

Curriculum Plan: Year 12 Chemistry – Developing fuels (DF)

		W/C 2 nd November	W/C 9 th November	W/C 16 th November
How you will access home learning		The PowerPoint and lesson materials will be made available on the day of each lesson either on Show My Homework, g drive or uploaded to your class group on teams (your teacher should make you aware of this). You will need access to your Chemistry AS textbook via Kerboodle.		
How you be able to interact with your teacher and gain feedback on your work		You will be able to join each lesson via Microsoft Teams. This will enable you to listen to teacher delivery, to ask questions, and to complete the same tasks live, as those who are working in the lesson. If you can't make the lesson live then a recording will be saved on teams and be available for 21 days. You can join in with questioning in the lesson using the chat function to check your understanding. For any tasks that can't be self-assessed using the lesson PowerPoints or Kerboodle (end of chapter questions), oral feedback will be given during the live teams' sessions.		
Retrieval How we will help you to recall previously learnt knowledge		Two multiple choice quizzes (covering EL1-5 and EL6-9) will be used to allow you to recall key information from the topic covered prior to half term.	Questions to test recall of exo and endothermic reactions from GCSE will be used.	This week's work is entirely new (no build from GCSE) so retrieval tasks this week will centre around previously covered A level topics (EL and DF1).
New Learning	What you will be learning about this week	EL consolidation and summative testing. This week will be used to finish off any tasks involving the EL topic, including any practicals not yet completed. An end of topic EL test will also take place.	DF1 – Getting energy from fuels. DF1 looks at energy changes within chemical reactions, building on GCSE content and focusing on 4 standard enthalpy changes. You will also investigate how to measure an energy change experimentally.	DF2 – How much energy? DF2 looks at an indirect method for determining energy changes in reactions, using something called Hess' law.
	How we will teach you the new knowledge or ideas	Limited new knowledge will be covered this week. Students will be able to interact with any practicals that take place through access to the experimental procedures and model data to answer the questions that follow.	Teacher led explanations and discussions covering the 4 standard enthalpy changes and how to determine enthalpy changes experimentally. PowerPoint content, and teacher modelling will be delivered to support the activities below.	There will be a brief section of teacher led explanations and discussions introducing Hess' law. Again, PowerPoint content and teacher modelling will be used to support the activities below.
	Activities that will help you learn and practice what you've been taught	Practice questions (specifically focussed on titration calculations) will be given with immediate marking and feedback given. Summative testing will take place in two parts, a 30-mark multiple-choice exam and a 50 mark longer-answer exam.	Worksheets (DF1a, DF1b, and DF1c) can be accessed, with answers allowing students to self-assess. Students will be able to interact with the DF1 practical lesson through access to the experimental procedures and model data to answer the questions that follow.	An exam question circus will be used, in which students will have the opportunity to answer past paper questions to enhance their understanding. Worked examples of the answers will be provided, as well as being modelled during the teams' lesson.
	What you can do if you are stuck	If you are accessing a live lesson through Microsoft teams, the chat function can be used to ask any questions you wish to be answered immediately and within the lessons. Any questions relating to specific homework tasks set on SMHW can be asked through the chat function on SMHW, and failing that, an email can be sent to your teacher to ask any general questions.		

		W/C 23 rd November	W/C 30 th November	W/C 7 th December	W/C 14 th December
How you will access home learning		The PowerPoint and lesson materials will be made available on the day of each lesson either on Show My Homework, g drive or uploaded to your class group on teams (your teacher should make you aware of this). You will need access to your Chemistry AS textbook via Kerboodle.			
How you be able to interact with your teacher and gain feedback on your work		You will be able to join each lesson via Microsoft Teams. This will enable you to listen to teacher delivery, to ask questions, and to complete the same tasks live, as those who are working in the lesson. If you can't make the lesson live then a recording will be saved on teams and be available for 21 days. You can join in with questioning in the lesson using the chat function to check your understanding. For any tasks that can't be self-assessed using the lesson PowerPoints or Kerboodle (end of chapter questions), oral feedback will be given during the live teams' sessions.			
Retrieval How we will help you to recall previously learnt knowledge		Questions to test recall knowledge of hydrocarbons and bond energy calculations from GCSE will be used.	This week's work is entirely new (no build from GCSE) so retrieval tasks this week will centre around previously covered A level topics (EL and DF1).	Questions to test recall knowledge of polymers from GCSE will be used. As DF8 looks at mole equations, practice from EL6 and EL9 will take place.	Questions related to atmospheric pollutants (covered at GCSE) will be used to introduce DF10.
New Learning	What you will be learning about this week	DF3 - What's in your tank? DF4 - Where does energy come from? In DF3 we will cover what a hydrocarbon is, its structure and how to correctly name a hydrocarbon. In DF4 we look at the energy in a chemical bond, how it is affected and how to calculate an overall energy change based on bond energies.	DF5 - Getting the right sized molecules. DF6 - Alkenes - versatile compounds In DF 5 we cover heterolytic catalysis and how it works. In DF6 we introduce electrophiles and look at reactions of alkenes.	DF7 Polymers and plastics. DF8 Burning fuels. In DF 7 we introduce polymers and their properties, in DF 8 we look at gases, and how volumes of gas are linked to moles.	DF9 What do molecules look like? DF10 - The trouble with emissions. DF11 - Other fuels. In DF9 the idea of isomerism is introduced, in DF10 atmospheric pollutants are discussed and in DF11 the topic of alternative fuels (namely hydrogen) is covered.
	How we will teach you the new knowledge or ideas	There will be a brief section of teacher led explanations and discussions introducing hydrocarbons and bond energy. Again, PowerPoint content and teacher modelling will be used to support the activities below.	This section contains more detailed teacher led explanations and discussions. Again, PowerPoint content and teacher modelling will be used to support the activities below.	DF7 will contain detailed teacher led explanations and discussions. For DF8 there will be a brief section of teacher led explanations and discussions introducing molar gas equations. Again, PowerPoint content and teacher modelling will be used to support the DF8 maths activities below.	Sections DF10 and DF11 contain detailed teacher led explanations and discussions. For DF9, PowerPoint content and teacher modelling will be used to support the more application-based activities below.
	Activities that will help you learn and practice what you've been taught	Practice of naming hydrocarbons will come in the form of mini-white board quizzes. Bond energy calculations will be practiced via worksheet questions.	DF 5 and DF6 are very content heavy. Once the content has been covered in class, tasks will involve consolidating what has been learnt. Answers are very knowledge based and require little application.	In DF7 activities will allow for the practice of drawing polymer structures. In DF8, maths-based problems will be set to consolidate learning using the molar gas equation.	In DF9, activities will allow for the practice of drawing isomeric structures. DF 10 and DF11 are very content heavy. Once the content has been covered in class, tasks will involve consolidating what has been learnt. Answers are very knowledge based and require little application.
	What you can do if you are stuck	If you are accessing a live lesson through Microsoft teams, the chat function can be used to ask any questions you wish to be answered immediately and within the lessons. Any questions relating to specific homework tasks set on SMHW can be asked through the chat function on SMHW, and failing that, an email can be sent to your teacher to ask any general questions.			