Date:

WALT: Understand and respond to text

WILF: Each question answered in complete sentences; refer to the text

*Coral reefs are the most diverse of all marine ecosystems. They teem with life, with perhaps* [*one quarter of all ocean species depending on reefs*](http://smithsonianscience.org/2011/11/dna-barcode-survey-suggests-coral-reef-biodiversity-is-seriously-underestimated/) *for food and shelter. This is a remarkable statistic when you consider that reefs cover just a tiny fraction (less than one percent) of the earth’s surface and less than two percent of the ocean bottom. Because they are so diverse, coral reefs are often called the rainforests of the sea.*

*Coral reefs are also very important to people. The value of coral reefs has been* [*estimated at 30 billion U.S. dollars*](http://coralreef.noaa.gov/aboutcorals/values/) *and perhaps as much as* [*172 billion U.S. dollars each year*](http://blogs.scientificamerican.com/observations/2009/10/22/how-much-are-coral-ecosystems-worth-try-172-billion-a-year/)*, providing food, protection of shorelines, jobs based on tourism, and even medicines.  Unfortunately, people also pose the greatest threat to coral reefs. Overfishing and destructive fishing, pollution, warming, changing ocean chemistry, and invasive species are all taking a huge toll. In some places, reefs have been entirely destroyed, and in many places reefs today are a pale shadow of what they once were.*

*Corals are related to sea anemones, and they all share the same simple structure, the polyp. The polyp is like a tin can open at just one end: the open end has a mouth surrounded by a ring of tentacles. The tentacles have stinging cells, called nematocysts, that allow the* [*coral polyp to capture small organisms*](http://www.youtube.com/watch?v=3KuFLUzrcfQ) *that swim too close. Inside the body of the polyp are digestive and reproductive tissues. Corals differ from sea anemones in their production of a mineral skeleton.*

Read this information about Coral Reefs taken from <http://ocean.si.edu/corals-and-coral-reefs> .

1. Can you describe the purpose of each of the 3 paragraphs?
2. What does the phrase ‘teem with life’ mean?
3. Explain the word ‘diverse’.
4. Why has the author used the phrase ‘pale shadow’ in the second paragraph?
5. From the author’s description of a polyp, could you draw it?
6. What do you understand by the phrase ‘mineral skeleton’?
7. List 4 ways that the coral reefs are a benefit to us.
8. What does the author believe are the main ways that humans destroy the reefs?

*Coral reefs are on course to become the first ecosystem that human activity will eliminate entirely from the Earth, a leading United Nations scientist claims. He says this event will occur before the end of the present century, which means that there are children already born who will live to see a world without coral.*

*The claim is made in a book published tomorrow, which says coral reef ecosystems are very likely to disappear this century in what would be "a new first for mankind – the 'extinction' of an entire ecosystem". Its author, Professor Peter Sale, studied the Great Barrier Reef for 20 years at the University of Sydney. He currently leads a team at the United Nations University Institute for Water, Environment and Health.*

*The predicted decline is mainly down to climate change and ocean acidification, though local activities such as overfishing, pollution and coastal development have also harmed the reefs. The book, Our Dying Planet, published by University of California Press, contains further alarming predictions, such as the prospect that "we risk having no reefs that resemble those of today in as little as 30 or 40 more years".*

*"We're creating a situation where the organisms that make coral reefs are becoming so compromised by what we're doing that many of them are going to be extinct, and the others are going to be very, very rare," Professor Sale says. "Because of that, they aren't going to be able to do the construction which leads to the phenomenon we call a reef. We've wiped out a lot of species over the years. This will be the first time we've actually eliminated an entire ecosystem."*

Read this article from the Independent Newspaper <http://www.independent.co.uk/environment/nature/coral-reefs-will-be-gone-by-end-of-the-century-2352742.html> .

1. Who is Professor Peter Sale?
2. How do you think Professor Sale feels about humans and coral reefs?
3. What does he mean by ‘a new first for mankind’?
4. Which word in the second paragraph tells you that what the newspaper is writing about are Professor Sale’s ideas and not necessarily the views of the Independent?
5. Which words in paragraph three suggest that Professor Sale’s book has bad news about coral reefs?
6. What do you think he means by the word ‘compromised’ in paragraph four?
7. What sentence tells you that he believes organisms will lose the ability to build reefs?