



# Year 7

# Chemistry

# Homework

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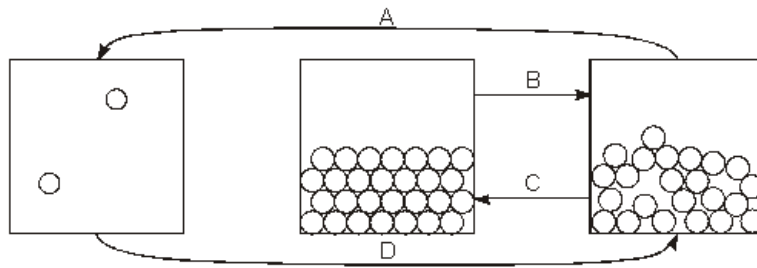
**HWK 7C1: States of Matter: Read through the new vocabulary and definitions .**

**Try to make sure you can spell and remember what each word means.**

<b>Scientific vocabulary</b>	<b>Definition</b>
<b>boil (boiling)</b>	The change of state from liquid to gas that occurs when bubbles of the substance in its gas state form throughout the liquid. Boiling occurs at the boiling point of a substance.
<b>change of state</b>	The process by which a substance changes from one state to another.
<b>condense (condensation)</b>	The change of state from gas to liquid. It can happen at any temperature below the boiling point.
<b>evaporate (evaporation)</b>	The change of state from liquid to gas that occurs when particles leave the surface of the liquid only. It can happen at any temperature. Evaporation can be used to separate a solid dissolved in a liquid.
<b>freeze (freezing)</b>	The change of state from liquid to solid at the melting point of a substance.
<b>gas</b>	In the gas state, a substance can flow and can also be compressed.
<b>liquid</b>	In the liquid state, a substance can flow but cannot be compressed.
<b>melt (melting)</b>	The change of state from solid to liquid at the melting point of a substance.
<b>particle</b>	A very tiny object, such as an atom or molecule, that materials are made from. They are too small to be seen with a microscope.
<b>particle model</b>	A way to think about how substances behave in terms of small, moving particles.
<b>solid</b>	In the solid state, a substance cannot be compressed and it cannot flow.
<b>states of matter</b>	The three forms in which a substance can exist – solid, liquid, and gas.
<b>sublime (sublimation)</b>	The change of state from solid directly to gas.



Q1: The diagram below shows particles in a gas, a solid and a liquid. Each arrow, A, B, C and D, represents a change of state.



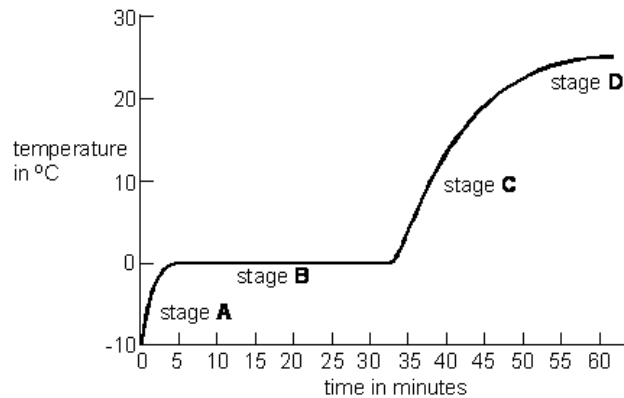
(i) Choose from the following words to complete the sentences below.

**boiling      condensing      distilling      evaporating      filtering      freezing      melting**

- Change of state A is called .....
- Change of state B is called .....
- Change of state C is called .....
- Change of state D is called .....

4 marks

Q2: A test tube of crushed ice is taken out of a freezer and left in a warm room. The graph shows how the temperature in the test tube changes.



(a) What is happening to the ice at stage B?

.....

1 mark

(b) Four descriptions of the ways molecules could move are given below.

- They vibrate around fixed points.
- They move past each other and are close together.
- They move in straight lines, colliding occasionally.
- They all move in the same direction at the same speed.

(i) How do the molecules move at stage A? Write **A** in the correct box above.

