

Year 7, C1 Particles, Energy and Separation

Rationale and Context of Unit:	Core curriculum content:	Tier 2 & Tier 3 vocabulary explicitly taught:
<ul style="list-style-type: none"> • <i>This unit is the second of Year 7, but the first Chemistry unit. It builds on the topics that students have learnt in KS2 and is repeated again in the first few units of GCSE Chemistry.</i> • <i>This unit links to the C1 unit - atomic structure and the C3 unit - structure and bonding.</i> • <i>This unit is linked to the KS3 National curriculum and covers the structure, bonding and the properties of matter unit, also the chemical analysis unit.</i> 	<ul style="list-style-type: none"> • The states of matter and their properties • Changes of state • Gas pressure • The particle model • How energy and mass changes during the states change • The different between pure and non-pure substances and how to identify them • Diffusion • Dissolving • The ways we can separate chemicals based on their properties • Filtration, evaporation and chromatography 	<ul style="list-style-type: none"> • <i>Atom</i> • <i>Element</i> • <i>Compound</i> • <i>Mixture</i> • <i>Evaporation</i> • <i>Condensation</i> • <i>Freezing</i> • <i>Melting</i>
Challenge and Support:	World wide learning/ links to 21 st century:	Cultural capital/ Industry/ Enrichment:
<p><i>Each lesson plan has a section with suggested differentiation, this includes for LPAs and HPAs. An example of this from lesson 4 is “ Word-fill can be provided for task 1 and plenary. Keywords from task 1 can be removed for higher “. Differentiated worksheets are also often available in the schemes of learning.</i></p>	<ul style="list-style-type: none"> • <i>How modern forensics can be used to identify crimes such as using chromatography for identifying banned food substances</i> 	<ul style="list-style-type: none"> • Food standard agency • Chemical engineer • Pharmaceutical • Police and crime detection

Historical, Social, Moral, Spiritual, Cultural context:	Cross curricular links/ literacy/numeracy:	Common misconceptions The scientific truth:
<ul style="list-style-type: none"> • Use of Distillation during Prohibition (L15) • The moral implication of using Science for illegal purposes 	<ul style="list-style-type: none"> • <i>Cross-curricula links:</i> • <i>Numeracy: Temperature change graphs.</i> • <i>Food Tech: chromatography and composition of food additives</i> 	<ul style="list-style-type: none"> • <i>Substances which are labelled pure are not chemically pure</i> • <i>All substances do not melt at 0 and boil at 100 degrees</i> • <i>There are many states of matter not just three.</i> • <i>All solids do not have the same density as all liquids and gases do not either</i> • <i>During melting and boiling things will stay the same temperature during the process</i>

Assessment timeline:

- *Practical skills monitored by teacher when conducting experiments.*
- *End of topic exam to assess pupil progress at the end of test.*
- *All lessons have success criteria presented to pupils at the start of the lesson.*
- *Assessed tasks will have verbal feedback to help improve pupils understanding after they have completed the assessment. Students will also correct their wrong answers.*

Home learning

- *Relevant Seneca learning tasks OR Year 7 homework booklet – 2 pages.*
- *Scholarly reading*
[https://chem.libretexts.org/Bookshelves/Analytical_Chemistry/Supplemental_Modules_\(Analytical_Chemistry\)/Instrumental_Analysis/Chromatography/Gas_Chromatography](https://chem.libretexts.org/Bookshelves/Analytical_Chemistry/Supplemental_Modules_(Analytical_Chemistry)/Instrumental_Analysis/Chromatography/Gas_Chromatography)

Feedback

- *Students will have verbal feedback on their work throughout this unit.*
 - *Students will receive feedback on their home learning on Seneca.*
 - *Students will have feedback on their end of topic text which will be teacher assessed then they will correct in green pen.*
 - *Students will self-assess their work throughout the topic.*
- Students will generate self-feedback on their skills assessment throughout the unit as well as receiving verbal feedback from the teacher during the unit.*

Length of unit (duration indicated in lessons)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18 Test
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