Thermal Engineering KS4 Worksheet Answers

1. B - Energy
2. B - Joules
3. C – Average

Extension: T\_final = T\_initial + Energy\_change/(mass \* specific heat capacity)

T\_final = 25 + 25200/(1 \* 4200) = **31 degrees Celsius**

1. In physical contact
2. Fluid motion
3. Electromagnetic waves

MLI Challenge:

The ice cube with no/the least number of layers of insulation should melt the most, and the ice cube with the most layers of insulation should melt the least. This is because more layers of insulation prevents more heat transfer between the surroundings and the ice. However, there may be a number of layers beyond which adding more doesn’t make a difference. Students could measure e.g. the size or mass of each ice cube at regular time intervals and plot the results on a scatter graph, or just measure and plot the final sizes on a bar chart to show the effect of changing the number of layers.