



FIGURE 2
Stress in Earth's Crust
 Stress forces push, pull, or twist the rocks in Earth's crust. *Relating Cause and Effect* Which type of stress tends to shorten part of the crust?

Types of Stress

Three different kinds of stress can occur in the crust—tension, compression, and shearing. **Tension, compression, and shearing work over millions of years to change the shape and volume of rock.** These forces cause some rocks to become brittle and snap. Other rocks bend slowly, like road tar softened by the sun. Figure 2 shows how stress affects the crust.

Most changes in the crust occur so slowly that they cannot be observed directly. But if you could speed up time so a billion years passed by in minutes, you could see the crust bend, stretch, break, tilt, fold, and slide. The slow shift of Earth's plates causes these changes.

Tension The stress force called **tension** pulls on the crust, stretching rock so that it becomes thinner in the middle. The effect of tension on rock is somewhat like pulling apart a piece of warm bubble gum. Tension occurs where two plates are moving apart.

Compression The stress force called **compression** squeezes rock until it folds or breaks. One plate pushing against another can compress rock like a giant trash compactor.

Shearing Stress that pushes a mass of rock in two opposite directions is called **shearing**. Shearing can cause rock to break and slip apart or to change its shape.

 **Reading Checkpoint** How does shearing affect rock in Earth's crust?