

Year 10 Summer catch up,

Chemistry paper 2

Rates of reaction





			TORCG	
What does the rate of a reaction tell you?	How can you measure the rate of a reaction that produces a gas?	What happens to the rate of reaction when the temperature increases?	What effect does increasing the concentration of a solution have on the rate?	Why does using a powder increase the rate of reaction?
What is a catalyst?	True or false: A catalyst is used up in a reaction.	Name one way to increase the surface area of a solid reactant.	What happens to the rate if the pressure of a gas reaction is increased?	How does temperature affect the movement of particles?
Why do particles need to collide in a reaction?	What does it mean if a reaction is "reversible"?	What is the symbol used to show a reversible reaction?	What do we call it when the forward and backward reactions are balanced?	What is the product of the Haber process?
What two gases are used in the Haber process?	Why is a catalyst used in the Haber process?	What happens to the rate of reaction if you cool down the reaction mixture?	Give one way to increase the rate of a reaction without changing the temperature.	What does increasing pressure do to the particles in a gas?
Why do reactions go faster at higher temperatures?	Give one reason why factories want fast reactions.	What is the purpose of using smaller pieces of solid reactant?	Give an example of a slow chemical reaction.	Give an example of a fast chemical reaction

Rates of reaction

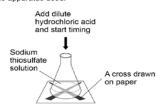


What does the rate of a reaction tell you? The rate of a reaction tells you how fast the reaction happens.	How can you measure the rate of a reaction that produces a gas? Measure the volume of gas made or count the bubbles.	What happens to the rate of reaction when the temperature increases? The rate increases because particles move faster.	What effect does increasing the concentration of a solution have on the rate? The reaction goes faster.	Why does using a powder increase the rate of reaction? There is more surface area for particles to collide with.
What is a catalyst? A substance that speeds up a reaction.	True or false: A catalyst is used up in a reaction. False.	Name one way to increase the surface area of a solid reactant. Break it into smaller pieces or use a powder.	What happens to the rate if the pressure of a gas reaction is increased? It increases the rate of reaction.	How does temperature affect the movement of particles? They move faster.
Why do particles need to collide in a reaction? So, they can react.	What does it mean if a reaction is "reversible"? It means the reaction can go forwards and backwards.	What is the symbol used to show a reversible reaction?	What do we call it when the forward and backward reactions are balanced? Equilibrium	What is the product of the Haber process? Ammonia.
What two gases are used in the Haber process? Nitrogen and hydrogen.	Why is a catalyst used in the Haber process? To speed up the reaction.	What happens to the rate of reaction if you cool down the reaction mixture? The reaction goes slower.	Give one way to increase the rate of a reaction without changing the temperature. Increase concentration or use a catalyst.	What does increasing pressure do to the particles in a gas? It makes them closer together.
Why do reactions go faster at higher temperatures? Particles move faster and collide more often.	Give one reason why factories want fast reactions. To save time and money.	What is the purpose of using smaller pieces of solid reactant? To speed up the reaction	Give an example of a slow chemical reaction. Rusting.	Give an example of a fast chemical reaction An explosion



Some students used this reaction to investigate the effect of concentration on rate of

The diagram shows the apparatus used.



This is the method used

- 1. Measure 25 cm³ sodium thiosulfate solution into a conical flask.
- 2. Stand the conical flask on a cross drawn on paper.
- 3. Add 10 cm3 of dilute hydrochloric acid.
- 4. Time how long it takes the cross to become no longer visible.
- 5. Repeat steps 1-4 with sodium thiosulfate solutions of different concentrations.

The students analysed their results to give a conclusion and an explanation for their investigation.

Conclusion: 'The higher the concentration, the lower the rate of reaction.'

Explanation: 'At higher concentrations, the particles have more energy, so they are moving faster. Therefore the collisions are more energetic.'

The students are not correct.

