



## Stargate Blue Hole • Study Guide

In a remote part of Andros Island in the Bahamas, a deep crack in the ground leads into a beautiful and stunning underwater cave system. Jonathan joins a veteran cave explorer to plumb the crystal clear water in the depths of Stargate Blue Hole.

### Objectives

1. Introduces viewers to Bahamian Blue Holes, and how they form.
2. Teaches concepts in geology.

### Questions for before watching the program

1. What is limestone? How does it form?
2. What is “acid rain” and how does it form? Did acid rain exist before people?
3. Can an acid dissolve rock?
4. What is a fault line?
5. How do cave formations like stalactites form? Can they form underwater?
6. When was the last ice age? How has the Earth’s sea level changed since the last ice age?
7. How can we tell where the sea level was long ago by examining evidence underwater?

### Discussion for after watching the program

1. How was the formation of Stargate related to a fault line in the rock?
2. How do Blue Holes form and what is the role of acid rain?
3. Formations like stalactites and flowstone show that Stargate was once a dry cave. Why is it now full of water?
4. What is the limestone in the Bahamas made from? Why does acid rain dissolve it?
5. As the divers leave the cave, they swim through particles raining from above. What are they and why are they there?
6. Why is Stargate filled with fresh water in the shallows and salt water down deep?
7. What is the name for the weird looking boundary layer where the salt water and the fresh water meet?
8. Internet Research: how much lower were sea levels during the last ice age? Where was all the water?