Global Winds Quiz

1) What are the Northern Hemisphere's "prevailing winds" and how are they created?

The Northern Hemisphere's prevailing winds are created by a global convection current caused by the uneven heating of the Earth's surface.

The sun's rays strike the surface near the equator more directly than the rest of the Earth. This causes the surface and the air near the equator to be warmer than the air further away from the equator.

The warm air rises from the equator, spreads towards the North Pole, cools and then sinks to the surface at around 30 degrees North Latitude. The air then moves along the surface of the earth back towards the equator and towards the North Pole.

The air moving towards the equator and the air moving towards the North Pole are called the prevailing winds. The winds moving toward the equator are called the Trade Winds. The winds moving toward the North Pole are called the Prevailing Westerlies.

2) What is the Coriolis Effect and how does it affect the prevailing winds?

Because the Earth is spinning (from west to east), it changes the direction of the prevailing winds. This is the Coriolis Effect.

In the Northern Hemisphere, instead of blowing straight to the equator or the North Pole, the winds turn to the right in relation to the direction they are moving.

This means the winds moving toward the North Pole (the Prevailing Westerlies) blow from west to east, and the winds moving toward the equator (the Trade Winds) blow from east to west.