Canalusian

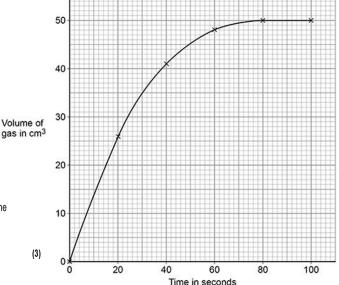
Give a **correct** conclusion **and** explanation for the results of the investigation.

Conclusion			
Evolunation			
Explanation			

The table below shows the student's results for large calcium carbonate lumps.

Time in seconds	Volume of gas in cm ³
0	0
20	16
40	30
60	40
80	46
100	48

The graph below shows the student's results for small calcium carbonate lumps.



(c) Complete the graph above.

You should:

(3)

- plot the data for large calcium carbonate lumps from the table above on the graph paper
- draw a line of best fit for large calcium carbonate lumps.

 Determine the mean rate of reaction using small calcium carbonate lumps between 0 seconds and 60 seconds.

Use the equation:

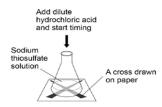
mean rate of reaction =
$$\frac{\text{volume of gas produced}}{\text{time taken}}$$
Use the graph above.

Mean rate of reaction = cm³/s



Some students used this reaction to investigate the effect of concentration on rate of

The diagram shows the apparatus used



This is the method used

- 1. Measure 25 cm3 sodium thiosulfate solution into a conical flask.
- 2. Stand the conical flask on a cross drawn on paper.
- 3. Add 10 cm3 of dilute hydrochloric acid
- 4. Time how long it takes the cross to become no longer visible
- 5. Repeat steps 1-4 with sodium thiosulfate solutions of different concentrations

The students analysed their results to give a conclusion and an explanation for their

Conclusion: 'The higher the concentration, the lower the rate of reaction.'

Explanation: 'At higher concentrations, the particles have more energy, so they are moving faster. Therefore the collisions are more energetic.'

The students are not correct.

Give a correct conclusion and explanation for the results of the investigation.

Conclusion

conclusion:

the higher the concentration, the higher the rate of reaction

Explanation

explanation:

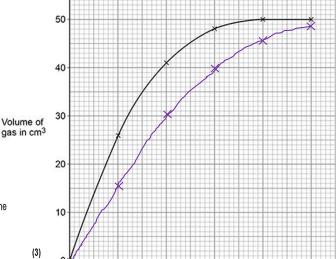
(at higher concentrations) there are more particles in a fixed volume

(therefore the) collisions are more frequent

The table below shows the student's results for large calcium carbonate lumps.

Time in seconds	Volume of gas in cm ³
0	0
20	16
40	30
60	40
80	46
100	48

The graph below shows the student's results for small calcium carbonate lumps.



Time in seconds

(c) Complete the graph above.

You should:

- plot the data for large calcium carbonate lumps from the table above on the graph paper
- draw a line of best fit for large calcium carbonate lumps.

Determine the mean rate of reaction using **small** calcium carbonate lumps between 0 seconds and 60 seconds.

allow correct use of an incorrectly determined value for volume

$$= 0.8 \text{ (cm}^3/\text{s)}$$

100

(3)

Organic chemistry





			L=_1 . № T+N • _a+F ; TORCG	
What is the general formula for alkanes?	What does "hydrocarbon" mean?	What are the first four alkanes called?	Which two elements are in all hydrocarbons?	What is the name of the process used to separate crude oil?
Is crude oil a mixture or a compound?	What is meant by a "fraction" in fractional distillation?	Which fraction has the lowest boiling point?	Why do long-chain hydrocarbons make poor fuels?	What does flammable mean?
Are short-chain hydrocarbons viscous?	What is viscosity?	What happens to flammability as hydrocarbon chains get longer?	What is cracking?	Why is cracking useful?
What are the two types of products made in cracking?	What are alkenes?	What is the general formula for alkenes?	How can you test for an alkene?	What colour does bromine water turn if an alkene is present?
True or false: Alkanes are saturated.	True or false: Alkenes are saturated.	What is meant by "unsaturated"?	Name one use of hydrocarbons from crude oil.	What is produced when hydrocarbons burn completely in air?