1 mark

(ii) How do the molecules move at stage C? Write **C** in the correct box above.

1 mark



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**HWK 7C2: Gas Pressure**

Unscramble the anagrams of the vocabulary you learnt last time and write them in the box below.

Use the unscrambled words to complete the definition.

Anagram	Definition	Scientific vocabulary word
Rat pave oe Pave ratio ron	The change of state from liquid to gas that occurs when particles leave the surface of the liquid only. It can happen at any temperature. _____ can be used to separate a solid dissolved in a liquid.	
Lobi Lobi Gin	The change of state from liquid to gas that occurs when bubbles of the substance in its gas state form throughout the liquid. _____ occurs at the _____ point of a substance.	
SAG	In the _____ state, a substance can flow and can also be compressed.	
Dilq ui	In the _____ state, a substance can flow but cannot be compressed.	
Lidso	In the _____ state, a substance cannot be compressed and it cannot flow.	

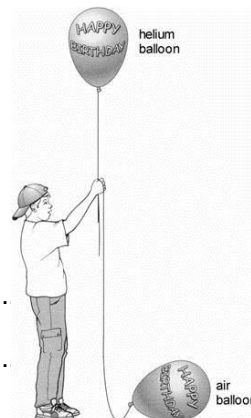
Read through the new vocabulary and definitions below .

Try to make sure you can spell and remember what each word means.

Scientific vocabulary	Definition
diffusion	The process by which particles in liquids or gases spread out through random movement from a region where there are many particles to one where there are fewer.
gas pressure	The force exerted per unit area on the walls of a container. It is caused by collisions of particles with the walls.
density	The mass of a material in a certain volume.



**Q1.** Chris has two rubber party balloons.  
One is filled with air and the other is filled with helium.  
Both balloons contain the same volume of gas.



(a) (i) Explain why the helium balloon rises.

.....  
.....

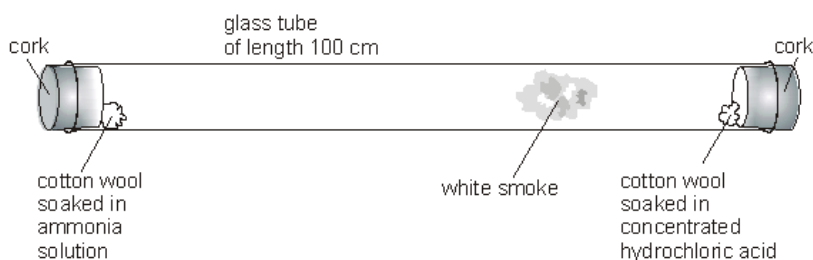
(ii) Explain why the air balloon drops to the ground.

.....  
.....

1 mark

**Q2.**

An experiment was set up as shown in the drawing. After several minutes white smoke of ammonium chloride,  $\text{NH}_4\text{Cl}$ , appeared as shown.



solution	gas given off	relative molecular mass
ammonia	ammonia	17
hydrochloric acid	hydrogen chloride	36.5

(a) Write a balanced equation for the reaction which produced the white smoke.

.....

1 mark

(b) (i) Explain why the smoke formed after several minutes, rather than immediately.

.....

1 mark

(ii) Explain why the smoke formed nearer to the hydrochloric acid end of the tube than to the ammonia end.

.....  
.....  
.....

2 marks



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### HWK 7C3: Compounds and Solutions

Unscramble the anagrams of the vocabulary you learnt last time and write them in the box below.

Use the unscrambled words to complete the definition.

Anagram	Definition	Scientific vocabulary
Find Fus oi	The process by which particles in liquids or gases spread out through random movement from a region where there are many particles to one where there are fewer.	
Ags Sure Pres (2 words)	The force exerted per unit area on the walls of a container. It is caused by collisions of particles with the walls.	
Tend siy	The mass of a material in a certain volume.	

Read through the new vocabulary and definitions below .

Try to make sure you can spell and remember what each word means.

