



## Artificial Reefs • Study Guide

In the Florida Keys, several ships have been sunk intentionally as artificial reefs to provide habitat for fish and entertainment for scuba divers. Jonathan visits three wrecks of different ages (the Vandenberg, Spiegel Grove and the Duane in the Florida keys) to see how these wrecks turn into reefs and what it means to the local marine life.

### Objectives

1. Illustrates how reefs are structures that provide shelter for marine life.
2. Explains how reefs can be created artificially from large sunken objects like ships, and how these can create habitat for marine life and attractions for scuba divers, bringing tourism income to the area.

### Questions for before watching the program

1. What is a reef? How are reefs important to fish and invertebrates?
2. What does coral need to grow besides light and nutrients? (Hint, what does coral grow upon?)
3. What are some possible hazards of a sunken ship, either to the environment or to people?
4. What are some possible benefits of a sunken ship?

### Discussion for after watching the program

1. Why do sandy sea floors have very little marine life?
2. What makes a reef a better habitat for fish and invertebrates than a featureless seafloor?
3. Many reefs are made of coral, but coral can't grow on sand. Why not? What does coral need as a "foundation?"
4. Besides a base for coral growth, what else does marine life like about a shipwreck?
5. How are old ships prepared to be environmentally safe to sink? How are they prepped to be safer for divers too?
6. How can a local tourism infrastructure benefit from an artificial reef?
7. How did the oldest wreck (the 25 year old Duane) appear compared to the youngest wreck (the 4 year old Vandenberg)? What is the most obvious change in the marine growth and marine life as the wreck gets older?