Organic chemistry

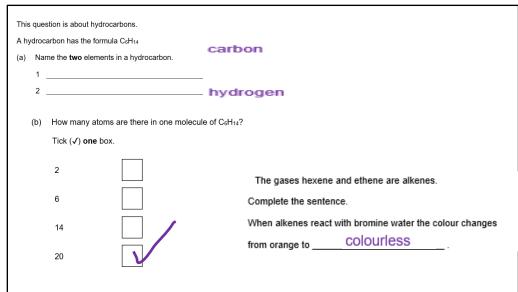


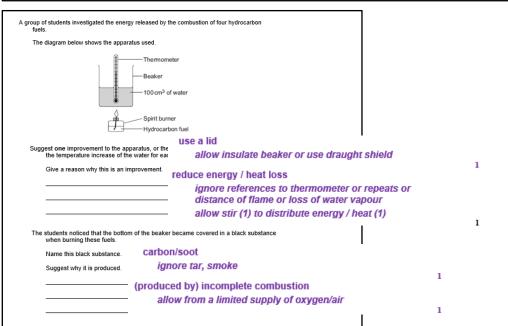
What is the general formula for alkanes? $C_n H_{2n+2} \label{eq:cn}$	What does "hydrocarbon" mean? A compound made of hydrogen and carbon only	What are the first four alkanes called? Methane, ethane, propane, butane	Which two elements are in all hydrocarbons? Hydrogen and carbon	What is the name of the process used to separate crude oil? Fractional distillation
Is crude oil a mixture or a compound? A mixture	What is meant by a "fraction" in fractional distillation? A group of hydrocarbons with similar boiling points	Which fraction has the lowest boiling point? The fraction with the shortest chains (like gases)	Why do long-chain hydrocarbons make poor fuels? They are thick and don't burn well	What does flammable mean? Easily catches fire
Are short-chain hydrocarbons viscous? No, they are not viscous, they flow easily	What is viscosity? How thick or runny a liquid is	What happens to flammability as hydrocarbon chains get longer? It decreases	What is cracking Breaking large hydrocarbons into smaller ones	Why is cracking useful? It makes useful fuels and alkene
What are the two types of products made in cracking? Alkanes and alkenes	What are alkenes? Hydrocarbons with a double bond	What is the general formula for alkenes? C _n H _{2n}	How can you test for an alkene? Add bromine water	What colour does bromine water turn if an alkene is present? Orange to colourless
True or false: Alkanes are saturated. True	True or false: Alkenes are saturated. False	What is meant by "unsaturated"? It contains at least one double bond	Name one use of hydrocarbons from crude oil. Fuel, plastic, lubricant (any one)	What is produced when hydrocarbons burn completely ir air? Carbon dioxide and water



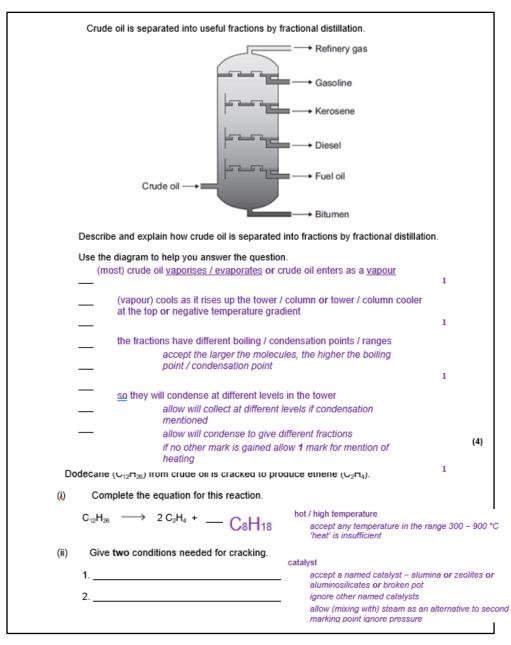
distillation.

