

# STUDENT REFERENCE SHEET

## Part II: Succession Stations

### Station 1: Mount St. Helens - Before and After

Mount St. Helens is a volcano in the Cascade Mountain range in Washington state. For many years, it was dormant. Then, at 8:32 Sunday morning, May 18, 1980, Mount St. Helens erupted!

A 5.1 Richter earthquake was generated causing the north face of this tall volcano to totally collapse, sending a massive avalanche of rock, sediment, and ash crashing down the mountain taking trees and everything else in its path with it.

At the same time, a huge plume of gas and ash was released from the vent of the volcano and was sent thousands of feet into the air. Because of this, the ash fell miles away from the volcano.

Even though the eruption only lasted about nine hours, the land surrounding the volcano was totally changed. Besides the mountain being partially blown apart, almost 150 square miles of forest was destroyed. Many of the trees, embedded in mudslides, poured into Spirit Lake.



# STUDENT REFERENCE SHEET

## Part II: Succession Stations, continued

### Station 2: Hurricane Katrina

Hurricane Katrina was one of the deadliest hurricanes in the history of the United States, killing over 1,800 people. It is also the costliest U.S. natural disaster and is considered one of the five deadliest hurricanes.

One of the most damaging aspects of Hurricane Katrina was the 20 foot storm surge. The storm surge brought massive amounts of sea water inland. Many environmental studies have been done to learn what effect this hurricane has had on the ecology of the area. Soil samples were examined, and researchers determined there were high concentrations of the elements sodium, phosphorous, and potassium. Other factors caused significant pH changes in the soil as compared to pre-Katrina soil samples.





# STUDENT REFERENCE SHEET

## Part II: Succession Stations, continued

### Station 3: Forest Fires

This pictures shows the aftermath of a fire caused by a lightning strike. Before the fire, an old growth forest with many large oak and maple trees was here.

Even though most fires in the United States are either accidentally caused by humans or by nature, a few are intentionally set in order to restore balance to an ecosystem.





# STUDENT REFERENCE SHEET

## Part II: Succession Stations, continued

### Station 4: Kilauea Lava Flow

Volcanoes and lava flows may not be familiar where you live, but they are commonplace in Hawaii.

Kilauea is an active volcano and is the youngest Hawaiian Island. Kilauea has erupted 62 times in 245 years. The most recent eruption began in 1982 and is still going! Once the volcano erupts, the lava easily flows across the land. This magnesium-rich lava can reach temperatures over 1000°C, and as you can imagine, scorches everything as it moves.

The lava flows do not necessarily keep covering the same areas, though. Some flow into the ocean and make the island grow larger. Having an active volcano around can be dangerous for living things, but volcanic ash and lava flows can be a source for minerals that enrich the soil.



# STUDENT REFERENCE SHEET

## Part II: Succession Stations, continued

### Station 5: Indonesian Tsunami

Indonesia is a beautiful island located north of Australia and south of the Philippine Islands. Because of the island's location in an active earthquake zone, the residents of Indonesia are always aware of the dangers of a tsunami forming.

This picture shows the devastating aftermath of the 2006 Indonesian tsunami. A tsunami is a large wave that can be created from a massive under-sea earthquake; in this case measuring 7.7 on the Richter scale. This particular earthquake was triggered off the coast of Java. It generated a 10 meter wave that hit the coast of Indonesia, catching many locals and tourists off guard and killing thousands of people.





# STUDENT REFERENCE SHEET

## Part II: Succession Stations, continued

### Station 6: Strip Mining

Habitat destruction can occur in various ways. Sometimes the destruction is caused by a natural disaster, but other times it is caused by human activity. An example of human activity that can cause habitat destruction is strip mining.

Strip mining is a type of surface mining where massive amounts of soil and rock are removed from the surface of the earth in order to gather resources like coal or mineral ores. Trees and other vegetation are bulldozed first. Rocks can be further excavated with explosive blasts.

In years past, the land laid waste after strip mining. Since the Mine Reclamation Act of 1977, efforts to repair the mined areas are being made in order to improve ecosystems that were disrupted.

Even though the mined areas undergo reclamation steps, the process of ecological succession will take many years.

