

What is the structure of a coral reef?



Age 14-16



60 minutes

Curriculum links

- Ecosystems consist of interdependent components.
- Key processes of ecosystems at different scales.

Resources



Slideshow 2:

What is the structure of a coral reef?



Student Sheet 2a:

The formation of coral reefs

Student Sheet 2b:

Reef habitat zones



Gallery:

Reef scales

Gallery:

Zones on the reef



Video:

Seaview Science: Coral Reefs



Activity:

Incredible edible polyp

Activity:

Coral reef zones



Subject Update:

The formation of coral reefs

Lesson overview

In this lesson, students will begin to develop further understanding of coral reefs, how they are formed, the importance of the coral polyp and how they grow from a single coral polyp to a huge coral reef. Students will then look at the coral reef zones and develop understanding of those different zones and their characteristics.

Lesson steps

1. Introduction to the lesson (5 mins)

Students review the learning objectives.

2. Coral polyps and coral reefs (10 mins)

Student to learn about the different scales of coral reefs, they will look at the Reef scales gallery and watch a video.

3. Incredible edible polyp (25 mins)

Students to watch the video about coral polyps and will make them. Consolidating their understanding by answering questions.

4. Formation of different reefs (10mins)

Students will complete the worksheet, matching pictures that show the formation of a coral atoll. They will also add descriptions of this process.

5. The different reef habitat zones (10 mins)

Students will complete Student Sheet 2b labelling the different zones of the reef habitat and identifying different coral types that can be found in each of these.

Learning outcomes

- Understand the wider context and learning outcomes

- List the different scales of a coral reef
- Describe what a coral polyp is and why it is important

- Describe what a coral polyp is and why it is important

- Describe and explain the formation of different coral reefs

- Describe the different habitat zones within a coral reef

Step Guidance

Resources

1
5
mins



Step 1 introduces the students to the lesson.

- Select students to read out the lesson objectives.
- Ask students questions related to the lesson and learning in the previous lesson, such as: what conditions are needed for a coral reef to form? Can you name examples of coral reefs?

Slideshow 2:
Slides 1-2

2
10
mins



In step 2, the class starts to learn more specific detail about coral reefs.

- Review the concept of reef scales. More information on the different scales can be found in the Reef scales gallery. This will also assist students in understanding the relationships of the different scales found in the coral ecosystem.
- Watch the Seaview Science: Coral reefs video.
- Ask students to list the different services provided by the reef mentioned in the video.
- Explain that the key scales the students need to know and understand are the role of the coral polyps and the definition of a coral reef.

Slideshow 2:
Slides 3-7

Gallery:
Reef scales

Video:
Seaview Science: Coral reefs

3
25
mins



Step 3 is a fun activity to consolidate understanding of the coral polyp.

- Ensure students have all the necessary material as per the activity 'What you'll need' section.
- Students watch the video and make their own example of a coral polyp. This can be done individually or in pairs.
- Extension – answer the questions: What is a polyp? What is a coral reef?

Slideshow 2:
Slide 8

Activity:
Incredible edible polyp



Safety guidance:

- Check that there are no allergy issues. This is especially important if you are working with several children.
- Check the ingredients in the confectionery items. Marshmallows for instance, often contain beef gelatin.
- Participants should wash their hands thoroughly before starting the activity.
- Toothpicks may need to be used under adult supervision.
- Scissors should be child friendly and used under adult supervision.

TEACHER GUIDANCE 2 (page 2 of 2)

Step Guidance

Resources

4

10
mins



Step 4 looks at the formation of different coral reefs.

- Give out the student sheet.
- Students to match up the pictures with the reef label and descriptions.
- Go through the answers with the class. Discuss the environmental changes that cause coral reefs to form, such as sea level rise.

Slideshow 2:

Slides 9-11

Student Sheet 2a:

The formation of coral reefs

5

10
mins



Step 5 will focus on the different reef zones.

- Go through the different zones found on a reef with the students. Looking at both the text descriptions and diagram on slide 13.
- Have a class discussion about the questions in the slideshow.
- Watch the video for further knowledge about the zones and more specifically the different types of corals.
- Additional information can be found in the Zones on the reef gallery.
- Students to label and annotate zones of the reef on Student Sheet 2b, sticking pictures of the different corals in the appropriate zones.
- Working in pairs without looking in their books students are to name the different stages in the formation of a coral atoll.
- Select students at random to name the different stages shown in the pictures.

Slideshow 2:

Slides 12-17

Student Sheet 2b:

Reef habitat zones

Activity:

Coral reef zones

Gallery:

Zones on the reef