	,
This question is about hydrocarbons.	Crude oil is separated into useful fractions by fractional distillation.
A hydrocarbon has the formula C_6H_{14}	→ Refinery gas
(a) Name the two elements in a hydrocarbon. 1	Gasoline
(b) How many atoms are there in one molecule of C ₆ H ₁₄ ? Tick (✓) one box. 2 The gases hexene and ethene are alkenes.	→ Diesel Crude oil → Fuel oil
6 Complete the sentence.	→ Bitumen
When alkenes react with bromine water the colour changes	Describe and explain how crude oil is separated into fractions by fractional
from orange to	Use the diagram to help you answer the question.
	<u> </u>
A group of students investigated the energy released by the combustion of four hydrocarbon fuels.	
The diagram below shows the apparatus used.	
The mometer Beaker 100 cm³ of water Spirit burner Hydrocarbon fuel	
Suggest one improvement to the apparatus, or the use of the apparatus, that would make the temperature increase of the water for each fuel more accurate.	
Give a reason why this is an improvement.	Dodecane (C ₁₂ H ₂₆) from crude oil is cracked to produce ethene (C ₂ H ₄).
	(i) Complete the equation for this reaction.
The students noticed that the bottom of the beaker became covered in a black substance when burning these fuels.	C ₁₂ H ₂₆ → 2 C ₂ H ₄ +
Name this black substance.	(ii) Give two conditions needed for cracking.
Suggest why it is produced.	
	1
	2
	1









Chemical analysis





	•		* TORCG	
What is a pure substance?	How can you tell if a substance is pure using its melting point?	What is the difference between a pure substance and a mixture?	What is a formulation?	Give an example of a formulation
Why are formulations useful?	What is chromatography used for?	What is the mobile phase in chromatography?	What is the stationary phase in chromatography?	What does it mean if a substance produces one spot in chromatography?
How can you tell if a substance is a mixture using chromatography?		How is an Rf value calculated?	What safety measure should you take when using chromatography solvents?	
What is the test for carbon dioxide?	What gas makes a lit splint go "pop"?	What is the test for hydrogen?	What gas relights a glowing splint?	What is the test for oxygen?
What gas bleaches damp litmus paper white?	What is the test for chlorine gas?	Why should you wear goggles when testing gases?	What does it mean if a result is reproducible?	Why is chromatography useful fo testing-coloured substances?

Chemical analysis



	T			T
What is a pure substance? A substance that contains only one type of particle.	How can you tell if a substance is pure using its melting point? It has a sharp melting point (melts at one specific temperature).	What is the difference between a pure substance and a mixture? A pure substance melts and boils at specific temperatures; a mixture melts and boils over a range.	What is a formulation? A mixture designed to have a specific purpose and contains precise amounts of different substances	Give an example of a formulation Examples: paint, medicine, shampoo, fuel.
Why are formulations useful? Because each part works together to make the product work properly.	What is chromatography used for? To separate mixtures and identify substances.	What is the mobile phase in chromatography? The solvent (liquid that moves through the paper).	What is the stationary phase in chromatography? The chromatography paper or solid surface that the solvent moves through.	What does it mean if a substance produces one spot in chromatography? It is pure or contains only one substance.
How can you tell if a substance is a mixture using chromatography? More than one spot shows it is a mixture.	The ratio of the distance moved	How is an Rf value calculated? Rf = distance moved by substance ÷ distance moved by solvent.	What safety measure should you take when using chromatography solvents? Work in a well-ventilated area and keep flames away (some solvents are flammable).	What gas turns limewater cloudy? Carbon dioxide.
What is the test for carbon dioxide? Bubble the gas through limewater; it turns cloudy.	What gas makes a lit splint go "pop"? Hydrogen.	What is the test for hydrogen? Light a splint and hold it near the gas; it makes a "pop" sound.	What gas relights a glowing splint? Oxygen.	What is the test for oxygen? A glowing splint relights in oxygen.
What gas bleaches damp litmus paper white? Chlorine.	What is the test for chlorine gas? Chlorine bleaches damp litmus paper white.	Why should you wear goggles when testing gases? Because some gases are harmful or irritant.	What does it mean if a result is reproducible? Results can be repeated by different people using the same method.	Why is chromatography useful for testing-coloured substances? It can separate and identify the components of mixtures that have different colours