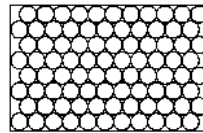
Scientific vocabulary	Definition
dissolve	The complete mixing of a solute with a solvent to make a solution.
material	The different types of stuff that things are made from.
mixture	A mixture is made up of two or more pure substances that are mixed (not chemically joined) together. A mixture's properties are different from the properties of the individual substances that make it up.
property	A quality of a substance or material that describes its appearance, or how it behaves.
pure substance	A single material with no other substances mixed with it.
saturated solution	A solution in which no more solute can dissolve.
solubility	The maximum mass of solute that dissolves in a certain volume or mass of solvent.
solubility curve	A graph showing the change in solubility of a substance with temperature.
soluble (insoluble)	A soluble substance can dissolve in a given solvent. An insoluble substance cannot dissolve in a given solvent.
solute	The solid or gas that is dissolved in a liquid.
solution	A mixture of a solute dissolved in a solvent. All parts of the mixture are the same.
solvent	A substance, normally a liquid, that dissolves another substance.
substance	A material that is not a mixture. It has the same properties all the way through.



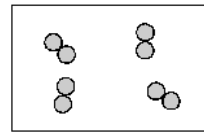
**Q1.** The diagrams represent the arrangement of atoms or molecules in four different substances, A, B, C and D.

Each of the circles, ○, ● and ● represents an atom of a different element.

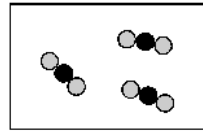
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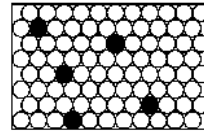
A



B



C



D

- (a) (i) Which substance is compound? ..... 1 mark
- (ii) Which substance is a mixture? ..... 1 mark
- (iii) Which **two** substances are elements? ..... and ..... 1 mark
- (iv) Which **two** substances could be good thermal conductors? ..... and ..... 1 mark
- (v) Which substance could be carbon dioxide? ..... 1 mark

**Q2.** (a) Amy's family are at the beach during the summer. Amy and her sister have a bucket containing seawater and sand.



Read the following statements. Which are **true** and which are **false**?

Tick **one** box for each statement.

	true	false
Water is a solvent for salt.	<input type="checkbox"/>	<input type="checkbox"/>
Sand sinks in water because water is more dense than sand.	<input type="checkbox"/>	<input type="checkbox"/>
When a solid dissolves in water, the solid is called a solute.	<input type="checkbox"/>	<input type="checkbox"/>

2 marks



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### HWK 7C4: Separation Techniques

Unscramble the anagrams of the vocabulary you learnt last time and write them in the box below.

Use the unscrambled words to complete the definition.

Anagram	Definition	Scientific vocabulary
<b>Eurp</b> <b>Tan bus sce</b> (2 words)	A single material with no other substances mixed with it.	
<b>Tols eu</b> (1 word)	The solid or gas that is dissolved in a liquid.	
<b>Lotion su</b> (1 word)	A mixture of a solute dissolved in a solvent. All parts of the mixture are the same.	
<b>Tel vons</b> (1 word)	A substance, normally a liquid, that dissolves another substance.	

Read through the new vocabulary and definitions below .

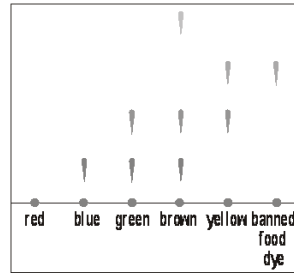
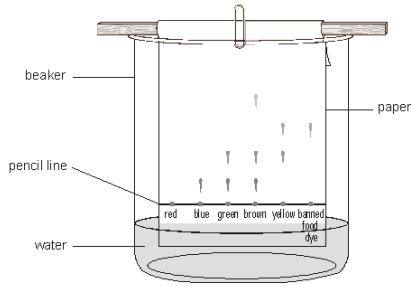
Try to make sure you can spell and remember what each word means.

