

explainity explains: wind

Brrr, it's quite stormy today! So, I'd rather stay inside and explain why air moves around and how it creates wind:

Many factors play a role, like ocean currents and seasons, but above all, the sun is the driving force. It heats water, the ground, and air in different places and to varying degrees. This creates different air pressure zones. And that's what makes wind. But one thing at a time.

Here in Windyville, it's a particularly sunny morning. The air on the ground heats up. Hot air is lighter, expands, and rises. On the ground, a low pressure zone forms. There can't be spaces without air, so air flows into it from the side.

The air that rose cools down at the top, where it's much colder. This forms a zone with high air pressure. The cold, denser and therefore heavier air falls back to the ground. This makes the air particles move in a kind of circular motion, which feels to us like wind. The bigger the temperature and pressure differences, the more stormy it can be.

We measure how strong the wind is blowing in wind force. The scale goes from 0 – that is no wind – to 12. That's when air sweeps the land at over 120 km/h and can cause a lot of devastation.

A wind force of 12 is called a hurricane.

We can also look at all this on a global scale. On the equator – the biggest circle of latitude around the earth – the sun shines the strongest, so it's very hot here with many warm and humid low pressure zones. In contrast, the poles are very cold with many high pressure zones. There are more highs and lows in between. The cold air moves toward low pressure zones. It's getting windy. The wind direction is also determined by the earth's rotation. In the northern hemisphere, it blows gently to the east, and in the southern hemisphere, to the west.

Wind is actually very important. It helps to balance temperature and air pressure differences. Otherwise, our planet would eventually get so hot that even the inhabitants of Windyville would constantly be in a sweat. But luckily, there's a strong breeze today ;)

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