

# Chemistry – Year 11 – Chemistry of the Atmosphere

A History of our Atmosphere		
1	Early Atmosphere	Formed from volcanic activity. Consisted of: Carbon dioxide Water vapour Methane Ammonia
2	Evolving Atmosphere	Water vapour condensed to form the oceans. Carbon dioxide decreased. Oxygen increased. Algae photosynthesised. Formation of sedimentary rocks and fossil fuels removed CO <sub>2</sub> . CO <sub>2</sub> dissolved in the oceans.
3	The atmosphere Today	80% Nitrogen (four-fifths) 20% Oxygen (one-fifth) Plus small proportions of various other gases: Carbon dioxide, water vapour and noble gases

C EQUATIONS		
1	Photosynthesis	$6\text{CO}_2 + 6\text{H}_2\text{O} \longrightarrow \text{C}_6\text{H}_{12}\text{O}_6 + 6\text{O}_2$ Carbon + Water → Glucose + Oxygen Dioxide

B Greenhouse Gases		
1	Greenhouse Gases	Maintain temperatures on Earth to support life. Carbon dioxide. Methane. Water Vapour.
2	Carbon Dioxide	Risen in recent past mainly due to the amount of fossil fuels burnt.
3	Greenhouse Effect	Short-wave radiation passes into the atmosphere. Long-wave radiation escapes into space. Greenhouse gases absorb long-wave radiation. Energy is trapped. Earth's temperature rises.
4	Global Climate Change	Rising sea levels. Extreme weather events. Food production. Threats to ecosystems.
5	Atmospheric Pollutants from Combustion of Fuels	Carbon Dioxide Carbon Monoxide - Toxic Nitrogen Oxides Sulphur Dioxide Particulates
6	Carbon Footprint	The amount of carbon dioxide and other greenhouse gases emitted over the full life cycle a product, service or event.