Earthquakes transcript

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https://www.youtube.com/watch/4Y-62Ti5_6s

Earthquakes are natural vibrations caused by sudden movements in the Earth's crust, the Earth's thin outer layer.

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Natural hazards are natural events that cause damage to property (like houses and farms) people and the environment. Other natural hazards are things like volcanoes, tsunamis, tornadoes, hurricanes and floods.

Earthquakes are natural hazards because the shaking of the Earth's surface can cause city buildings to collapse and injuring and sometimes killing thousands of people.

Geologists study earthquakes to understand where they might happen and how people can be prepared and protected when an earthquake strikes.

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The edges of tectonic plates are jagged and rough. This means that when they push and grind past each other, at plate boundaries they generate lots of friction.

Sometimes blocks of rock can become locked together. When this happens, the plates get stuck together the energy that would normally cause the blocks to move past each other is stored up.

Eventually the stress builds up so much that the plates suddenly jolt into a new position. This movement releases vibrations called seismic waves which travel through the Earth, shaking the surface, including anything on it. This is an earthquake!

The point at which the earthquake occurs below the Earth's surface is called the focus, the point directly above the focus on the Earth's surface is known as the epicentre.

When an earthquake happens, it releases vibrations which travel outward from the focus in every direction. When these vibrations reach the surface, they cause the ground to shake.

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Geologists know where earthquakes are likely to happen but it is impossible to predict when an earthquake will occur. It is important for earthquake-prone countries such as Japan to be prepared at all times.

Engineering buildings to withstand earthquakes is extremely important in built up cities such as Tokyo in Japan. Engineering that allows buildings to 'wobble' instead of remaining still in an earthquake can help stop buildings collapsing and potentially save thousands of lives during a large earthquake. Other useful ways to stop building collapsing is to install computer-controlled weights on the roof, build form fire resistant materials, install automatic shutters which prevent the windows for shattering and injuring people during an earthquake, make sure buildings have good road access and open areas for people to evacuate safely.

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What is a tsunami?

If the ocean floor moves suddenly in an earthquake it can cause the water above to form a series of huge waves called a tsunami.

Tsunamis spread out very quickly across the ocean (reaching speeds of up to 800km/hour!). Out in the ocean tsunami waves are usually only about 30cm high, however as they get closer to land, the sea becomes shallower and the tsunami waves are forced to slow down and increase in height, sometimes up to 40m!

When tsunamis reach land they can destroy buildings, flood whole cities and kill and injure many people.