Folded Mountains

By Patti Hutchison

[1] Mountains are found on every continent. They cover about one-fifth of the surface of the earth. What forces caused the majestic mountains that have formed on the earth's landscape?

[2] Many mountains form at or near plate boundaries. Remember that the lithosphere is broken up into large plates. These plates float around on the molten mantle deep below the surface. Sometimes the plates bump into each other. Sometimes they pull apart. Either way, stress is placed on the crust above.

[3] Rocks can be put under extreme pressure for thousands or millions of years. The rocks may become extremely hot during compression. The gradual stress causes the rocks to bend. This process is called folding.

[4] Think of a piece of paper lying flat on a table. If you slide the two ends of the paper toward each other, the paper will bend in the middle. Two crustal plates moving toward each other sometimes do the same thing. This is the way folded mountains are formed.

[5] Folded mountains are formed when two plates collide head on. Pressure is applied from both sides. This happens at convergent boundaries. There is no subduction. This means that neither plate is forced under the other one.

[6] The two plates pile up on each other. Their edges fold and form a series of ripples on the crust. These ridges and valleys look much like a roller coaster. They form perpendicular to the direction of the pressure.

[7] The upward folds are called anticlines. They fold toward the sky. Scientists search here for oil. Oil deposits are often trapped in the rocks in these areas.

[8] The downward folds are called synclines. These fold toward the ground. They can dip a few meters or several kilometers.

[9] Folded mountains are usually formed from sedimentary rocks. They are usually found along the edges of continents. This is where thick deposits of sedimentary rock build up.

[10] The Appalachian Mountains in the eastern United States were formed by folding. They are made up of many anticlines and synclines. About 400 million years ago, North America collided with Africa. These beautiful mountains were the result of this collision.

[11] About one-tenth of the earth's population lives in mountain homes. Much of our fresh water starts out at the tops of mountains. All major rivers have their sources in mountains. Folding is one process that forms the mountains that have become so important in our daily lives.

Name _____ Science Pd _____

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1. The gradual stress that causes rocks to bend is called: (A) Folding (B) Rippling (C) Faulting	2. Folded mountains form when plates: (A) Collide (B) Slide past each other (C) Move apart
3. What happens during subduction? _____ _____	4. What is the difference between anticlines and synclines? _____ _____
5. What kind of rocks usually form folded mountains? (A) Igneous (B) Sedimentary (C) Metamorphic	6. The Appalachian Mountains were formed millions of years ago when North America collided with: (A) Antarctica (B) Europe (C) Africa