

Name: _____

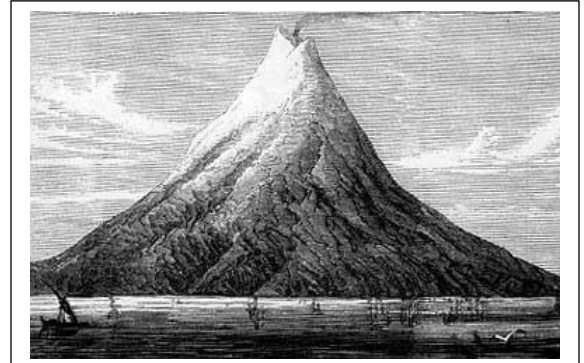
Date: _____

Period: _____

Directions: Answer the following questions in complete sentences unless otherwise stated.

This activity provides you with an opportunity to examine how “life re-establishes itself” after a devastating volcanic eruption.

On August 27, 1883, two volcanoes located on a single island in the Indian Ocean erupted at the same time. The blast was so great that a hole about 250 meters deep remained where the peak of the volcano had been. The eruption on the island of Krakatoa has been said to be the loudest noise ever heard on Earth. The blast was heard in Hawaii, several thousands of kilometers away. Hot cinders and lava covered the island. Before the eruption, Krakatoa had been covered with a tropical forest. The eruption completely destroyed life on Krakatoa and two other nearby islands.



Two months after the eruption, scientists visited the island of Krakatoa. They found it steaming from a recent rain that had fallen on the lava that was still hot. In some places, the volcanic ash was washing away.

In other places the ash was still more than 60 meters deep. No life was visible. Scientists visited the island nine months after the explosion, and at later times, to record the living things on Krakatoa.

Some of the data recorded is shown on the diagram attached to this sheet.

Look for some interesting patterns in the rebirth of life on the island of Krakatoa. Study the plant life.

a) How did the number of plant species change during the decades after Krakatoa's eruption?

b) Which types of plants seem to be most successful along the coast and inland shortly after Krakatoa's eruption?

Coastal areas →

Inland areas →

c) How did the number and variety of organisms change within the first three years along the coast and inland?

Coastal areas →

Inland areas→

d) If all life was wiped out on the island because of the volcanic eruption, where do you think these plants might have come from? How about animals? What reason do you have for your belief?

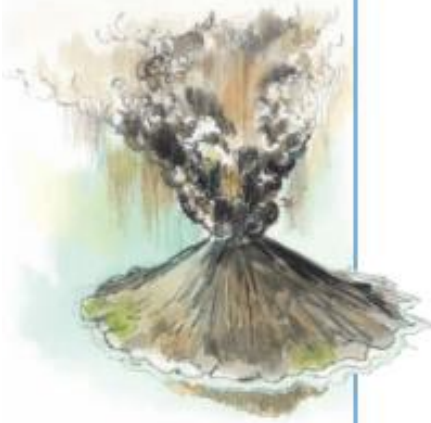
Plants→

Animals→

e) Why do you think it took less time for the coastal areas to grow than the inland areas?

f) How many years did it take for the complete recovery of the forest growth? Do you think it would have taken less time if ground had very little ash – like in the case of a forest fire? Why?

SUCCESSION ON KRAKATOA



COASTAL AREAS

INLAND AREAS



Only algae and one lone spider found... mostly bare lava.

3/4 years since eruption



No plant or animal types found. Ground completely bare.



Ground completely covered with grasses. Many ferns, and many tropical seashore plants found. Insects also found.

3 years since eruption



A few grasses, many ferns and insects found.



Completely covered with young coconut trees, horsetail trees, and sugar cane plants. Lizards as well as insects found.

13 years since eruption



Almost all covered with grasses, orchids, and some horsetail trees. Lizards and insects found.



Completely covered as before, but with a greater number of trees.

23 years since eruption



Completely covered now with grasses, orchids, and groves of horsetail and young coconut trees.



By now a dense forest covers the area. All the previously listed plants and animals are found in abundance.

47 years since eruption



Inland areas now support same amount of plants and animals as the coast.