Mt. St. Helens: Back From the Dead Video Video Guide

1. When did Mt. St. Helens erupt last?
Mt. St. Helens last erupted on October 2004

2. Where is Mt. St. Helens located?
Mt. St. Helens is located in Washington state.

3. How much magma was released during the eruption?
Millions of tons of magma was released during the eruption.

4. What is a pyroclastic flow?
A pyroclastic flow is a cloud of searing gas and rock.

5. How far from the summit is Spirit Lake located?
Spirit Lake is located 4 miles from the summit.

6. How many people were killed by the eruption?
57 people were killed from the eruption.

7. How far away was the furthest victim?
The furthest victim was 13 miles away.

8. How many birds disappeared during this disaster? How many insects?
Thousand of birds and billions of insects disappeared.

9. What happened to Spirit Lake? Explain.

After eruption, the lake became murky. The surface was smothered in dead trees. Hundreds of species of aquatic life were dead. If you put your hand in the water you couldn't see it.

10. Explain what the landscape in region looked like after the eruption (end of part 1).
After eruption, mountain created mile wide crater that was 2000 feet deep.

11. What is the Pacific Ring of Fire?
The Pacific Ring of Fire is a vast arc of volcanoes running for thousands of miles.

12. Explain what has caused the volcano at Mt St. Helens.
The cause of the volcano Mt. St. Helens is the two plates, creating volcano, are converging. The Pacific Plate is subsiding under the North American plate creating magma build up.

13. What did ecologists find when they first came to the mountain after the eruption?
The ecologists found nothing but dead, uprooted trees.

14. What were the first signs of life on the mountain? What did they see happening?
The first sign of life was freshly disturbed earth. They saw a Pocket Gopher.

15. Why were the ecologists so surprised to see a flowering plant a year after the eruption (end of part 2).
The ecologists were surprised because it was the first sign of life in an area that was completely extinguished.

16. How did the plant manage to grow in such a barren area? Explain.
The plant has a special root structure that pervaded its own fertilizer. The bacterium works with the plant which provides nitrogen, and gives the bacterium simple sugar.

17. What is a pioneering species? How do they help out in nutrient poor environment? Explain.
The pioneering species is the species that first colonize after the ecosystem was disrupted. They help out a nutrient poor environment because, when they die, they release nutrients into the soil.

18. What is causing earthquakes on Mt. St. Helens?
Lava is breaking through rocks and is flowing through the crater floor, creating earthquakes.

19. Explain how the pioneering species are helping to revive the landscape.
When the pioneering species die, they release nutrients into the soil, which enriches them. The enriched soil helps other plants to grow and survive.

20. What were scientists finding in Spirit Lake? Why was the dissolved oxygen levels so low? What was this causing?
Scientists were able to find bacteria in Spirit Lake. The dissolved oxygen levels were so low because the bacteria was consuming it. This was causing life to be impossible underwater.

21. Explain how life in the lake is able to come back. What species is first (pioneering species)? How were they brought to the lake (end of part 3)?
Life is able to come back, because phytoplankton turns sunlight to oxygen. The phytoplankton is the pioneer species. They were brought to the lake by birds  or blown in by the winds.

22. How are the salamanders able to survive in the harsh environment?
Salamanders are able to survive in the harsh environment because they go into tunnels, which are cool and moist.

23. How was the rate of recovery on the mountain? Was it what scientists expected (end of part 4)?
The rate of recovery was far faster than what anyone expected. It wasn't what the scientists expected.

24. Where does all of the explosive force in volcanoes come from? Where does the gas come from (end of part 5)?
The explosive force in the volcanoes came from the gas, which pressurizes the magma. The gas comes from water, a component from magma.

25. Discuss the miraculous return of nature to Mt St. Helens years after the eruption. in your discussion, use the following terms in your answer: succession, pioneer species, symbiosis (mutualism), and nutrient cycling.
    The return of nature to Mt. St. Helens began with secondary succession. Secondary succession is when there is a place that has soil but once had living organisms. The pioneer species, the Northern Pocket Gopher dug up the soil to the surface. This soil began to grow a plant that can colonize the ecosystem. This plant is able to survive, because of its special root structure that provides its own fertilizer. when these plants die out, it leads to the enrichment of soil of nutrients. This is called nutrient cycling. Another pioneer species in Spirit Lake was the phytoplankton. The phytoplankton converted sunlight into oxygen, which led to the increase of fish species population. The phytoplankton and the fish in the lake were in mutualism because both of these organisms benefit.