

## FRAGMENTS OF HOPE: PROTECTING THE BELIZE CORAL REEFS ACTIVITY SHEET (Teacher Version, with answers)

This quiz has been designed to help you learn about the UNESCO World Heritage Site Belize Coral Reef System and the impact of climate change on its survival.

Watch the introductory [video](#) and then have a go at the activities and questions below, using the following resources:

- Fragments of Hope: Protecting the Belize Coral Reefs [interactive map](#)
- Short animated films and downloadable resources available on the Fragments of Hope [website](#)

### ACTIVITIES

1. Visit the Fragments of Hope website and have a look at the short animated films about Ocean Acidification and Coral Bleaching
2. Using the interactive map, visit Placencia (using the search box top left, look for **Placencia**) and find a short film by Mariko Wallen – she will introduce you to the work of Fragments of Hope [please note, this is a YouTube video]
3. Spend 20 minutes or so touring the Belize Coral Reef System, by clicking on the other dots (pins) on the map and watching the short films you find.
4. Now have a go at answering the following questions about what you have just seen and heard:
  - A. Name some of the fish and other marine species you would expect to discover in the reef area?

(Dolphins, permit fish, whiptail ray, eagle ray, turtle, manatee, squid, sharks and nurse sharks, crabs, rough-toothed dolphins)
  - B. Choose one of these animals and write 100 words describing how it moves in the water
  - C. Name the 2 main types of coral found on the reef – hint Mariko mentioned them in her film  

(Elkhorn and Staghorn)
  - D. What are the three main ways that climate change and rising sea temperatures cause damage to coral reef environments?

(The increased number of hurricanes and powerful storms physically breaks the coral; increased temperatures cause coral bleaching; increased acidification of the ocean affects the ability of ocean species to make tough protective shells).



- E. On 8th September, Hurricane Nana hit the Belize coast with sustained winds of up to 75 miles per hour. Re-visit the map pin for Carrie Bow Caye (using the search box, look for **Carrie Bow Caye**). What happened to the coral as a result?

(The coral was badly damaged and broken by the destructive waves created by the powerful winds and stormy weather. Coral reefs protect the coast from more serious destruction, but are damaged themselves. Climate change is leading to an increased frequency of hurricanes in the Caribbean)

- F. Re-visit the Tobacco Caye film (using the search box, look for **Tobacco Caye**), and describe how the divers grow coral in the metal cage nurseries and then plant them out onto the sea-bed [please note, this is a YouTube video]

(Healthy coral tips are removed by hammer from the metal frame tables in the nurseries and collected in a bucket. A waterproof cement is mixed on board the boat and then used to create small mounds on the seabed, into which the coral tips are planted.)

- G. What items of equipment does Fragments of Hope use to protect the coral reef?

(Hammers, diving equipment, boats, cement, cable ties, metal frame tables)

- H. Visit Barranco village on the map (using the search box, look for **Barranco**) and find out about how climate change is impacting on the lives of villagers. Describe what they are doing to combat this? [please note, this is a YouTube video]

(Re-planting mangrove trees to protect the coastline)

- I. If you are interested in discovering more about the work of Fragments of Hope, have a proper look at their website.

- J. Everything we do that contributes towards climate change and ocean pollution affects the Belize Coral Reef System and the people who live there. What actions will you take personally to reduce this impact?

(Reduce use of plastic; recycle plastic; walk to school at least one day a week; turn off lights when you don't need them; turn off the tap when you brush your teeth)

*Students will need access to good strength broadband, and an up-to-date version of a common desktop browser, ideally Chrome or Firefox. The resource does support most common current iOS and Android mobile devices, although the controls will be different.*

*Through this website you are able to link to other websites which are not under the control of The Earth Museum. We have no control over the nature, content and availability of those sites.*