

Why the Wind Blows



We experience the wind almost every day (especially in Scotland), but have you ever thought about why it happens? Why does air move around our planet in the way it does?

The wind is actually powered by the Sun! While that might sound strange, this activity will help show you how that process works.

The Sun's energy heats up the surface of the Earth and our atmosphere (the bubble of air around our planet).

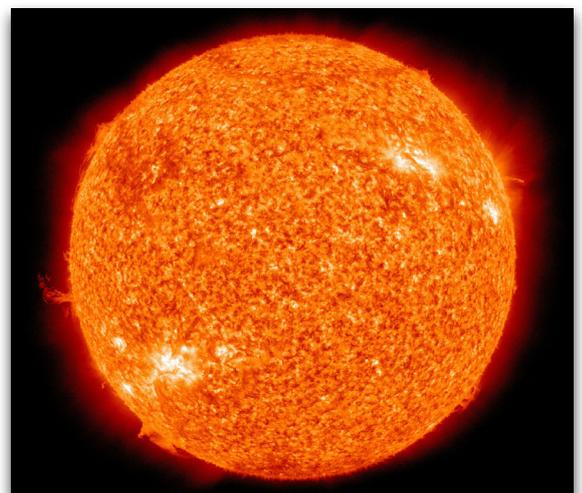
Air is a mixture of gases, and when gases are heated the particles have more energy, move around more, and spread out. This causes warm air to be less dense and compacted than cooler air, causing it to rise.

To test that warm air rises for yourself you can try our toaster hot air balloon experiment but make sure you get the help of a grown up!



But the Sun doesn't heat every part of the Earth up the same way. Different parts of the planet get different amounts of the Sun's energy due to the angle that its rays fall on the surface. Also, things like water, rocks and forests all

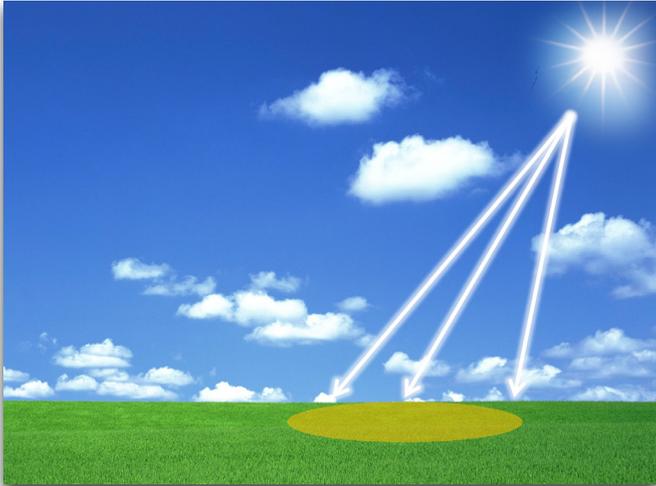
heat up at different rates and hold on to their heat for different lengths of time. This means that there are large pockets of air at different temperatures all through our atmosphere. Therefore, while warmer bits of air are rising up, this leaves space for the colder air to rush in to fill the gaps. This cooler air rushing in is the wind!



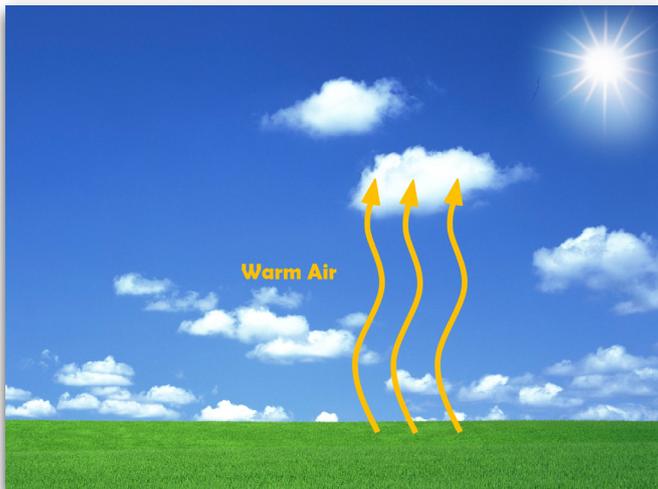
Fill in the Blanks

Fill in the blanks on the descriptions below to test your understanding:

Place these words in the correct spaces: WIND SUN RISES



Step 1:
The _____ warms the ground and the air above it.



Step 2:
The warm air _____.



Step 3:
Cold air rushes in to fill the gap. We call this moving air _____.

