

Physics 11 - Practice Questions

Unit: 6.3 Temperature, Heat and Thermal Energy

1. What are the 3 potential forms of kinetic energy that a molecule could have?

translation

rotation

vibration

2. If the temperature of an object is 30°C , what is its temperature in Kelvin?

$$\begin{array}{r} 273^{\circ}\text{K} = 0^{\circ}\text{C} \\ + 30 \qquad + 30 \\ \hline 303^{\circ}\text{K} = 30^{\circ}\text{C} \end{array}$$

3. By what method can heat be transferred without the presence of matter?

Radiation

4. A cold weather emergency survival suit is made of reflecting plastic material with a thin coating of regular plastic. Why is the shiny, reflecting plastic on the *inside* of suit facing your body? Why is it not wise to place this suit on someone who is already hypothermic?

Shiny side will insulate you by radiating \uparrow heat you emit back to you but if you R already very cold it will not allow you to \uparrow your heat and insulate you in your hypothermic state

5. If you are sitting in front of an open fireplace, what is the main method by which heat is transferred to you?

Convection thru air

6. In winter, why do the blades of your skates feel cooler to the touch than your boots do?

metal = good heat conductor

= + transfer thermal nrg

leather = not so good heat

conductor

= low transfer of thermal

nrg