Sun & Heat – Student Activity

Sun heat can be used passively or be transformed into wind power or waterpower, which can be then transformed to movement and electricity. Apart from heat derived from the natural breakdown of radioactivity in our rocks and from wave turbines, the Sun is the source of most of our energy

Student Activity - Heating air causes it to expand

Materials per group

- Empty cool drink bottle
- A Balloon
- A sunny spot, radiant heater or hairdryer
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Method

1. Inflate the balloon several times to soften the latex
2. Place the balloon over the mouth of the bottle.
3. Place the bottle with balloon attached in a sunny area (preferably away from the wind as it will take longer to heat and may blow over
4. Leave for 10 minutes
5. Draw and describe the balloon (After)

Observations

	
Before (cold) _____ _____	After (hotter) _____ _____

Conclusion

What do you think caused the change to the balloon? _____

Discussion

Was this a fair test? Did the **C**ow **M**oo **S**oftly? Explain your answer.

_____

_____

Sun & Heat – Student Activity

Student Activity - To demonstrate that land heats faster than water

Materials per group

- Two small beakers, glasses, jam jars or containers of the same size.
- Water and soil (preferably dark)
- A laboratory thermometer

Method

1. Fill one container with water and the other with the same volume of soil
2. Take the temperature of the soil and of the water before placing in sunlight. Enter this data in the table provided
3. Place in sunlight and leave for 10 minutes
4. Take the temperature of each again and enter the data in the table provided

Observations Todays temperature is: _____

	Temperature of water ^{o}C	Temperature of soil ^{o}C
Inside		
Outside after 10 minutes		

Differential heating and cooling at the surface of the Earth can also be due to:

_____

_____

These variations cause a difference in air pressure to occur and wind is generated.
This wind can be used to turn the blades of turbines to generate electricity from wind farms.

What else can wind energy be used for?

_____

_____

An old Australian bush trick was to leave a black plastic jerry can out in the sun during the day. When you came back from work dirty, the water would have warmed and made an excellent shower. Black plastic hose was also draped over bush roofs and beach shacks to provide hot water.