



Air Pressure

Air is pressing down on you all the time. Living on Earth's surface, we experience the highest air pressure or atmospheric pressure.

Air is pulled to the Earth's surface by gravity, so most air is found six kilometres above Earth's surface. This means the atmosphere is most dense near the Earth's surface where the atmospheric pressure is highest.

As you travel higher up in to the atmosphere, the air pressure decreases. By the time you travel 5.5 kilometres high into the sky, the air pressure has almost halved.

If you climb up Mount Everest, nearly 8 kilometres high, the air pressure drops to one third of the air pressure at sea level (30 kilopascals versus 96 kilopascals at sea level).

When you drive up a mountain, or fly in a plane, your ears may 'pop' because the air pressure is changing. As you climb higher up into the sky, air pushes less forcefully on your ear membrane. This allows air inside your middle ear to expand. This expanding air escapes through a tube leading to your throat, creating that 'popping' feeling.

Changes in air pressure (caused by air being warmed up and cooled down) are also important for weather patterns. When the air pressure changes, it can be measured using a barometer, which can then predict weather patterns. High pressure systems are where air is sinking (generally bringing fine weather). Low pressure systems involve warm air rising, cooling down and forming clouds (which usually bring rainy weather).

More Information

Air Pressure and weather systems http://www.bom.gov.au/lam/Students_Teachers/pressure.shtml

Atmospheric Pressure [http://ww2010.atmos.uiuc.edu/\(Gh\)/guides/mtr/fw/prs/def.rxml](http://ww2010.atmos.uiuc.edu/(Gh)/guides/mtr/fw/prs/def.rxml)

Pressure on Earth, Hypertextbook <http://hypertextbook.com/facts/2001/JaredGoldberger.shtml>

Scientific American The Amateur Scientist
Making Experiments out of Thin Air. Carlson, S. 1998. April:98-99