4ª Lista de exercícios – ACA 0115 – Introdução às Ciências Atmosféricas

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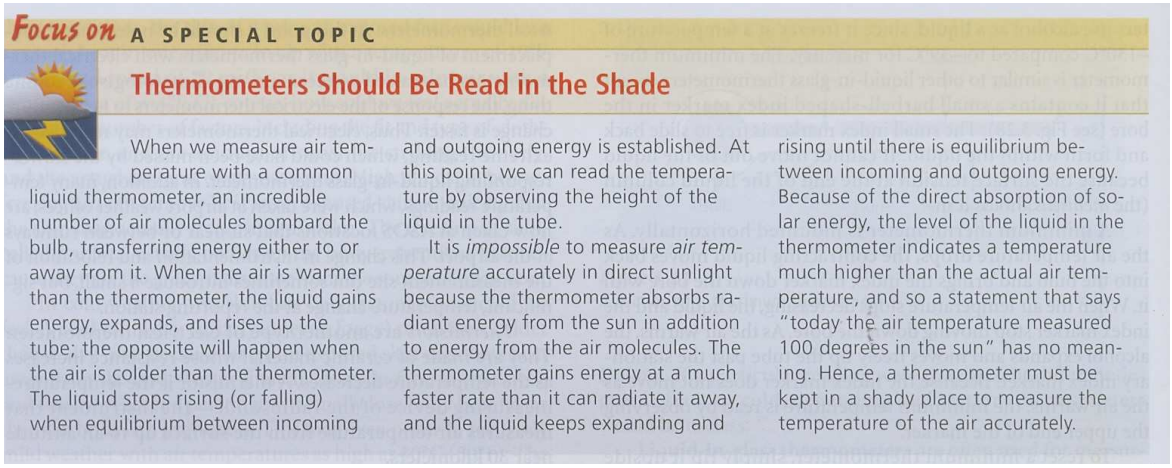
1 – O que é Energia e qual sua unidade?

2 – Defina calor e caloria.

3 – Qual a diferença entre calor sensível e calor latente?

4 – Leia o texto abaixo e responda:



Focus on A SPECIAL TOPIC

Thermometers Should Be Read in the Shade

When we measure air temperature with a common liquid thermometer, an incredible number of air molecules bombard the bulb, transferring energy either to or away from it. When the air is warmer than the thermometer, the liquid gains energy, expands, and rises up the tube; the opposite will happen when the air is colder than the thermometer. The liquid stops rising (or falling) when equilibrium between incoming and outgoing energy is established. At this point, we can read the temperature by observing the height of the liquid in the tube.

It is *impossible* to measure *air temperature* accurately in direct sunlight because the thermometer absorbs radiant energy from the sun in addition to energy from the air molecules. The thermometer gains energy at a much faster rate than it can radiate it away, and the liquid keeps expanding and rising until there is equilibrium between incoming and outgoing energy. Because of the direct absorption of solar energy, the level of the liquid in the thermometer indicates a temperature much higher than the actual air temperature, and so a statement that says "today the air temperature measured 100 degrees in the sun" has no meaning. Hence, a thermometer must be kept in a shady place to measure the temperature of the air accurately.

a) Explique sucintamente o funcionamento de um termômetro de mercúrio comum.

b) Por que o termômetro deve ser lido na sombra?

5 – O que medem os instrumentos:

a) Anemômetro?

b) Higrômetro?

c) Psicrômetro?

6 – Para que serve uma carta sinótica? Como ela é construída?