The figure below shows the displayed structural formula of ethene.	This question is about paper chromatography.		
H H	A food colouring contains a dye.		
$\stackrel{\mid}{c}=\stackrel{\mid}{c}$	(a) Plan an investigation to determine the R _f value for the dye in this food colouring.		
	$R_{f} = \frac{\text{distance moved by substance}}{\text{distance moved by solvent}}$		
(a) Complete the sentence.	Your plan should include the use of:		
When bromine water is added to ethene, the bromine water changes from orange to	a beaker		
	• a solvent		
	chromatography paper.		
Chlorine reacts with ethene.			
The student tested the gas produced.			
(b) What is used to identify chlorine? What is used to prove that the gas is oxygen?			
Tick (√) one box. Tick (√) one box.			
A lighted splint A glowing splint			
Damp litmus paper Bromine water			
Limewater Damp litmus paper			
	Paper chromatography involves a stationary phase. Two students investigated a dye in a food colouring using paper chromatograp Each student did the investigation differently.		
	What is the stationary phase in paper chromatography? The R _I values they determined for the same dye were different.		
ydrogen gas is produced during this reaction.	Tick (✓) one box. How did the students' investigations differ?		
escribe the test for hydrogen gas.	Tick (√) one box.		
ive the result of the test.	Different length of paper used		
est	Dye Different period of time used		
	Paper Different size of beaker used		
esult	Solvent		
	Different solvent used		



The figure below shows the displayed structural formula of ethene.	This question is about paper chromatography.
H H	A food colouring contains a dye.
$\stackrel{\mid}{c} = \stackrel{\mid}{c}$	(a) Plan an investigation to determine the R _f value for the dye in this food colouring.
	$R_f = \frac{\text{distance moved by substance}}{\text{distance moved by solvent}}$
(a) Complete the sentence. When bromine water is added to ethene, the bromine water changes from orange to ———————————————————————————————————	Your plan should include the use of: Method draw (pencil) start line on (chromatography) paper place spot of food colouring on start line use of suitable solvent place solvent in beaker / container place (chromatography) paper in beaker / container
Chlorine reacts with ethene. The student tested the gas produced. (b) What is used to identify chlorine? What is used to prove that the gas is oxygen? Tick (✓) one box. Tick (✓) one box.	 so (chromatography) paper is in solvent but solvent is below <u>start</u> line use a lid wait for solvent to travel up the (chromatography) paper (until near top)
A lighted splint A glowing splint	 mark solvent front dry the (chromatography) paper
Damp litmus paper Bromine water Damp litmus paper	Measurements measure distance between start line and centre of spot measure distance between start line and solvent front
Limewater Damp litmus paper	• use of measurements to determine R _f value Two students investigated a dye in a food colouring using paper chromatography Each student did the investigation differently. What is the stationary phase in paper chromatography? The R _f value Two students investigation differently. The R _f values they determined for the same dye were different.
(test) drogen gas is produced during this reaction. burning / lit splint	Tick (✓) one box. How did the students' investigations differ?
scribe the test for hydrogen gas. do not accept glowing splint	Beaker Different length of paper used
ve the result of the test. st (result) burns with a (squeaky) pop sound	Dye Different period of time used
sult <i>allow pops</i> Sult <i>MP2 is dependent upon MP1 being</i>	Paper Different size of beaker used Solvent
awarded POP TEST GETS NO MARK	Different solvent used

Atmosphere





_			■ YF G C ST TORCE	
What gas makes up most of the Earth's atmosphere today?	What was the Earth's early atmosphere mostly made of?	What gas is needed for plants to perform photosynthesis?	What process removed carbon dioxide from the early atmosphere?	What gas did photosynthesis add to the atmosphere?
Name a greenhouse gas other than carbon dioxide.	What is the greenhouse effect?	Why is the greenhouse effect important for life on Earth?	How does burning fossil fuels affect the atmosphere?	What is acid rain?
What gas causes acid rain?	How can acid rain damage the environment?	What gas is released by volcanoes?	What harmful gas is produced by burning fuels containing sulfur?	What effect does deforestation have on carbon dioxide levels?
Why has the amount of oxygen in the atmosphere increased over time?	What gas do humans breathe out?	What is the main source of methane in the atmosphere?	What is global warming?	Name one effect of global warming.
How can human activities increase carbon dioxide levels?	How can human activities increase methane levels?	What is the role of oceans in the carbon cycle?	What does 'carbon footprint' mean?	What is one way to reduce your carbon footprint?

