



**Year: 8**

**Subject: Science**

**Topic: Particles**

Knowledge and Understanding to be developed:

Pupils use and develop their skills, knowledge and understanding by investigating the materials in the Earth and its atmosphere and how they can change, and apply this in contemporary contexts.

**Homework:**

Work through Particles booklet

Lessons		Skills/practicals
<b>Lesson 1: Solids liquids and gases</b>		
To identify a solid liquid or gas from a particle diagram Describe a solid liquid or gas in terms of particles To investigate substances to decide if they are solid liquid or gas		
<b>Lesson 2 Changes of state</b>		
To use key words of evaporation, condensation, freezing and melting when describing changes of state. To investigate changes of state Explain changes of state and a cooling curve.		
<b>Lesson 3 Liquids</b>		
To investigate the viscosity of two oils at two different temperatures. To plot a graph displaying two variables i.e. both oils viscosity at two different temperatures.		
Numeracy Plan how to collect data to test a hypothesis 8D2 Draw conclusion from data KS3.19 Use appropriate units KS3.14 construct and select appropriate charts ks3.15 means 8D3a Interpret fractions of seconds appropriately 8.M5 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	
<b>Lesson 4 Gases – Air pressure</b>		
To know how air pressure is caused To investigate air pressure in a can To observe air pressure in different situations		
<b>Lesson 5 Diffusion</b>		
To recall the meaning diffusion To describe diffusion To investigate diffusion in a liquid or gas To explain diffusion in terms of particles		

**Class Practical:  
Circus practical particles**

**Class Practical:  
Pupils record the temperature  
of ice melting**

**Levelled task:  
Investigating the viscosity of  
oil for a motor company**

**Class practical:  
The collapsing can  
Class demo:  
Water in a glass  
Egg in a conical flask**

**Class Practical:  
Shark Blood in water practical  
Class demo:  
Ammonia and Hydrochloric  
acid in a sealed tube**

**Lessons 6: Solids - Density****Class demo :  
Cow skull water displacement**

- To compare substances for their density
- To know how to calculate density
- To investigate density of bird and animal bones

**Levelled Rich Task****Numeracy**

- Draw conclusion from data           KS3.19
- construct and select appropriate charts   ks3.15
- Present answers to a given number of significant figures   8N15a
- Measure to complete a task           KS5

**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 meaningstructure and organisation8WS1
- select analyse and present ideas information convincingly objectively           structure and organisation8.WS2
- use technical terms language expression consistent with subject content   language           8.WL2