

What can a shark change?

Read a case study from Shark Bay, Western Australia

Name: _____ Date: _____

A predator can affect other animals by eating them. Its presence can also change where they feed. An **indirect effect** acts through another relationship: a change in feeding behavior can affect plants in that habitat.

A. Observing behavior

Researchers observed changes in where dugongs and green turtles fed when tiger sharks were present. These animals graze on seagrass.

B. Comparing plots

Researchers compared seagrass inside cages that kept dugongs and turtles out with patches they could reach. A later experiment used smaller fish-proof cages and partly open cages to check effects of the cages themselves.

C. Interpreting evidence

The findings support a pathway in which shark presence changes grazing behavior and can affect seagrass. These cards summarize a particular ecosystem. They do not describe an experiment in which all sharks were removed.

Words to use: a grazer eats plants or algae. An enclosure keeps selected animals out. A control helps check another possible explanation.

Observation: what researchers recorded. **Method:** how they investigated a question. **Interpretation:** what they think the evidence means.

Read closely

Underline an observation. Circle a method used to investigate the idea. Mark an interpretation with a star.

Why is a cage control useful? What might a cage change besides access by grazers?

Science source: Shark Bay Ecosystem Research Project: indirect effects

Explain a pathway

Separate the evidence from a prediction

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Connect shark presence, grazing behavior and seagrass with arrows. Label each effect. Below that pathway, draw seagrass ----> green turtle and label it "is eaten by." Explain how the feeding arrow differs from the pathway arrows.

Consider this claim: "If sharks leave, the whole habitat will collapse." Which words go beyond the evidence? Explain.

Write a claim that fits the evidence. You can begin: "In Shark Bay, ..."

Name a card that supports your claim. Explain the link. What question remains?

On separate paper, sketch an artwork idea and get partner feedback. Revise it, then describe your idea and the change you made.