Scientific vocabulary	Definition
<b>chromatogram</b>	An image obtained from chromatography.
<b>chromatography</b>	A technique to separate mixtures of liquids (often coloured) that are soluble in the same solvent.
<b>distillation</b>	A technique that uses evaporation and condensation to obtain a solvent from a solution.
<b>filtrate</b>	The liquid or solution that collects in the container after the mixture has passed through the filter paper.
<b>filtration</b>	A way of separating pieces of solid that are mixed with a liquid or solution by pouring through filter paper.
<b>mixture</b>	A mixture is made up of two or more pure substances that are mixed (not chemically joined) together. A mixture's properties are different from the properties of the individual substances that make it up.
<b>residue</b>	The solid that collects in the filter paper during filtration.
<b>saturated solution</b>	A solution in which no more solute can dissolve.





**Q1.** Gary wanted to find out if some food colourings contained a banned food dye. He put a drop of each food colouring and the banned food dye onto some special paper. He hung the paper in a beaker of water.



After 10 minutes, the banned food dye and some of the dyes from the food colourings had moved up the paper. Gary's results are shown above right.

(a) Gary wrote the labels on the paper in pencil. Why should he **not** write them in ink?

.....

1 mark

(b) Which method did Gary use to separate the dyes? Tick the correct box.

chromatography	<input type="checkbox"/>	distillation	<input type="checkbox"/>
evaporation	<input type="checkbox"/>	filtration	<input type="checkbox"/>

1 mark

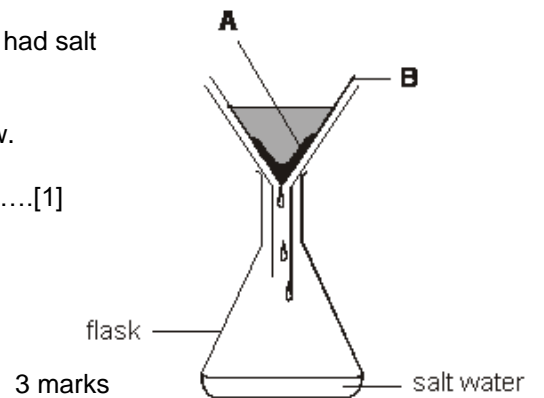
**Q2.** Chris collected some sea water near a beach. The sea water had salt dissolved in it. It had sand mixed in it.

(a) Chris separated the sand from the salt water as shown below.

(i) What is this method of separation called? .....[1]

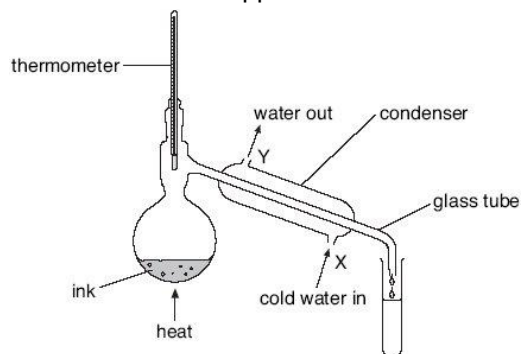
(ii) What is substance A? .....[1]

(iii) What is the part labelled B?.....[1]



3 marks

**Q3.** Rema used the apparatus below to distil 100 cm<sup>3</sup> of water-soluble ink.



(a) Which processes occur during distillation? circle the correct box.

- condensation then evaporation
- evaporation then condensation
- melting then boiling
- melting then evaporation

(b) Give the name of the colourless liquid that collects in the test-tube. ....[1]



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### HWK 7C5: The Periodic Table

Unscramble the anagrams of the vocabulary you learnt last time and write them in the box below.

Use the unscrambled words to complete the definition.

Anagram	Definition	Scientific vocabulary
Tilt Frae (1 word)	The liquid or solution that collects in the container after the mixture has passed through the filter paper.	
Satdatuer Lotionus (2 words)	A solution in which no more solute can dissolve.	
Side reu (1 word)	The solid that collects in the filter paper during filtration.	

Read through the new vocabulary and definitions below .

