

CORE SCIENCE C1: CHEMISTRY Higher content in bold	Video	Exam Q	☺ ☹ ☹
FUNDAMENTAL IDEAS IN CHEMISTRY			
Annotate a diagram of an atom with names and features of each part.			
State no. of protons and electrons in an atom and use this to explain the overall charge.			
Define 'element', 'mass number' and 'atomic number'.			
Draw diagrams to show electronic structure of the first 20 elements.			
State and explain the relationship between elements in the same group.			
State what noble gases are and explain why they are so unreactive.			
Define 'compound' and 'molecule'.			
Explain how ionic compounds are formed from metals and non-metals.			
Explain how molecular compounds are formed from non-metals.			
LIMESTONE AND BUILDING MATERIALS			
Give the chemical name and formula for limestone.			
Describe how limestone is quarried.			
Describe thermal decomposition of calcium, magnesium, zinc & sodium carbonates.			
Describe the reaction of calcium oxide with water and of limewater.			
Describe how limestone is used to make cement and how cement is used.			
METALS AND THEIR USES			
Link how metals are found in the earth's crust to their reactivity.			
Describe how metals can be extracted by reduction or electrolysis			
Choose which method of extraction would be used, depending on the reactivity of a metal			
Describe how copper, aluminium and titanium are extracted and purified.			
Evaluate the benefits of recycling.			
Explain the properties of different iron and steels.			
Link some properties of everyday alloys to their uses.			
Define transition metals. Link some properties of transition metals to their uses.			
Link the properties of copper to its uses in electrical wiring and plumbing.			
CRUDE OIL AND FUELS			
Define 'mixture' and describe what crude oil is and what it is made up of.			
Recognise & define 'alkanes', name & draw the first 4 hydrocarbons in formulae/diagrams.			
Describe how fractional distillation is used.			
Link the size of molecule to its boiling point, viscosity and flammability.			
State products of combustion of fuels, e.g sulphur dioxide, nitrogen oxides, carbon monoxide			
Give the environmental problems with some of these products.			
Describe how levels of sulphur dioxide can be reduced.			
Evaluate the advantages of biofuels.			

OTHER USES OF CRUDE OIL			
State why hydrocarbons are cracked			
Describe the process and conditions of cracking and state the products of cracking			
Give the general formula for alkenes			
Recognise alkenes from their names & formulae and draw out the structures for alkenes			
Describe the bromine test			
State that some products of cracking can be used as fuels			
State what monomers & polymers are			
Identify names of polymers and monomers			
Match monomers to the polymers they would make			
Explain why waste disposal is a problem of using polymers			
Explain why plastic bags are being made from cornstarch			
Give the advantages and disadvantages to using and disposing of polymers			
Describe how ethanol can be produced from ethane or from fermentation			
PLANT OILS ANDS THEIR USES			
Describe the stages involved in extracting vegetable oils			
Describe why vegetable oils are important foods			
State how the boiling points of vegetable oils compares to water			
Explain how fried foods are different to boiled foods			
Describe what an emulsion is			
State some uses of emulsions based on their special properties			
Describe how emulsifiers work			
Describe how we can identify unsaturated vegetable oils			
Describe how vegetable oils can be hardened			
Explain the properties of hydrogenated vegetable oils and link these to their uses			
CHANGES IN THE EARTH AND ITS ATMOSPHERE			
State the layers of the Earth			
Describe the layers of the Earth in terms of size and properties			
Describe why tectonic plates move			
Explain how earthquakes and volcanoes happen			
State what the Earth's atmosphere is made up of and how it changed over time			
Explain one theory of how life was formed and the Miller-Urey experiment			
Describe how oxygen became part of the atmosphere			
Describe two reasons why the levels of carbon dioxide have decreased			
Explain why increased levels of carbon dioxide in the ocean can be a problem			
Explain why burning fossil fuels is a problem			
Explain how the gases in air can be separated			
Describe some industrial processes that the gases in air can be used for			

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