

# Air Pressure and Wind

By Sharon Fabian

<sup>1</sup> Air is the atmosphere that is always around us. Most of the time we don't even notice that it is there. We are so used to living in this ocean of air that we don't even feel it most of the time. But when the air moves, that's a different story. We can feel the change when the wind blows and when the air pressure drops or rises. Air pressure and wind are two features of wind that are very noticeable.



<sup>2</sup> Air pressure is the weight of the air pressing down on us and on everything else around us. It is what makes a balloon get bigger when you blow it up. Air pressure also causes the air to shoot out all at once when you poke even a tiny hole in a balloon. Air pressure is what makes your ears pop when you go up a mountain. This happens because the air pressure inside your body and the air pressure outside are usually balanced, but when you go up a mountain the pressures become unbalanced. There is less pressure in the air on top of a mountain than there is at lower altitudes. So your ears pop to let the pressures even out. Baseball pitchers even make use of air pressure when they throw a curveball. It helps to cause the spinning motion that makes the ball curve.

<sup>3</sup> Weather forecasters use air pressure everyday in their job. They use a measuring instrument called a barometer to measure air pressure, which helps them to predict whether the day will be clear, rainy, or stormy. When the barometer shows that the air pressure is high, they can predict cool, clear weather. When the air pressure is low, they expect warmer weather, and may predict rain or storms.

<sup>4</sup> You can make a simple barometer to see how air pressure is measured for yourself. You will need a glass bottle about half full of water, a clear plastic straw that you put in the bottle, and a stopper to close up the rest of the top of the bottle. As the air pressure changes, the water in the straw should move up or down.

<sup>5</sup> Wind is moving air. Since you can't see air, you also can't see wind directly, but you can observe wind by watching the movements or listening to the sounds that the moving air produces. Wind causes a flag to wave and a sailboat to sail. It causes wind chimes to chime.

<sup>6</sup> Air pressure and wind combine to cause some very dramatic events. Tornadoes, hurricanes, and thunderstorms are all powered by air pressure and wind.

<sup>7</sup> A hurricane for example, usually forms out over the ocean when a large area of the ocean water becomes warmer than usual. The heat causes the air pressure there to drop, and this causes both thunderstorms and strong winds to develop. This is the beginning of a hurricane. Strong, spiraling winds cause the hurricane to move and pick up more energy along the way. An area of high pressure called the Bermuda High often directs hurricanes towards the United States.

<sup>8</sup> Even though we can't see or feel air, we know that it is there. We can observe its effects in the forces of air pressure and wind.

## Air Pressure and Wind

<p>1. Moving air is called _____.</p> <p><input type="radio"/> A Air pressure</p> <p><input type="radio"/> B Barometer</p> <p><input type="radio"/> C Air</p> <p><input type="radio"/> D Wind</p>	<p>2. The force of the air pressing down on us is called _____.</p> <p><input type="radio"/> A Air pressure</p> <p><input type="radio"/> B Wind</p> <p><input type="radio"/> C Barometer</p> <p><input type="radio"/> D Air</p>
<p>3. An instrument for measuring air pressure is a _____.</p> <p><input type="radio"/> A Scale</p> <p><input type="radio"/> B Thermometer</p> <p><input type="radio"/> C Meter stick</p> <p><input type="radio"/> D Barometer</p>	<p>4. We usually don't notice air pressure because _____.</p> <p><input type="radio"/> A Air pressure only happens in stormy weather</p> <p><input type="radio"/> B There usually isn't much air pressure</p> <p><input type="radio"/> C The air pressure inside and outside our body is usually balanced</p> <p><input type="radio"/> D We only notice it when the wind blows</p>
<p>5. _____ causes wind chimes to chime.</p> <p><input type="radio"/> A Wind</p> <p><input type="radio"/> B Air pressure</p>	<p>6. _____ causes your ears to pop when you go up a mountain.</p> <p><input type="radio"/> A Wind</p> <p><input type="radio"/> B Air pressure</p>
<p>7. Which of the following is true about observing air?</p> <p><input type="radio"/> A We cannot always see or feel air.</p> <p><input type="radio"/> B We can observe air through the actions of air pressure and wind.</p> <p><input type="radio"/> C We cannot observe air.</p> <p><input type="radio"/> D Both a and b</p>	<p>8. Think of a weather forecast that you have watched on TV. What is one thing that the forecaster might have said that told you that he had been observing air pressure or wind in preparing his forecast?</p> <p>_____</p> <p>_____</p>