Atmosphere

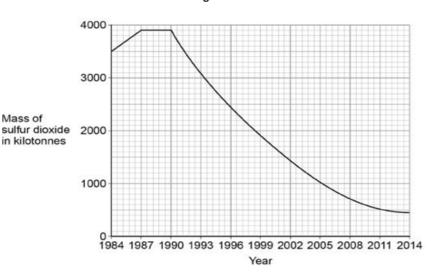


What gas makes up most of the Earth's atmosphere today? Nitrogen	What was the Earth's early atmosphere mostly made of? Carbon dioxide, water vapour, and other gases	What gas is needed for plants to perform photosynthesis? Carbon dioxide	What process removed carbon dioxide from the early atmosphere? Photosynthesis by plants and algae	What gas did photosynthesis add to the atmosphere? Oxygen
Name a greenhouse gas other than carbon dioxide. Methane (CH ₄)	What is the greenhouse effect? The trapping of heat by gases in the atmosphere Why is the greenhouse effect important for life on Earth? It keeps the Earth warm enough to support life How does burning fossil fuels affect the atmosphere? It increases carbon dioxide and other greenhouse gases		What is acid rain? Rain containing harmful acids	
What gas causes acid rain? Sulfur dioxide (SO ₂)			What harmful gas is produced by burning fuels containing sulfur? Sulfur dioxide	What effect does deforestation have on carbon dioxide levels? It reduces the number of trees that absorb carbon dioxide
Why has the amount of oxygen in the atmosphere increased over time? Because of photosynthesis by plants	osphere increased over time? Carbon dioxide out? The increase in Earth's a temperature caused in wetlands out out? From animals and decomposition in wetlands greenhouse gases		What is global warming? The increase in Earth's average temperature caused by greenhouse gases	Name one effect of global warming. Rising sea levels
How can human activities increase carbon dioxide levels? Burning fossil fuels and deforestation	dioxide levels? increase methane levels? carbon cycle? mean't if fuels and station carbon cycle? Oceans absorb and store carbon dioxide gases caused dindirectly by a		What does 'carbon footprint' mean? The total amount of greenhouse gases caused directly and indirectly by a person or organisation	What is one way to reduce your carbon footprint? Using less energy or using renewable energy sources



Figure 3 shows the mass of sulphur dioxide in the Earth's atmosphere between 1984 and 2014

Figure 3



A student said:

'the mass of sulphur dioxide in the atmosphere decreased every year between 1984 and 2014'

Is the student correct?

Methane is burned in a plentiful supply of oxygen. Burning fuels causes atmospheric pollution.

Which is the correct balanced chemical equation

Tick one box.

 $CH_4 + O_2 \rightarrow CO_2 + H_2O$

 $CH_4 + 2O_2 \rightarrow CO_2 + H_2O$

 $CH_4 + 2O_2 \rightarrow CO_2 + 2H_2O$

 $CH_4 + 3O_2 \rightarrow 2CO_2 + 2H_2O$

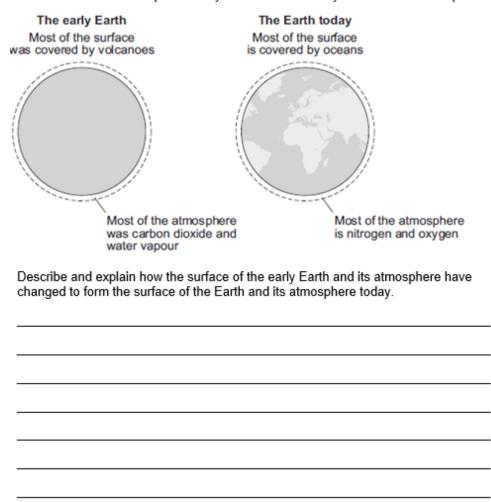
Write one effect for each pollutant in Table 1.

