QUESTION	ANSWER

Quiz Cards: Chemistry of the Atmosphere

How to use the quiz cards to learn the key facts

1) Take 6 quiz cards at a time and read through them

2) Cover up the answer side of the page.

Question	Answer

3) Take the first quiz card and ask yourself the question. Either write the answer down or say it out loud.

4) Check your answer using the answer side of the card.

5) Do this question again until you get it right.

6) Repeat the process for the second question.

7) Before going onto the third question repeat question one and two.

8) When you have gone through all of the questions try and do them in a random order to really test your knowledge.

ONCE YOU HAVE LEARNT THEM ALL ….

9) Complete some exam questions to apply your knowledge.

10) Check your answer with the mark scheme and correct any errors in green pen.

11) Repeat steps 9-10 until you get the answers correct all of the time.

QUESTION	ANSWER
What gases make up our atmosphere now?	**<u>Atmosphere now</u>** is **78% nitrogen**, **21% oxygen** & small amounts of **carbon dioxide, argon & water vapour**.
When was Earth formed?	Earth was formed about 4.5 billion years ago.
What released gases to make up the early atmosphere?	Intense volcanic activity
Why has the oxygen levels gone up?	<u>Plants</u> & <u>algae</u> took in CO_2 and made **oxygen** in atmosphere during photosynthesis.
What is the equation for photosynthesis?	$6CO_2 + 6H_2O \xrightarrow{\text{light}} C_6H_{12}O_6 + 6O_2$ carbon dioxide + water → glucose + oxygen
Why are the levels of CO_2 increasing?	We are burning fossil fuels

QUESTION	ANSWER
What was the early atmosphere like?	A lot of carbon dioxide, ammonia, methane & water vapour.
What happened to the water vapour when the Earth started to cool?	Condensed to form the oceans.
Why has the levels of CO_2 decreased?	• Some CO_2 dissolved in oceans. • '**locked away'** in sedimentary rocks (eg limestone) as carbonates (made from fossilised shells & bones)) and fossil fuels (made from dead plants/animals).
How can we separate the gases within air?	Fractional distillation
Why can we separate the gases that make up air?	They have different boiling pts
What is the role of greenhouse gases?	To maintain temperatures on Earth high enough to support life.

QUESTION	ANSWER
What are the greenhouse gases?	Water vapour, carbon dioxide and methane
What is carbon footprint?	The total amount of carbon dioxide and other greenhouse gases emitted over the full life cycle of a product, service or event.
How can we reduce the carbon footprint?	By reducing emissions of carbon dioxide and methane.
What do Sulphur dioxide and nitrogen oxides cause?	Acid rain.
Why does nitrogen dioxide form?	Nitrogen and oxygen in the air can react in the very high temperatures in an engine.
What causes global dimming?	**Particulates** (tiny particles of unburned fuel)

QUESTION	ANSWER
What do scientists predict will happen to our Earth?	The temperature of Earth's atmosphere will increase enough to result in global climate change e.g ice caps melting, sea levels rising, flooding, extreme weather.
What is the problem with making predictions?	It is difficult to model such complex systems as global climate change and therefore simplified models reported in the media may be biased.
What do fuels release into the atmosphere when they are burnt (combustion)?	**water**, **carbon dioxide, carbon monoxide, nitrogen oxide, sulphur dioxide** or **particulates** (solid particles)
Why does Sulphur dioxide form?	Sulphur in 'dirty' fuel reacts with oxygen from the air**.**
Why is carbon monoxide formed?	Incomplete combustion (combustion when there is not enough oxygen).