**Conduction**

Conduction:

Conduction-heat transfer between or through a solid medium

Fouriers law of conduction for one dimension

Where:

*qcd* =heat transfer (conduction)

*k* =thermal conductivity (different value for different substances)

= change in temperature surface to surface (t final –t initial) ∆T

= wall thickness ∆d

Equation can be rewritten to establish heat transfer/area

What is the heat loss per area if a 10cm thick piece of wood wall experiences a temperature decrease of 15 from the inside of a building to the outside of a building. kwood = 0.17 (watts/(m°C)

23°C

Inside

8°C

Outside

The watt is a derived unit of power.

The unit is defined as one joule per second and

measures the rate of energy conversion or transfer.