



Khaled bin Sultan
Living Oceans
Foundation

STANDARDS

- **CCSS:** RST.9-10.1, 2, 4, 5, 6, 8, 10; RST.11-12.1, 2, 4, 6, 8, 10

ONLINE CONTENTS

- [*Crown of Thorns Starfish Crisis Video*](#) The crown-of-thorns starfish (COTS for short), named for its bristling helmet of sharp venomous spines. These giant starfish, found in the Pacific and Indian Oceans, have up to 21 arms and can grow as large as a meter in diameter. They are a major coral predator and eat coral by extruding their stomach through their mouth and excrete digestive enzymes that allow them to absorb the dissolved coral tissue externally.
- [*Ocean Alert: Overfishing Video*](#) The world's oceans are the biggest source of food for the whole planet. Almost 35% of the world's population gets most of their protein from ocean animals. Although seafood markets around the market appear to be full, they hide a crisis: overfishing. Overfishing occurs when people catch more animals than the ocean can sustain.

CORAL REEF THREATS

This lesson is part of the *Coral Reef Threats* unit, which describes the natural and anthropogenic threats to coral reefs. Below is a summary of what is included in the entire unit. **THIS UNIT IS STILL IN DEVELOPMENT.**

UNIT CONTENTS

A. Lessons

Crown-of-Thorns Threat

[Watch It! Crown-of-Thorns Crisis](#)

- A worksheet to accompany the [*Crown-of-Thorns Starfish Crisis*](#) video

[Read It! Addressing Acanthaster](#)

- A worksheet to accompany the [*Addressing Acanthaster*](#) field blog

[Read It! Life, Death, and Rebirth](#)

- A worksheet to accompany the [*Life, Death, and Rebirth \(Part 1 and Part 2\)*](#) field blogs

Overfishing Threat

[Watch It! Ocean Alert: Overfishing](#)

- A worksheet to accompany the [*Ocean Alert: Overfishing*](#) video

[Read It! The Man-eaters](#)

- A worksheet to accompany the [*The Man-eaters*](#) field blog

[Read It! Best Wishes for Reef Fishes](#)

- A worksheet to accompany the [*Best Wishes for Reef Fishes*](#) field blog

[Read It! Sea Cucumber Craze](#)

- A worksheet to accompany the [*Sea Cucumber Craze \(Part 1 and Part 2\)*](#) field blogs



INSTRUCTIONS: Watch *Crown-of-Thorns Starfish Crisis* YouTube video (<https://youtu.be/Yb0RvgxGkeg>) and answer the following questions.

1. What population can threaten the balance of the coral reef ecosystem?

2. List the oceans where we find crown-of-thorns starfish (COTS)?

3. Describe at least 3 characteristics of the crown-of-thorns starfish.

a. _____

b. _____

c. _____

4. List the steps that allow COTS to feed.

a. _____

b. _____

c. _____

5. What time of day do corals typically feed?

6. How much coral can COTS eat per year?

7. Why is there a problem when there are COTS populations spikes?

8. How many eggs can one COTS produce?

9. How many COTS can be found on a reef during an outbreak?

10. How old are some of the corals that COTS eat?

11. What are two events that can be more damaging to coral reefs than a COTS outbreak?

a. _____

b. _____

12. List four COTS predators.

13. What is thought to cause COTS outbreaks?

14. How do scientists mitigate a COTS outbreak?

15. List 3 factors that corals require in order to recover from a COTS outbreak.

a. _____

b. _____

c. _____

16. Can a coral reef recover after a COTS outbreak?
