

Critical Reading Activity

Temperature Inversions

When you climb to the top of a mountain, the temperature at the top is usually colder than the base of the mountain. This is because the ground on Earth is like a big heater – thanks to the sun and its warming sun rays. The ground keeps us warm, and if you move away from the heater the temperature will decrease.

But what if you get to the top of a mountain and it is slightly warmer than the base? That is called a temperature inversion.

When something is inverted it means it is upside down. A temperature inversion means the temperature has been flipped. What we usually expect is no longer the case. During a temperature inversion the temperature at the top of a mountain will be warmer than at its base.

The layer of warm air that is above the cold air during a temperature inversion can act like a lid and traps the cold air near the ground with lighter winds. When pollution is added to the air, it hits the warm air lid and stays close to the ground – where we live. As more pollution is added to the air, the air pollution can build up and become unhealthy to breathe.

When there is a temperature inversion, it is important to think about the air. If we want our air to be clean, we should make choices that do not add pollution to the air. For example, fireplaces and wood stoves can add smoke into the air. Exhaust from cars can also pollute the air. It is best to reduce these activities during a temperature inversion.

Questions about the reading:

When there is a temperature inversion, the layer of warm air can act like a _____.

During a temperature inversion, what should you reduce?

True or False: It is usually warmer at the top of a mountain than at its base.

True or False: When something is inverted it means is upside down.

