

Weather misconceptions & introduction activity

Facilitation instructions:

Many adults hold misconceptions about weather, if it's challenging for adults it's highly likely that students might struggle as well. Take this opportunity to reflect on some of the more challenging weather concepts and your experiences teaching weather. What concepts do students struggle with? What concepts do you find challenging to explain or that you would like more support around?

1. One card per person. Each card makes a commonly held misconception (i.e. NOT TRUE) about the atmosphere.
2. Think about why the claim is false and what would you change to make it true.
3. Form Round Robin groups of four:
 - a. Take turns introducing yourself and reading your claim card aloud.
 - b. Discuss why the claim is false and what you would change to make the claim true.
 - c. Discuss which claims/concepts your students struggle the most with.
 - d. Discuss which concepts are most challenging to teach, and why.
4. After everyone has had a turn to share and discuss, form a new group of four and repeat the round robin process.

<p>Sunlight directly warms the air surrounding the Earth.</p>	<p>Air that is higher in the sky is warmer because it is closer to the Sun.</p>
<p>Peak air temperature happens when the Sun is highest in the sky.</p>	<p>Clouds are made of water vapor.</p>
<p>Humidity must be 100% for it to rain.</p>	<p>Temperatures are warmer near the equator than at the poles because the equator is closer to the Sun.</p>

<p>The temperature of the air is not affected by the surface of the Earth beneath it.</p>	<p>Water evaporates into the air only when the air is very warm.</p>
<p>On any given day, the Sun reaches the same maximum height in the sky everywhere on Earth.</p>	<p>Clouds contain a pool of water within them. Rain happens because the pool of water becomes too large to hold any additional water.</p>
<p>All locations on Earth receive the same amount of sunlight each day.</p>	<p>The equator is closer to the Sun than the north pole is.</p>

Air currents form only because of the rising of warm air and the sinking of cold air.

For cold air to sink it must be drastically colder than the air around it.

The air is warmed mostly by heat from deep inside the Earth.

Humidity is the same everywhere on the Earth.