Table 1

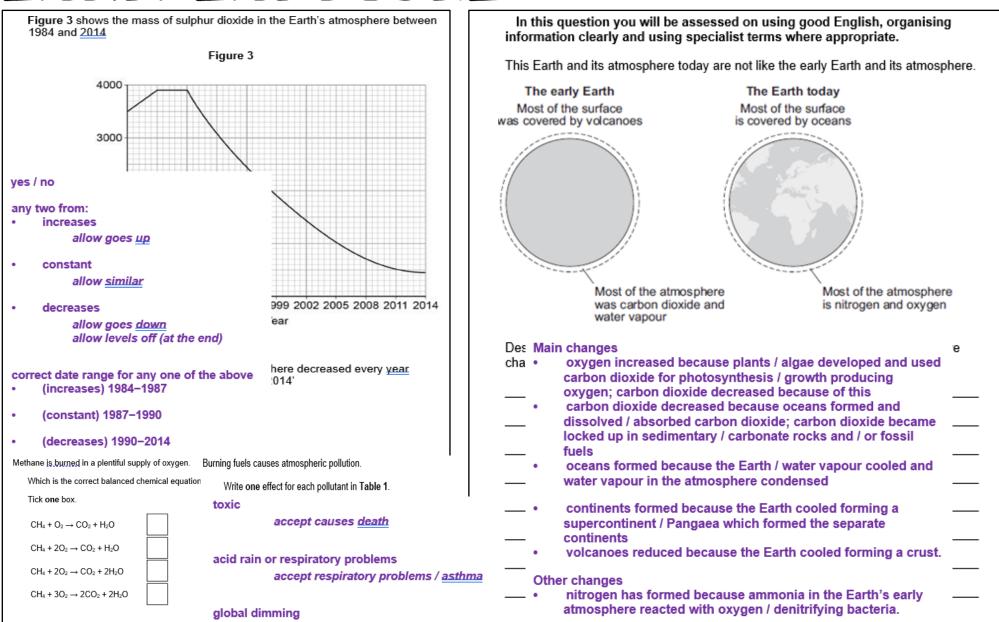
Pollutant	Effect
Carbon monoxide	
Sulphur dioxide	
Particulates	

In this question you will be assessed on using good English, organising information clearly and using specialist terms where appropriate.

This Earth and its atmosphere today are not like the early Earth and its atmosphere.







Using resources





What is potable water?	Why do we treat water before drinking it?	What is desalination?	Name one source of fresh water.	What is sewage treatment?	
Why is groundwater important?	er What does filtration remove from water?		Why is rainwater sometimes collected?	What is meant by sustainable use of resources?	
Name one renewable resource.	Name one non-renewable resource.	What is recycling? How can recycling save resources?		What is the main gas removed in sewage treatment?	
What is bioleaching?	ching? What is phytomining? Why is mining harmful to environment?		How does agriculture affect water quality?	What does the term 'finite resource' mean?	
How can we reduce water wastage?	What is a water footprint?	What is the purpose of sedimentation in water treatment?	Name one alternative to using fossil fuels.	Why do we need to manage Earth's resources carefully?	

