



Aquarius Reef Base • Study Guide

In this exciting sneak preview of season 4, Jonathan visits Aquarius Reef Base—the world’s only undersea lab where scientists live in saturation for days or weeks at a time, studying the ocean. It’s an amazing combination of science fiction and undersea adventure!

Objectives

1. Introduces viewers to issues regarding gas uptake and decompression in diving.
2. Demonstrates how research can be accomplished “in saturation.”

Questions for before watching the program

1. If you hold a glass upside-down and then submerge it, does water fill the glass? Why or why not?
2. What would happen if you then took that glass down to 33 feet of seawater? (Internet research: what is the significance of 33 feet of seawater?)
3. If you took an empty glass down to 33 feet of seawater, flipped it upside down and filled it with air, what is the pressure of the air inside?
4. If you brought that glass back to the surface, what would happen?

Discussion for after watching the program

1. What two factors limit scuba divers in how long they can stay underwater before surfacing?
2. How does Aquarius Reef Base change the need for divers to limit their dive time?
3. What are some technical difficulties that were overcome to allow divers to live in Aquarius?
4. What are some ways in which the higher ambient pressure inside Aquarius affects people?
5. Even though we can’t metabolize nitrogen, why does it play a role in diving physiology?
6. What is meant by the term “saturation diving?”
7. Why doesn’t water come inside Aquarius from the big hole in the bottom?
8. Where does Aquarius get its power, air and communications with land?