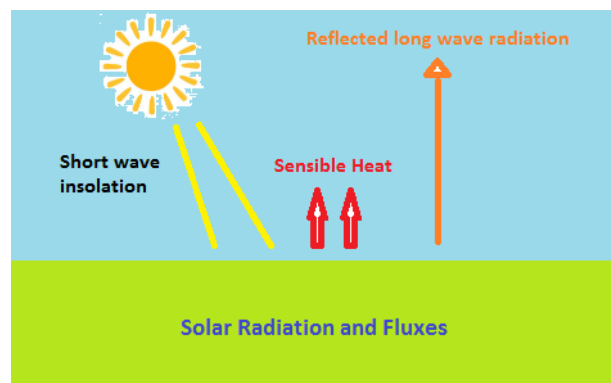




What are thermals?

Thermal lift is probably the most used by glider pilots and soaring birds. Thermals are caused by heat from the sun.

- Short wave radiation from the sun warms the ground. This radiation is known as insolation. The drier the ground the faster it warms (moisture wastes the sun's heat by evaporation).
- Conduction and long wave radiation from the warm ground heats the air above it up to about 2 metres above the ground. This process is often referred to as 'sensible heat'.



- When the heated air is a couple of degrees warmer than the surrounding air it will become buoyant and, if provoked, will lift off like a hot air balloon. Think of a lava lamp.
- As the bubble of air rises it will cool. But it remains buoyant because the surrounding air is cooling with altitude as well.
- The bubble of air contains moisture, as invisible water vapour, but when the temperature of the air falls to the 'dew point' this water vapour starts to condense and forms cumulus cloud.
- These cumulus clouds mark the position in the sky where a thermal is rising, or has risen.