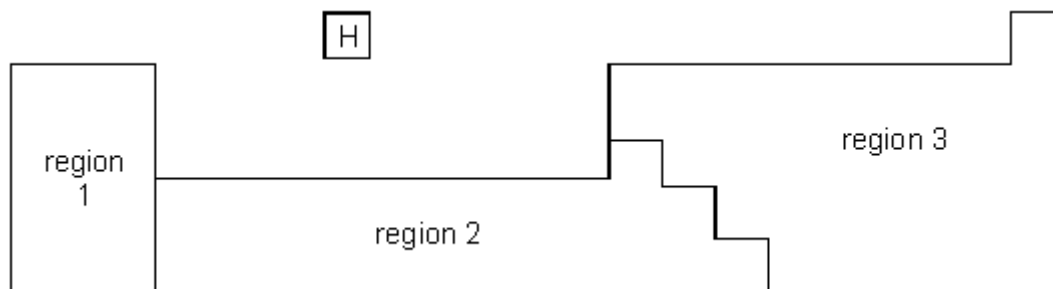
Try to make sure you can spell and remember what each word means.

Scientific vocabulary	Definition
alkali metal	elements in Group 1 of the periodic table.
atomic number	the number of protons (which equals the number of electrons) in an atom. It is sometimes called the proton number.
group	all the elements in the columns (labelled 1 to 7 and 0) in the periodic table.
halogens	the elements found in Group 7 of the periodic table.
noble gases	the very unreactive gases found in Group 0 of the periodic table. Their atoms have very stable electronic structures.
Period	A horizontal row in the periodic table.
periodic table	an arrangement of elements in the order of their atomic numbers, forming groups and periods.
transition element	element from the central block of the periodic table
metal	Elements on the left of the stepped line of the Periodic Table. Most metals are shiny, good conductors of electricity and heat, malleable and ductile, and solid at room temperature.
non-metal	Elements on the right of the stepped line of the Periodic Table. Most non-metals are dull, poor conductors of electricity and heat, brittle, and solid or gaseous at room temperature.



**Q1.**

The diagram shows an outline of part of the Periodic Table of Elements.



- (a) What is the name of the element with the symbol H? ..... 1 mark
- (b) In which regions of the Periodic Table are the following types of element found?
- (i) non-metals (such as oxygen and chlorine); region ..... 1 mark
- (ii) very reactive metals (such as sodium and potassium); region ..... 1 mark
- (iii) less reactive metals (such as copper and zinc). Region ..... 1 mark
- (c) Why is copper sulphate **not** found in the Periodic Table?  
 ..... 1 mark

**Q2.** (a) What is the chemical symbol for copper?  
 Tick the correct box.

- Cr       Cu       C       Co       Ca  1 mark

(b) How many atoms of iron and oxygen are there shown in the formulas for FeO and Fe<sub>2</sub>O<sub>3</sub>?

Complete the table below.

compound	number of atoms of iron	number of atoms of oxygen
FeO		
Fe <sub>2</sub> O <sub>3</sub>		

2 marks



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### HWK 7C6: Atomic Number and Mass Number

Unscramble the anagrams of the vocabulary you learnt last time and write them in the box below.

Use the unscrambled words to complete the definition.

Anagram	Definition	Scientific vocabulary
Logan she (1 word)	the elements found in Group 7 of the periodic table.	
Rod piice batle (2 words)	an arrangement of elements in the order of their atomic numbers, forming groups and periods.	
Rops gu 1 word	all the elements in the columns (labelled 1 to 7 and 0) in the periodic table	

Read through the new vocabulary and definitions below .

Try to make sure you can spell and remember what each word means.

Scientific vocabulary	Definition
atom	the smallest part of an element that can still be recognised as that element.
atomic number	the number of protons (which equals the number of electrons) in an atom. It is sometimes called the proton number.
compound	a substance made when two or more elements are chemically bonded together.
element	a substance made up of only one type of atom. An element cannot be broken down chemically into any simpler substance.
mass number	the number of protons plus neutrons in the nucleus of an atom.

