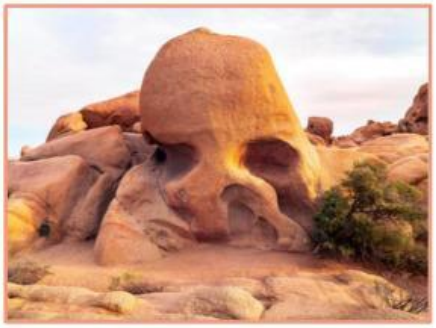
Top 10 Strange Geological Formations

Over time, different geoscience processes have caused changes to the surface of the Earth. These processes can happen quickly or take millions of years. They occur all over the world. Some of the resulting formations have to be seen to be believed!

10. Eye of the Sahara (Africa): This geological formation was only discovered in the 1960s *and only because the Gemini astronauts spotted it from space!* It looks like a giant bullseye. At first, geologists assumed that it formed when something large hit Earth. However, after a lot of study, they determined that it likely formed when **Pangea** (the supercontinent that existed in early geologic time) began to break apart and a volcano occurred. In the Eye of the Sahara, geologists have found **igneous rocks** (rocks formed from volcanic magma) that are over 100 million years old.



9. Skull Rock (California): Some people might consider this geological formation spooky because it looks like a skull. It is located near Palm Springs, California, in the Joshua Tree Forest. It was formed mainly through **erosion** (wearing away of rocks by water or wind and movement of those pieces by gravity, wind, water, or ice). Rain got caught in the cracks in the granite rock (a coarse igneous rock), causing it to wear away.

8. Immortal Bridge, Mt. Tai, China: At first glance, this looks like a person made it, but in fact, this rock formation is believed to be from the Cambrian Period about 500 million years ago. The arch is made up of single huge rolling stones, which once fell between the rocks and remained stuck between them. It got its name *Immortal Bridge* because many believe that if you cross over it safely, you will become immortal. It seems precarious, but the stones have barely moved their position in many million years and people *do* cross it.

7. El Zacatón Sinkhole (Mexico): A **sinkhole** is a hole in the ground that collects water and does not drain it. The rocks below the water dissolve, a cave starts to form underground, and then eventually, the land on top collapses, creating a sinkhole. Sinkholes are more common in areas where the surface is limestone, carbonate rocks, or salt beds because

these types of rocks are more easily dissolved. At 1000 feet deep, El Zacatón is the world's deepest sinkhole. No one has reached the bottom, but divers have died trying.

6. Cueva de los Cristales "Cave of Giant Crystals" (Chihuahua, Mexico): This incredible cave was discovered in 1910 by silver and lead miners. It contains some of the largest crystals ever found – up to 12 meters long and 4 meters wide. They are a type of the mineral **gypsum** which forms naturally when water evaporates in mineral-rich marine soil environments. The cave is hot, up to 140°F. The heat, plus the 100% humidity and calcium-rich flood water, made perfect crystal-growing conditions.

5. Khao Ta-Pu (Thailand): This 20-meter-high rock is famous for its appearance in James Bond movies. The 250-million-year-old rock is made of **limestone**, a sedimentary rock formed from the calcium remains of ancient sea creatures. **Sedimentary rocks** form when eroded rocks or the remains of organisms like coral form small pieces. This **sediment** is carried by wind or water and settles as mud. New sediment piles on top. The older layers are compressed and become hard. In time, the sediment turns to rock. Water and wind erosion have made Khao Ta-Pu so thin – just 4 meters wide at the bottom and 8 meters wide at the top.

4. Wave Rock (Australia): Let's go surfing! It looks like it's about to crash! This next formation is one side of Hyden Rock in Australia. It's about 15 meters high and 110 meters long. Local people believed the rock was formed by the Rainbow Serpent slithering along the ground. Actually, it was formed by erosion and **weathering** (the breakdown of rocks due to wind or rain). Water dissolved the granite as it ran down the face of the cliff over 2.7 billion years ago. This rock formation is called a flared slope.

3. Painted Cliffs (Tasmania): 500-350 million years ago, these ocean-side cliffs formed when water **percolated** (filtered through rock) through sandstone. This left behind traces of iron oxides that stained the rocks, causing these cliffs to look like someone had painted them in vivid shades of orange, yellow, and red. The rocks in these cliffs also have a honeycomb

honeycomb appearance that has occurred due to sea spray hitting the rock porous rock and wearing it away in strange ways. The combination of colors and strange patterns makes these cliffs uniquely pretty.

2. Giant's Causeway, Northern Ireland: This beautiful spot in Northern Ireland is made up of over 40,000 smooth, hexagonal columns made of basalt, an igneous rock. It formed due to a **volcanic fissure eruption** (lava erupting from a crack in the volcano) over 60 million years ago. When the lava oozed from fissures in the earth, the molten rock cooled and contracted (shrank), cracking into the hexagon shapes. The volcano that gave birth to the basalt columns can't be seen today. It has disappeared from the face of the Earth through erosion. Giant's Causeway got its name from an old Irish legend that says the causeway (road) was built by the giant Finn McCool so that he could connect Ireland to Scotland and battle with his enemies.