Using resources



What is potable water? Water safe to drink	Why do we treat water before drinking it? To remove harmful substances	What is desalination? Removing salt from seawater	Name one source of fresh water. Rivers, lakes, or reservoirs	What is sewage treatment? Treating wastewater to remove contaminants
Why is groundwater important? Provides freshwater underground	What does filtration remove from water? Removes solids	water? Kills bacteria collected?		What is meant by sustainable use of resources? Using resources without running out
Name one renewable resource. Sun, wind, and waves	Name one non-renewable resource. Coal, oil, natural gas	resource. Turning waste into new resources?		What is the main gas removed in sewage treatment? Methane gas
What is bioleaching? Using bacteria to extract metals	What is phytomining? Using plants to extract metals	Why is mining harmful to the environment? Destroys habitats and pollutes	How does agriculture affect water quality? Fertilisers cause water pollution	What does the term 'finite resource' mean? Runs out eventually
How can we reduce water wastage? Fix leaks and use water wisely	What is a water footprint? Water used by a person or group	What is the purpose of sedimentation in water treatment? Allows solids to settle out	Name one alternative to using fossil fuels. Solar or wind power	Why do we need to manage Earth's resources carefully? To protect resources for future use

Water in Britain is taken from reservoirs to use as drinking water.



(a)	What are the two main steps used to treat water from reservoirs?			
	Give one reason for each step.			
Som	e people use water filters to treat water before drinking it.			
(i)	Water filters remove hardness from hard water.			
	What is in water filters that removes hardness from water?			
(ii)	Suggest why water filters used in the home contain particles of silver.			
Pure water can be produced by distillation.				
wny i	s distillation not usually an economic method of treating water for drinking?			
Drin	king hard water has health benefits.			
State	one health benefit of drinking hard water.			



In this question you will be assessed on using good English, organising information clearly and using specialist terms where appropriate.

There are millions of plastic bags in use. After use most of these plastic bags are buried in landfill sites. The amount sent to landfill could be reduced if the plastic bags:

- could be reused
- could be recycled by melting and making them into new plastic products

rgy.
r knowledge and understanding to give the positive and using these methods to reduce the amount of plastic ba

Water in Britain is taken from reservoirs to use as drinking water.



(a)	What are the two main steps used to trea	(add) chlorine accept ozone / UV		
	Give one reason for each step.			
		to reduce the number of microbes accept to kill microbes / bacteria / germs accept sterilise allow disinfect ignore remove microbes		

Some people use water filters to treat water before drinking it.

(<u>i)</u>	Water filters remove hardness from hard water.	ion exchange resin
	What is in water filters that removes hardness from wa	allow sodium <u>ions</u> / Na ⁺ allow hydrogen ions / H ⁺

prevent growth of microbes

Suggest why water filters used in the home contain p accept sterilise accept to kill microbes / bacteria / germs accept to reduce the number of microbes ignore remove microbes

Pure water can be produced by distillation.

Drinking hard water has health benefits.

high cost of energy / heating

Why is distillation not usually an economic method

allow uses a lot of energy

any one from:

helps to develop / maintain bones

allow any suitable positive effect on bones helps to develop / maintain teeth

State one health benefit of drinking hard water. allow any suitable positive effect on teeth

reduces heart disease



	In this question you will be assessed on using good English, organising information clearly a using specialist terms where appropriate.					
	The	here are millions of plastic bags in use. After use most of the		e: e means less bags used so:		
	Idili	andfill sites. The amount sent to landfill could be reduced if the				
	•	could be reused	•	Saves raw materials/crude oil		
	•	could be recycled by melting and making them into new pla		Saves energy Cuts down on CO ₂ emissions		
		could be burned to release energy.		Less global warming		
	•			tive environmental impact		
				Could cause litter		
	ser	nt to landfill.		Could still be sent to landfill		
	ecyc		_			
Ва	ags (can be recycled so:				
P	ositiv	ve environmental impact				
•		Used to make new plastic bags / objects				
•		Saves raw materials / crude oil				
•		Saves energy compared to producing plastic bags from crude oil				
		Cuts down on CO ₂ emissions				
•		Less global warming				
	_	Negative environmental impact				
	_	Collection point sites cause an eyesore / litter pr	oblem	l		
	_	Transportation to recycling plant releases carbon	n diox	ide / causes global warming		
	Bur Bag	n: is can be burned so:				
	Pos	itive environmental impact				
		Could provide energy for heating buildings				
		Could provide energy for generating electricity				
	Neg	pative environmental impact				
		Increases CO ₂ emissions				
		Increases global warming				
		Could release toxic gases				

Does not conserve raw materials / crude oil