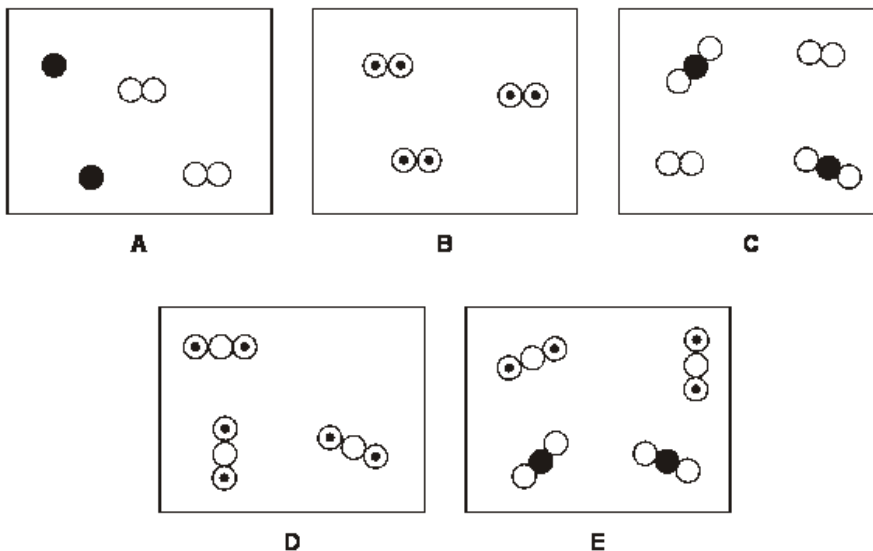


**Q1.**

In the 19th Century, a scientist called John Dalton used symbols to represent atoms. The symbols he used for atoms of three different elements are shown below.



The diagrams below show different combinations of these atoms.



- (a) (i) Give the letter of the diagram which shows a mixture of **two** elements..... 1 mark
- (ii) Give the letter of the diagram which shows a mixture of **two** compounds..... 1 mark
- (iii) Give the letter of the diagram which shows a mixture of an element and a compound. .... 1 mark

**Q2:** Using a copy of the periodic table find the mass number for the following elements.

a. Ca =                      b. H =                      c. Na =                      d. Mg =                      e. O =                      f. C =

6 marks

**Q3:** Using the mass numbers found in the previous question, calculate the number of neutrons for each element. Remember – Neutron number = Mass number – Atomic Number

Element	Neutron Number	Element	Neutron Number
a. Ca		d. Mg	
b. H		e. O	
c. Na		f. C	

6 marks



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### HWK 7C7: Chemical Reactions and Word Equations

Unscramble the anagrams of the vocabulary you learnt last time and write them in the box below.

Use the unscrambled words to complete the definition.

Anagram	Definition	Scientific vocabulary
<b>moundpoc</b> (1 word)	a substance made when two or more elements are chemically bonded together.	
<b>Elativer</b> <b>Mulafor</b> <b>smas</b> (3 words)	The relative formula mass of a substance made up of molecules is the sum of the relative atomic masses of the atoms in the numbers shown in the formula.	
<b>Mota</b> (1 word)	the smallest part of an element that can still be recognised as that element.	

Read through the new vocabulary and definitions below .

Try to make sure you can spell and remember what each word means.

Scientific vocabulary	Definition
chemical reaction	A change in which atoms are rearranged to create new substances.
chemical symbol	A one- or two-letter code for an element that is used by scientists in all countries.
word equation	A way of representing a chemical reaction simply. The reactants are on the left of an arrow, and the products are on the right. The arrow means <i>reacts to make</i>
product	A substance that is made in a chemical reaction.
reactant	A starting substance in a chemical reaction.
reactive	A substance is reactive if it reacts vigorously with substances such as dilute acids and water.



