UCIWAI SANGAM SCHOOL

YEAR 8

BASIC SCIENCE WORKSHEET NO. 1

Strand 3	Energy
Sub Strand	Energy Source and Transfer
Achievement Indicator	Investigate the transfer of some forms of energy and describe the effect of energy transfer on certain materials

Notes

1. Energy can be found in different forms and some forms of energy are heat, electrical, sound and solar.
2. Heat is a form of energy that is transferred from a region of higher temperature to one of lower temperature.
3. There are three different ways of heat transfer: conduction, convection and radiation.
4. **Conduction** transfers heat within a body or between two bodies that are touching. It occurs in solids, liquids and gases. For example, a metal spoon taken out of a cup of hot drink has a hot handle.
5. **Convection** is the transfer of heat from one fluid to another by the movement of the fluid itself. For example, water in a tea kettle is heated by convection. A hot stove also heats the air in a room by convection.
6. **Radiation**: All objects radiate energy and heat, even our own body. However, the radiation coming from hotter objects is more intense that that coming from cooler objects. Radiation leaves an object in the form of wave. The hotter an object, the shorter the wavelength of this radiation. For example, as you stand in front of a camp fire holding your cold fingertips out in front of you, what do you feel? Slowly your fingers begin to warm up as they absorb the radiation coming from the fire.
7. An object that is especially good at radiating heat is referred to as a **blackbody**. Both the Sun and the Earth are excellent radiators, and as a result, both are considered blackbodies.
8. Conductors are substances or materials that allows heat or sound is pass through.
9. Insulators are substances or materials which does not readily allow the passage of heat or sound.

Exercise

1. Write down three ways of heat transfer.
   a) _____
   b) _____
   c) _____

2. List two good conductors and two insulators of heat in the table below.

Conductors	Insulators

3. For each of the diagrams given below state the type of heat transfer used.