

What are the threats to coral reefs?



Age 14-16



60 minutes

Curriculum links

- Bio-diverse ecosystems are under threat from human activity.
- Increasing demand for resources affected our planet.
- Human activities modify processes and interactions within ecosystems.

Resources



Slideshow 5:
What are the threats to coral reefs?



Student Sheet 5a:
Threats information sheet

Student Sheet 5b:
Coral reef threats table



Activity:
Dissolving 'coral' and 'shells' in vinegar



Video:
Seaview Science:
Changing reefs

Video:
Pigs on the beach



Gallery:
Coral threats



Subject Update:
Learn more: Corals in a high CO₂ world

Lesson overview

This lesson will look at the threats to the coral reefs, using a variety of resources including videos, a gallery and an information Student Sheet. This lesson will get students to start thinking about the scale of the threats to coral reefs and how we can all play a part, regardless of how far we live from the coral reef.

Lesson steps

1. Introduction to the lesson (5 mins)

Students to review the learning objectives.

2. Nutrient Cycle (10 mins)

Students to draw the nutrient cycle seen on coral reefs.

3. Threats to coral reefs (25 mins)

Students to come up with ideas of what they think may be threats to coral reefs.

4. Classification of the threats (10 mins)

Students to colour code the different threats to coral reefs. Students to work in pairs to discuss whether they think something is a local threat or a systemic one.

5. Evaluate the threats to coral reefs (10 mins)

Students to start thinking about what the biggest threat to the health of coral reefs is and why it is such a big threat.

Learning outcomes

- Understand the wider context and learning outcomes
- Assess previous learning
- List the threats both natural and human to the coral reef
- Describe the different threats to coral reefs. Look at different scales: local in Timor-Leste (dangerous fishing) and systemic (climate change)
- Evaluate the threats to the coral reefs

Home learning

Students to create a list of actions that can be taken to reduce the threats to coral reefs.

Step Guidance

Resources

1
5
mins



Step 1 introduces the students to the lesson.

- Select students to read out the lesson objectives.
- Ask random students questions related to the learning in the previous lesson, such as: Explain one way coral reefs are economically valuable to the people of Timor-Leste.

Slideshow 5:
Slides 1-2

2
10
mins



Step 2 involves the students revising learning from lesson 3.

- Students to draw a nutrient cycle for a coral reef.
- Ask a student to come up and show the class their cycle or draw one on the board. Choose students to explain the different stages of the nutrient cycle.
- Go through the nutrient cycle on Slide 4. Ask students to add key information to the drawing in their books.

Slideshow 5:
Slides 3-4

3
25
mins



Step 3 students to learn information about the different threats to coral reefs.

- Lead the class discussion about possible threats to coral reefs, consolidating the ideas on the board.
- Stick the information sheets around the room or ask students to work in pairs or small groups and give them the information.
- Hand out the blank tables which the students will add notes about the different threats. Express the importance to student that they include any named examples or numerical information in their notes.
- Play the videos, students to add any additional information to their tables.
- For more information go through the gallery.
- Choose students at random to tell you one threat they have just learnt about. Bounce the task to another student, ask them to name a cause of that threat.

Slideshow 5:
Slide 9

Student Sheet 5a:
Threats information Sheet

Student Sheet 5b:
Coral reef threats table

Gallery:
Coral threats

Video:
Pigs on the beach

Activity:
Ocean acidification in a cup

Video:
Seaview Science:
Changing reef

TEACHER GUIDANCE 5 (page 2 of 2)

Step Guidance

Resources

4
10
mins



Step 4 classification of threats. Are the threats resulting from local or systemic behaviour.

- Go through the classification categories – local and systemic ensure students understand what systemic means.
- Local threats are those that are caused by actions that happen in the vicinity of the coral reef.
- Systemic threats are those that are caused by the actions taken on a global scale.
- Ensure students use a key so it is clear how they have classified the threats. E.g. shade boxes - blue = local threats, green = systemic threats.

Slideshow 5:
Slide 10

Student Sheet 5b:
Coral reef threats table

5
10
mins



Step 5 is the evaluation of the threats.

- Students to write a paragraph evaluating which threat they think poses the biggest threat to coral reefs in Timor-Leste and give reasons to support their decision.

Slideshow 5:
Slide 11

H/L
30
mins



Mitigation strategies

- Ask students to complete research which looks at strategies used to manage the threats to coral reefs. Especially to what extent can an individual make a difference to the threats coral reefs face.
- Students are to create a list of actions that can be taken to reduce the threats to coral reefs.

Slideshow 5:
Slide 12