

Chemistry AS90648

Describe properties and reactions of carbon and its compounds

**Use this to quickly identify the areas you need to study
Fold along the dotted line so that the answers are hidden.
Try the questions and check your answers.**



QUESTION	YOUR ANSWER	CORRECT ANSWER
What colour is carbon as soot?		black
What is the combustion called that occurs in a limited amount of oxygen?		incomplete
What state is carbon at room temperature?		solid
Which releases most energy, combustion of C to make CO or CO ₂		CO ₂
True or false: Carbon dioxide is denser/heavier than air?		true
How soluble is CO ₂ in water? very soluble / soluble / slightly soluble / insoluble		slightly soluble
What is the chemical <u>name</u> for lime water?		calcium hydroxide
Describe what happens when CO ₂ is <i>first</i> bubbled through lime water.		goes cloudy/milky
Complete this for the limewater test: Ca(OH) ₂ (aq) + CO ₂ (g) → _____ (s) + H ₂ O(l)		CaCO ₃ (s)
Carbon dioxide can be used in fire extinguishers because it does not _____ combustion (allow things to burn in it).		support
A solution of CO ₂ in water is: a strong acid / a weak acid / neutral / a weak alkali		a weak acid
What happens to the solubility of carbon dioxide gas under pressure?		it increases
CO is poisonous. Give 2 reasons why you might not know you are at risk, in an environment with CO.		it's colourless & odourless
What chemicals (reactants) are mixed in the lab to prepare a sample of carbon dioxide? Marble chips (calcium carbonate) + _____		hydrochloric acid
Headache, fatigue, shortness of breath, nausea & dizziness are all symptoms of what?		CO poisoning
CO ₂ can be collected by "downward delivery" method into a tube but why is it hard to tell when the tube is full?		carbon dioxide is colourless
What in the red blood cell does toxic CO bind to?		Haemoglobin
Balance this equation: C + O ₂ → CO		2C 2CO

What colour flame does CO burn with as it becomes CO ₂ ?	Blue
What use of CO ₂ relies on it being dissolved under pressure in water?	Fizzy drinks
Another name for the solid form of carbon dioxide is _____ .	dry ice
In the carbon cycle, what ONE process removes CO ₂ from the air?	Photosynthesis
What is the (2 word) name for fuels like coal, oil and gas?	Fossil fuels
Why should you never leave a car running in a garage, even with the garage door open.	CO formed due to limited O ₂
Balance this equation: CaCO ₃ + HCl → CaCl ₂ + H ₂ O + CO ₂	2 HCl
What "r" is the release of energy from food, which produces CO ₂ and H ₂ O and energy?	respiration
Dead plants, animals and animal faeces are broken down by d_____ .	decomposers
How does C in plant cells become C in animal cells?	Gets eaten
How is the C locked up in coal, oil and gas released into the atmosphere?	Combustion / burning
An allotrope is a different form of an element in the same _____	state
What allotrope of carbon is a good conductor of electricity?	Graphite
The short name version of Buckminsterfullerene is the _____	Bucky ball
What does the 60 represent in the formula C ₆₀ ?	(60) carbon atoms
In diamond each C atom is bonded to ____ others in a tetrahedral arrangement	4
Diamond is very strong because of the strong _____ bonds between the C atoms	covalent
Give a use of graphite that relies on the fact that there are weak attractive forces between the layers and they slip easily over each other	lubricant OR pencil "lead"
Which allotrope of carbon is regarded as a covalent molecule?	Bucky ball / C ₆₀
Which carbon allotrope has the lowest melting and boiling point?	Bucky ball / C ₆₀
How are the carbon atoms in graphite arranged <i>within</i> the layers? (What shape)	In hexagons/ rings of 6/