

S1 lesson 5 (18/1 to 22/1)

Lesson	Learning Intentions - I can...	Information	Task
4	1. State the names of the 3 methods of heat transfer.	"Three Methods of Heat Transfer" worksheet	Week 1 recap quiz. Watch the video. Complete the worksheet.
5	2. Explain the link between heat loss from buildings and the temperature difference between the inside and outside of the building.	"Slowing Down Heat Transfer" worksheet	Practical activity and answer questions 1-5.
6	3. Describe ways in which heat is lost from buildings.	"Keeping Heat In" Worksheet	Complete questions 1-6 on the worksheet.

I can explain the link between heat loss from buildings and the temperature difference between the inside and outside of the building.

Slowing Down Heat Transfer



If an ice cube is taken out of the freezer and left on a plate in your kitchen it would start to melt.

This is because of the difference in temperature between the ice cube and its surroundings. As heat energy from the surroundings is transferred to the ice cube it begins melting.

The greater the difference in temperature, the faster the energy will transfer.

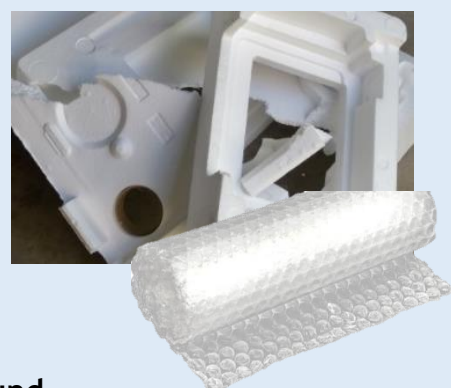
In the task you are about to do the ice cube represents a house. In hot countries, a house will warm up during the day due to the high temperatures outside. This is represented by the ice cube melting.



Take an ice cube out of your freezer and leave it on a plate in a sunny spot. Use your phone to time how long it takes for enough heat transfer to occur to completely melt the ice cube. Record your time. This will take a while - leave it somewhere visible while you work on something else.

Heat transfer can be slowed down using insulation. Insulation comes from the word insulator. An insulator is a material that does not allow heat energy to travel through it easily. It can keep objects warm, or cold!

Some insulators you may have in your house are: paper towel, bubble wrap, Styrofoam, and fabric (cotton or wool).



Take a new ice cube out of your freezer and cover/wrap it in some insulators you have found around your house. Leave it in the same place as your first ice cube. Again, use your phone to time how long it takes for the ice cube to completely melt. Record your time.

Questions: Write your answers on Word and upload on Satchel One: SMHW

1. How many more minutes did it take the ice cube to melt after insulating it?
2. Name two variables that you kept the same during this experiment.
3. What could you do to make your results more reliable?
4. Imagine you repeat this experiment but leave the ice cube in the shade.
How would it affect the time it takes the ice cube to melt, why?
5. Use your knowledge of heat transfer to explain why your house loses some heat during the winter.