1. Grand Canyon, Arizona: It is only fitting to end this article with the Grand Canyon. It is indeed grand and welcomes six million visitors each year. Located in Arizona, the Grand Canyon is 277 miles long, 18 miles wide, and over 6,000 feet deep. It's bigger than the whole state of Rhode Island. The story of how Grand Canyon came to be begins over 6 million years ago, when the Colorado Plateau, an area of land that covers parts of Arizona, Utah, Colorado, and New Mexico, began to uplift due to tectonic activity. As the land rose, the Colorado River flowed across the plateau, cutting deep channels into the rock over time. The formation of the Grand Canyon was a slow process that involved the gradual erosion of the rock by the river's flowing water. The river would carve away at the soft rocks, such as limestone and sandstone, while the harder rocks, like granite, would resist erosion. This process continued for millions of years, resulting in the deep, winding canyon we see today.

The Grand Canyon is one of the most studied geological formations in the world. Examining its layers allows scientists to look back in time. The bottom layer was formed first and is therefore the oldest. Each subsequent layer was formed later, with the youngest rocks on the top. In geology, this is called the **principle of superposition**.

Task 1. Choose the correct answer:

1. How was the Eye of the Sahara discovered?

A. A group of explorers found it

B. A satellite took pictures of it

C. Astronauts spotted it from space

D. A volcanic eruption uncovered it

2. Why does El Zacatón Sinkhole keep getting deeper?

A. The rocks below keep dissolving

B. Lava is expanding underground

C. A river is carving it deeper

D. Earthquakes keep breaking the rock

3. What type of rock is Giant's Causeway made of?

A. Sedimentary rock

B. Igneous rock

C. Metamorphic rock

D. Limestone

4. What makes the Painted Cliffs colorful?

A. Different types of lava

B. Minerals left behind by water

C. The reflection of the sun

D. Coral fossils

5. What is the main reason that Khao Ta-Pu is so thin at the bottom?

A. The wind shaped it over time

B. A volcanic explosion

C. An earthquake split the rock

D. Water and wind erosion

6. What caused Skull Rock to form?

A. Movement of tectonic plates

B. Rain erosion wearing away the granite

C. An asteroid impact

D. Hot lava cooling into shape

7. Why is the Immortal Bridge believed to bring immortality?

A. It has magical stones

B. It has existed for over 500 million years

C. A legend says that crossing it safely grants immortality

D. Scientists found rare minerals inside it

8. What makes the crystals in Cueva de los Cristales so large?

A. High temperatures and mineral-rich water

B. Wind shaping the crystals over time

C. The pressure of expanding lava

D. Earthquakes shaking the minerals into place

9. What geological principle helps scientists study the Grand Canyon's layers?

A. Plate tectonics

B. Superposition

C. Erosion

D. Mineral deposition

Task 2. Match each landmark to its correct description. Write the number of the landmark next to each description.

Landmark			Description
1.	Eye of the Sahara		The world's deepest sinkhole
2.	Skull Rock		A natural rock arch believed to bring immortality to those who cross it
3.	Giant's Causeway		A massive canyon in Arizona formed by millions of years of erosion
4.	El Zacatón Sinkhole		Formed by rain erosion in California
5.	Wave Rock		A cave in Mexico containing giant crystals up to 12 meters long
6.	Immortal Bridge		Sandstone cliffs in Tasmania with vivid red, orange, and yellow patterns
7.	Cueva de los Cristales		Looks like a giant bullseye from space
8.	Khao Ta-Pu		Looks like an ocean wave about to crash
9.	Painted Cliffs		A limestone rock in Thailand famous for its appearance in James Bond movies
10.	Grand Canyon		Made of hexagonal basalt columns

Task 3. Match each vocabulary word with its correct definition. Write the number of the correct word next to each definition.

Vocabulary			Definition
1.	sedimentary rock		A hole in the ground formed when the land collapses over an underground cave
2.	igneous rock		Movement of Earth's plates that causes earthquakes and land shifts

3.	fissure		The process of water slowly passing through rock or soil
4.	percolate		A type of dark-colored igneous rock formed from cooled lava
5.	tectonic activity		A type of rock formed from compressed layers of sediment over time
6.	basalt		The principle that states older rock layers are found beneath younger layers
7.	sinkhole		A type of rock formed when magma or lava cools and hardens
8.	superposition		The breaking down of rocks due to wind, water, or temperature changes
9.	limestone		A type of sedimentary rock made from the remains of ancient sea creatures
10.	weathering		A large crack in the Earth's surface caused by volcanic activity