Year: 8 Subject: Science	**Topic: Heat Transfer**

Knowledge and Understanding to be developed: Pupils should use and develop their skills, knowledge and understanding by investigating the science involved in a range of contemporary devices/machines and evaluate different energy resources and possibilities	**Homework:** Work through heat transfer booklet

Lessons	Skills/practicals
Lesson 1: Temperature	**Pupils can convert between the temperature scales**
To learn about the kelvin scale for temperature **To convert from kelvin to Celsius temperature scales**	
Lesson 2 Evaporation	
To know what happens to the particles during evaporation To investigate why we sweat	
Lesson 3 Radiation	
Pupils learn the definition of radiation in terms of heat transfer Pupils investigate radiation and colour	
Lesson 4 Conduction	Class deom/prac: Pupils time how long it takes for metal to conduct heat
Pupils learn the definition of conduction Pupils draw a particle diagram of conduction Pupils investigate conduction in metals	
Lesson 5: Convection	
Pupils learn what convection means Pupils draw a diagram to re[present a convection current Pupils watch a demonstration of convection and describe what happens in terms of the particles.	**Class demo** **Convection tube**
Lesson 6 : Controlling heat loss with insulation	**Levelled Rich Task**
Pupils investigate the benefit of insulating materials	

Numeracy: construct and select appropriate charts ks3.15 Draw conclusion from data KS3.19 means 8D3a Use appropriate units KS3.14 Present answers to a given number of significant figures 8N15a Measure to complete a task KS5 converting between temperature scales 8.M8	Literacy: Summarise and synthesise information Response and analysis 8.RA3 Distinguish between bias and objectivity Response and analysis 8.RA4 in planning writing make choices about language and purpose to suit the audience meaning purposes readers8.WM3 Use whole text structure to support and communicate meaning structure and organization 8WS1 select analyse and present ideas information convincingly objectively structure and organization 8.WS2 use technical terms language expression consistent with subject content language 8.WL2
Lesson 7: Burning Fuels	
Pupils compare two fuels for the energy within them	**Levelled task . Class Practical:** **Burning two fuels to compare for their energy content**

Pupils compare the fuels as to which gives the most energy per gram Pupils calculate the energy using an equation	
Numeracy **Plan how to collect data to test a hypothesis 8D2** **Draw conclusion from data KS3.19** **Use appropriate units KS3.14** **Present answers to a given number of significant figures 8N15a** **Measure to complete a task KS5** **Construct graphs to represent data 8D4b**	**Literacy:** **Summarise and synthesise information Response and analysis 8.RA3** **Distinguish between bias and objectivity Response and analysis 8.RA4** **in planning writing make choices about language and purpose to suit the audience meaning purposes readers 8.WM3** **Use whole text structure to support and communicate meaning structure and organisation 8WS1** **select analyse and present ideas information convincingly objectively structure and organisation 8.WS2** **use technical terms language expression consistent with subject content language 8.WL2** **use technical terms language expression consistent with subject content language 8.WL2**