

# Explore Dust Storms!

## phenomenal science

Life in the Great Plains was difficult in the 1930s. Midwestern Americans faced the **Great Depression**, years of drought, and relentless dust storms that lasted for months. Just when it seemed like life couldn't get worse, a terrible, shaking dust storm devoured the Great Plains on April 14th, 1935. A dark wall of blowing sand submerged Oklahoma and Texas. The sun and sky were completely blacked out by the storm. The following day, these terrible events would be summarized by three words: **The Dust Bowl**.

**The Dust Bowl** was a tragic event that ruined many lives. Natural events combined with human activity helped prolong the sand storms in the 1930s. Dust storms often have a bad reputation, but these storms are also very valuable. Every year winds transport *20 million tons of dust* across the Atlantic Ocean from the Sahara desert in Africa to the South American Amazon basin. These storms carry over rare nutrients that the Amazon Rainforest needs.

The Sahara is a perfect place for dust storms to brew: the land is large and has a lot of dry, loose soil. Ideal dust sources include deserts and dry lands. When a wind sweeps through an ideal area, it can lift dust nearly *2,269 ft in the air!* Upon closer inspection, the dust isn't just being thrown up and up; particles actually bounce off of each other and generate an electrical charge that carries it higher and higher.

Over the years, more and more human activity has encouraged dust storms. Cutting down trees, bad farming, and overgrazing animals can leave dry, crumbly soil that is easily carried by the wind, creating an entirely new desert. Scientists call this process **desertification**.

**Desertification** is extremely scary, especially since it's happening more and more. However, it's possible to stop it from spreading. Twenty to thirty years after the **Dust Bowl**, government programs and conservation groups were able to transform the Great Plains from a desert to a fertile land.

## The Dust Bowl

1935

### Black Sunday

This giant sand storm covered Oklahoma and Texas, blacking out the sun as it rattled these states. It was the biggest and baddest storm during The Dust Bowl.

2010

### Beijing Sand Storm

China is one of the world's major victims of desertification. In 2010, the Chinese city of Beijing was hit by ten sand storms. Dust storms have increased by six fold over the last 50 years, affecting not only China, but also South Korea, Japan, and other neighboring countries.

2011

### Phoenix Dust Storm

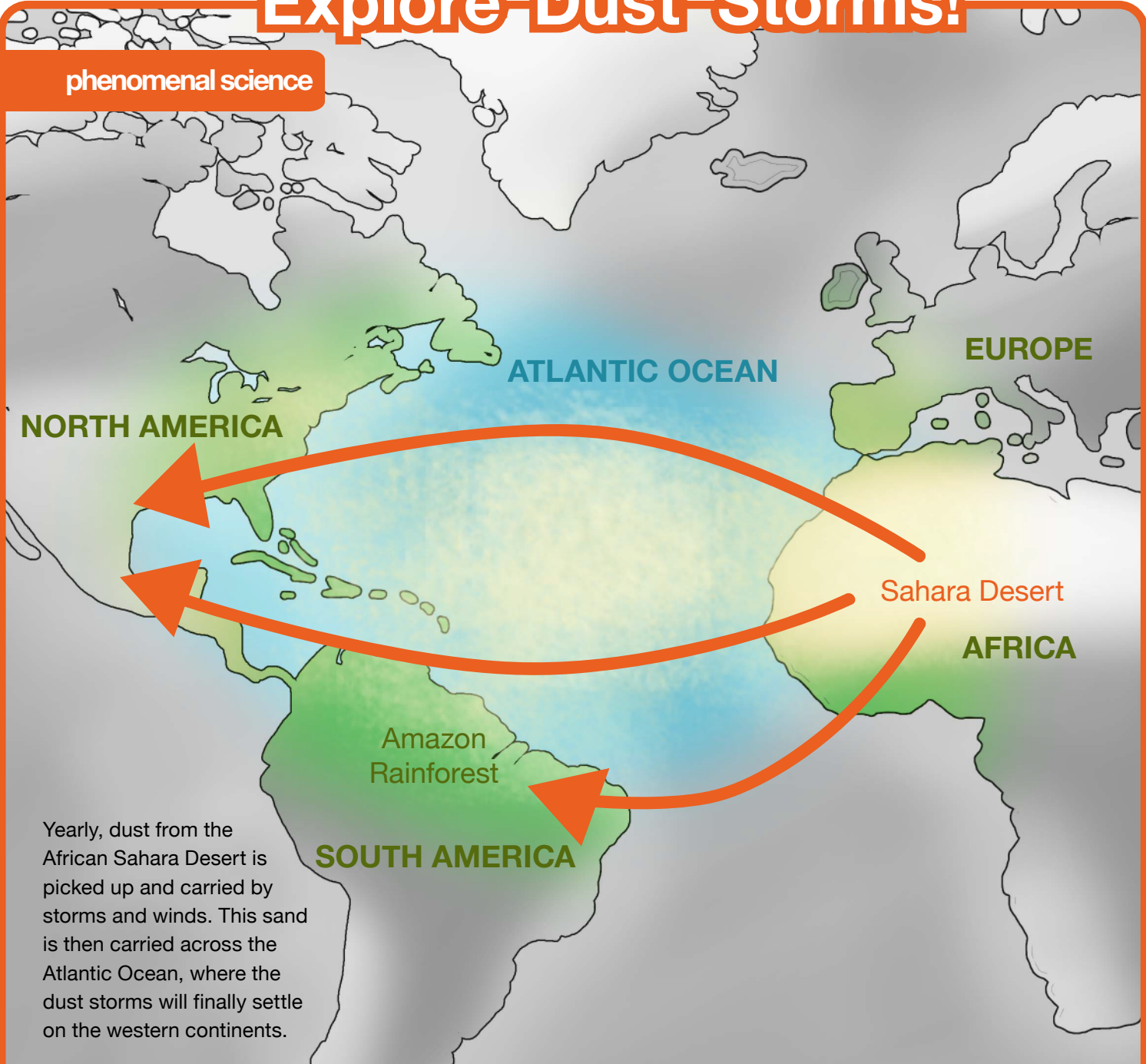
Reaching heights between 8,000 - 10,000 feet, this giant dust storm swept Phoenix, Arizona under a coat of sand.

## Safety Tips

- 1 Be aware of dust storm warnings.
- 2 If you're outside during a dust storm, take cover and stay put.
- 3 Be prepared if you live in a dust storm prone area.
- 4 Carry a good breathing mask to filter dust particles.
- 5 Wear airtight goggles during sand storms.
- 6 Try to stay close to a group.
- 7 In a pinch, use a wet shirt or cloth to cover your mouth and nose.

# Explore Dust Storms!

phenomenal science



Yearly, dust from the African Sahara Desert is picked up and carried by storms and winds. This sand is then carried across the Atlantic Ocean, where the dust storms will finally settle on the western continents.

**After reading the article on dust storms, please answer the following questions:**

What are a few tips to stay safe during a sand storm? \_\_\_\_\_

What are the perfect conditions for dust storms to brew? \_\_\_\_\_

Define desertification. \_\_\_\_\_