

Practice Questions: Transfer of Heat Solutions

2a. Four factors that affect conduction are Difference in temperature, Surface area, Distance to travel, and material

4. a. The difference between conduction and convection are:

- Conduction takes place in solids while convection is in fluids (liquids and gases).
- Particles in conduction do not change position while particles in convection can move

b. For convection to take place we need heat (Q) to be present and space for the Q to move

5.

a. Heat moving via electromagnetic waves

b. Biggest factor is colour of material

c. Ideal emitter is white while the ideal absorber is black

d. Dark colours absorb heat easier so they can keep you warmer in winter

6.

a. The three parts of a solar collector are

Collectors – collects radiation from the sun

Pipes – conduction of heat into these pipes

Tank – Heat moves through the pipes via convection to a storage tank

b.

i. South side roof in Canada

ii. North side roof in Australia

7.

a. Thermography is the process of taking pictures using thermal radiation

b. This is used to detect illness in the body or for finding poor insulated places in a house