**Q1.** The table shows the observations made when four metals are added to cold water and to dilute hydrochloric acid.

metal	observations with cold water	observations with dilute hydrochloric acid
zinc	no reaction	bubbles of gas form and the metal slowly dissolves
platinum	no reaction	no reaction
potassium	the metal floats and then melts, a flame appears, and sometimes there is an explosion	(cannot be done safely)
nickel	no reaction	a few bubbles of gas form if the acid is warmed

(a) Write the names of these **four** metals in the order of their reactivity.

most reactive .....

.....

least reactive .....

.....

1 mark

(b) (i) Give the name of another metal, **not** in the table, which reacts in a similar way to potassium.

.....

1 mark

**Q2:** Lithium reacts with water. Look at the equation for this reaction.



(a) One of the reactants is a liquid. Which one?

1 mark

(b) One of the products is a compound. Which one?

1 mark

(c) One of the products is a gas. Which one?

1 mark

**Q3:** Write word equations for each of the following reactions. The first one has been done for you as an example.

(a) Sodium reacting with chlorine to make sodium chloride.

2 marks

(b) Heating copper carbonate to make copper oxide and carbon dioxide.

2 marks

(c) Reacting magnesium hydroxide and dilute sulphuric acid to make magnesium sulphate and water.

2 marks



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### HWK 7C8: Reactions of Metals

Unscramble the anagrams of the vocabulary you learnt last time and write them in the box below.

Use the unscrambled words to complete the definition.

Anagram	Definition	Scientific vocabulary
Micalche caterion (2 words)	A change in which atoms are rearranged to create new substances.	
Tucprod (1 word)	A substance that is made in a chemical reaction.	
Ant tacer (1 word)	A starting substance in a chemical reaction.	

Read through the new vocabulary and definitions below .

Try to make sure you can spell and remember what each word means.

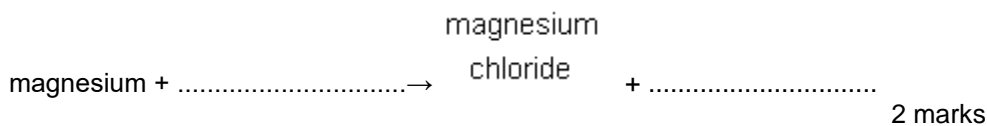
Scientific vocabulary	Definition
chemical property	How a substance behaves in its chemical reactions.
displace	A more reactive metal displaces – or pushes out – a less reactive metal from its compound.
displacement	Reaction where a more reactive metal takes the place of a less reactive metal in a compound.
oxidation	A chemical reaction in which a substance combines with oxygen.
oxide	A substance made up of a metal or non-metal element joined to oxygen.
reactivity	The tendency of a substance to undergo a chemical reaction.
reactivity series	A list of metals in order of how vigorously they react.
salt	A salt is a compound in which the hydrogen atoms of an acid are replaced by atoms of a metal element.
thermite reaction	Reaction of aluminium with iron oxide to make aluminium oxide and iron.





**Q1. (a)** Magnesium chloride is formed when magnesium reacts with an acid.

- (i) Complete the word equation for the reaction between magnesium and this acid.



- (ii) Suggest why magnesium chloride can be made by mixing magnesium with this acid but copper chloride **cannot** be made by mixing copper with this acid.

.....  
.....

1 mark

- (b) Copper sulphate is made by adding copper oxide to a different acid. Give the name of the acid which is used.

.....

1 mark

**Q2.**

The table contains information about five metals, A, B, C, D and E.

- (a) Use the information in the table to arrange the metals in order of reactivity.

most reactive .....

.....

.....

.....

least reactive .....

Metal	how it reacts with cold water	how it reacts with hot water
A	no reaction	extremely slowly
B	no reaction	no reaction
C	hardly at all	slowly
D	slowly	quickly
E	quickly	very violently

1 mark

- (b) (i) Which metal in the table could be copper?

.....

1 mark

- (ii) Which metal in the table could be sodium?

.....

1 mark

- (iii) Which metal in the table could be iron?

.....

1 mark



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### HWK 7C9: Acids and Alkalis

Unscramble the anagrams of the vocabulary you learnt last time and write them in the box below.

