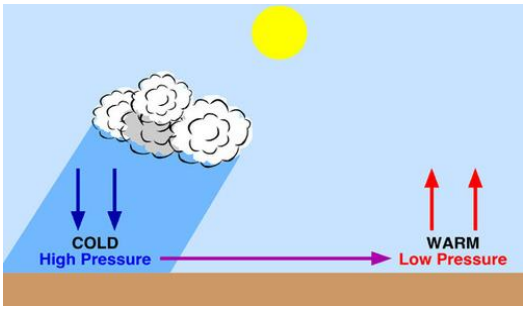
Air Pressure



Air is all around us, even though we can't see it. And even though air seems light, it actually pushes down on everything, this is called air pressure. Air pressure is how hard the air is pressing on things. It changes depending on the weather and your location, like whether you're up a mountain or near the sea. Air is always moving, rising, falling, warming, cooling, so air pressure is constantly changing, even if we don't feel it. Weather forecasters measure these changes to help predict the weather.

Measuring air pressure is important for a number of reasons. First of all, air pressure is important to predict the weather. This is because high air pressure usually means clear skies and sunny weather, but low air pressure can mean clouds, rain, or even storms. That's why weather forecasters always check air pressure — it helps us know what kind of weather is coming! Scientists also measure air pressure to learn about the atmosphere, the layer of air around our planet. It helps them study storms and hurricanes, climate change, and how the air behaves in different places around the world.

Air pressure isn't just measured by scientists. It is very important for pilots and airplanes. As a plane goes higher, air pressure gets lower. Pilots use air pressure tools to know how high they are flying and to stay safe in the sky! When you climb a mountain, the air gets thinner (less pressure). Hikers and climbers use air pressure to tell how high they've gone. It also helps them prepare — less pressure means it's harder to breathe up high! Ever notice your ears "pop" in an airplane or driving up a hill? That's because the air pressure around you is changing, and your ears are trying to keep up!

A barometer is a science tool that measures air pressure. It tells us how heavy the air is pressing down. Air pressure is usually measured in millibars (mb) or hectopascals (hPa) – they mean almost the same thing! Normal air pressure at sea level is about 1013 mb or hPa. Barometers help us know if the weather is changing:

Rising air pressure = sunny, dry weather

Falling air pressure = rain or storms coming

You can make your own barometer. You'll need a glass jar, a balloon, a rubber band, a straw, tape, paper and pen. Cut the top off the balloon and stretch it over the jar like a drum. The tape a straw across the balloon and tape a piece of paper behind the straw. Watch the straw move up and down as the air pressure changes! The straw moves up when air pressure is high and down when it's low. For more details look at How to Make a Barometer for Kids or How to Make a Homemade Barometer - 2 Ways

You could test your barometer and see if it matches the weather outside and forecasts! Compare over different days and see how accurate it is.