



Sharks on the reef

Lesson plan: a web of life game, a real shark science story and a which-shark-are-you quiz



Ages	9 to 15
Time	60 minutes
Group	Up to 35 students
Where	A space big enough for a circle: a classroom with the desks pushed back, a hall or outside. No internet needed.
You need	The slides, a ball of string or yarn, the species cards (one per student), one quiz sheet and one food web worksheet per student

What students learn

- A food web shows how energy moves from producers to grazers to predators, and how everything is connected.
- Sharks and rays do different jobs on the reef, from top predator to filter feeder.
- Losing a top predator can ripple through a food web, and how scientists found this out in Shark Bay, Australia.
- Science is a work in progress: scientists test ideas and change their minds when the evidence says so.

Before the lesson

1. Print and cut out the species cards. There are 22 species, plus Sunlight and one blank card for a species the students invent. For a big class, print two sets and run two circles. Punch a hole in each card and thread it with wool so it can be worn, or tape it to clothes.
2. Print one **Which shark or ray are you?** quiz sheet and one **My reef food web** worksheet per student.
3. Have a ball of string or yarn ready. Thick wool is easiest to hold.

The lesson

- 1 **Residents and visitors 5 minutes, slides 1 and 2.** Remind the class of the sharks MCP volunteers have seen near Zamboanguita. Explain that bamboo sharks seem to live on the same reef for years, while whale sharks pass through. Ask what each kind could tell us: a resident that stays suggests its reef has enough food and shelter, while a visitor can tell us about changes in the wider ocean.
- 2 **Who eats whom? 10 minutes, slides 3 and 4.** Walk through the food chain and make sure everyone knows which way the arrows point. Introduce the words producer, grazer, predator and top predator. Then look at the different jobs sharks and rays do.
- 3 **The web of life game 20 minutes, slides 5 and 6.** Hand out the cards and stand in a circle. Give the end of the string to Sunlight. Sunlight passes the ball to a producer, the producer keeps hold of the string and passes the ball to something that eats it, and so on. When a chain ends (at the tiger shark or people), pass the ball back to someone not yet connected. Keep going until everyone holds at least one string. Then say:

A fishing boat has caught the tiger shark. The tiger shark gives a gentle tug, and everyone who feels it raises a hand. Try again with *A heatwave has killed the seagrass.* Finish by counting how many strings lead to People. Use slide 6 to talk it through.

- 4 The Shark Bay story 10 minutes, slides 7 to 10.** Tell the story of the tiger sharks, turtles and seagrass, then what may happen when the sharks are gone. Slide 9 is honest about coral reefs: sharks have vanished from many of them, but scientists are still working out exactly what that does. Slide 10 is for older students.
- 5 Which shark or ray are you? 10 minutes, slides 11 to 17.** Students do the quiz sheet on their own, then reveal the results one slide at a time. Ask the students who got each shark to stand up. Point out the Red List status on each result: every one of these animals is at some risk.
- 6 Wrap up 5 minutes, slide 18.** Discuss one or two questions. The food web worksheet works well as homework.

Answers

Food web worksheet: the arrows should match the species cards, for example seagrass to green turtle to tiger shark, or plankton to sardines to blacktip reef shark to tiger shark. For question 3, listen for the idea that turtles and dugongs might become more common or graze more freely, and the seagrass could be eaten down, as scientists think may be happening in Bermuda.

Web of life game, what to listen for: taking out one predator affects animals it never ate directly. The producers hold everything up. People are connected to almost every species.

Making it easier or harder

- **Younger groups:** use 12 cards (Sunlight, seagrass, algae, plankton, green turtle, parrotfish, crab, sardines, bamboo shark, blacktip reef shark, tiger shark, people) and skip slide 10.
- **Older groups:** use slide 10 and ask: what evidence would convince you that sharks keep a coral reef healthy? How would you test it? Add the blank card and let students research a real species to add to the web.
- **Language:** shark is *pating* in Filipino and *iho* in Bisaya, and the whale shark is *butanding*.

Safety and good practice

- Never loop string around necks or wrists. Hold it in your hand, and let go if it pulls.
- Keep the circle clear of bags and chairs so nobody trips when stepping back.

Curriculum links

- **Science:** food chains and food webs, producers and consumers, predators and prey, how living things depend on each other.
- **Ocean Literacy Principle 5:** the ocean supports a great diversity of life and ecosystems.
- **Thinking skills:** how scientific ideas are tested and sometimes overturned.

The teacher reading has the science behind every slide, with links to the sources.

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