organism is the primary producer?
- 2) How many consumers are there?
- 3) Which animals are prey?
- 4) Who is the top predator?
- 5) Which animals are both predator and prey?

Ask the class to think of some more marine food chains and hand out the worksheet for the children to complete. Who has drawn the biggest underwater food web?

Explain the words herbivore, carnivore and omnivore. Ask the children to name some animals from each group.

Talking points

Show the class the picture of dolphins attacking a bait ball of sardines. Explain that a bait ball is the name given to a school of fish that has massed together to form a giant swirling ball to protect itself from predators.

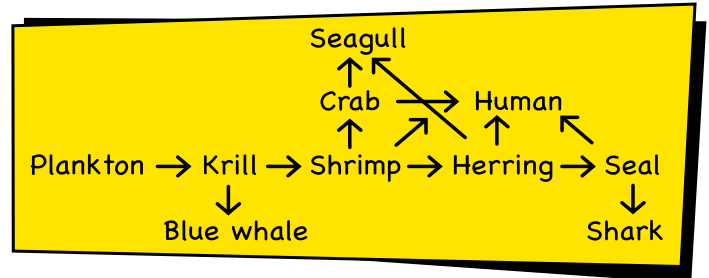
- Why are the sardines bait balling?
- Is this a good way for small fish to protect themselves?
- Are the sardines predators or prey?
- Which animal is the predator?
- How could this food chain be extended?

Class discussion topics

- How has human activity influenced marine food webs? What are the negative effects of human intervention?
- What happens if fishermen catch too many fish? Why might this cause a problem for future generations?
- Humans are naturally omnivorous, but some people choose to be vegetarian. Discuss the reasons why some people prefer not to eat meat or fish.

Whole-class activity

String game for a class of 30. Draw this picture of a food web on the board, showing all the arrows:



You will need a ball of wool or string and 30 critter cards:

6 plankton, 5 krill, 5 shrimp, 3 crabs, 2 seagulls, 4 herring, 2 seals, 1 shark, 1 blue whale, 1 human

Stand the children in a circle. Give each child a critter card and ask one of the children to hold the end of a ball of string, and to roll or pass the ball to a species they eat, or one that eats them. A krill could pick plankton, shrimp, or blue whale, because these species are linked in the food chain.

Carry on passing the string until all the critters are connected at least once. Some children may get the string several times. Make sure the web is held tight, then ask one species to let go (try krill or shrimp first). As the string starts to slacken see how the web of life starts to unravel. The remaining critters should look at the food web on the board, and let go if they no longer have a food source. Eventually the food web will fall apart.

Have your say!

Hold a class debate. Ask the children to propose a motion, or choose one of the following:

"This house believes that human activity is destroying the world's oceans."

"This house believes that we should look after the marine environment."

Ask for five volunteers to speak for the motion and five to speak against. Allow time for each group to prepare their arguments. The rest of the class can discuss the motion. Take the role of Speaker and invite the 'first proposer' to put forward their arguments for the motion, then ask the 'first opposer' to present their arguments against. When everyone has had their say, hold a vote and announce the result.

Homework idea

Find out about a creature in the marine food chain using the internet or library books. What does it eat? What plants or animals are above and below it in the food chain? See if you can find a really cool fact about your animal to tell the class next lesson.



Long-beaked common dolphins feeding on a sardine bait ball.

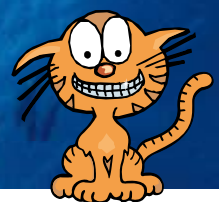


Photo: © Doug Perrine/naturepl.com

Who eats what?

Look at these food chains.
Write the correct word in the box.
Then draw a picture of each word.



This arrow → means eaten by.

leaf

tadpole

human



worm



fish



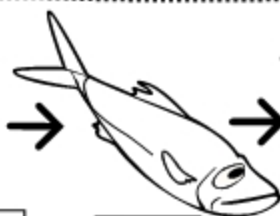
caterpillar



bird



pondweed



fish



bird

Now I know

Food chains show who eats what.
Plants and small animals often get eaten by larger animals.