Use the unscrambled words to complete the definition.

Anagram	Definition	Scientific vocabulary
Men pace slidt (1 word)	Reaction where a more reactive metal takes the place of a less reactive metal in a compound.	
Notio daxi (1 word)	A chemical reaction in which a substance combines with oxygen.	
Trace viity (1 word)	The tendency of a substance to undergo a chemical reaction.	

Read through the new vocabulary and definitions below .

Try to make sure you can spell and remember what each word means.

Scientific vocabulary	Definition
acid	An acid is a solution with a pH value less than 7.
alkali	An alkali is a soluble base.
base	A substance that neutralises an acid – those that dissolve in water are called alkalis.
concentrated	A solution is concentrated if it has a large number of solute particles per unit volume (litre or cubic metre).
corrosive	A substance is corrosive if it can burn your skin or eyes.
dilute	A solution is dilute if it has a small number of solute particles per unit volume (litre or cubic metre).
indicator	Substances used to identify whether unknown solutions are acidic or alkaline. The colour of an indicator is different in acidic and alkaline solutions.
irritant	A substance that makes your skin itch or swell up a little.
litmus	An indicator. Blue litmus paper goes red on adding acid. Red litmus paper goes blue on adding alkali.
pH scale	The pH scale shows whether a substance is acidic, alkaline, or neutral. An acid has a pH between 0 and 7. An alkaline has a pH between 7 and 14. A solution of pH 7 is neutral.
strong acid	An acid in which all of the acid particles split up when it dissolves in water.
universal indicator	An indicator that changes colour to show the pH of a solution. It is a mixture of dyes.
weak acid	An acid in which only some of the acid particles split up when it dissolves in water.

**Q1.**

pH paper is used to show whether a solution is acidic, neutral or alkaline.

One type of pH paper shows the following range of colours.

<b>colour of pH paper</b>	red	orange	yellow	green	blue	purple
<b>pH value</b>	0 - 4	5	6	7	8 - 10	11 - 14

Some solutions were tested with pH Paper. The results are shown below.

- (a) Complete the following table by placing a tick in the correct column for each substance.

substance	colour of pH paper	acidic	neutral	alkaline
orange juice	red			
egg white	blue			
oven cleaner	purple			
milk	yellow			

4 marks

- (b) Which substance was the most alkaline?

.....

1 mark

- (c) Equal amounts of egg white and milk are mixed. What is the most likely pH of the mixture? Tick the correct box.

pH2	pH6	pH7	pH14
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

1 mark

Maximum 6 marks

**Q2.**

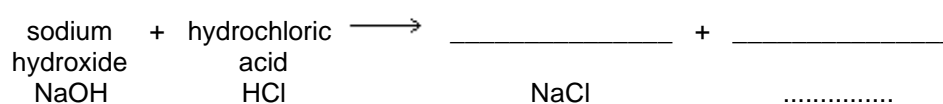
- (a) The chemical formula for hydrochloric acid is HCl. The chemical formula for sodium hydroxide is NaOH.

When they react together, two products are formed. The chemical formula for one product is NaCl.

- (i) Complete the word equation below with the **names** of both products.

1 mark

- (ii) **On the dotted line**, give the chemical formula of the other product.



2 marks



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Due Date

### HWK 7C10: Neutralisation

Unscramble the anagrams of the vocabulary you learnt last time and write them in the box below.

Use the unscrambled words to complete the definition.

Anagram	Definition	Scientific vocabulary
<b>Cat in ridc</b> (1 word)	Substances used to identify whether unknown solutions are acidic or alkaline. The colour of an _____ is different in acidic and alkaline solutions.	
<b>HP elasc</b> (2 words)	The _____ shows whether a substance is acidic, alkaline, or neutral. An acid has a pH between 0 and 7. An alkaline has a pH between 7 and 14. A solution of pH 7 is neutral.	
<b>Daci</b> (1 word)	An acid is a solution with a pH value less than 7.	

Read through the new vocabulary and definitions below .

Try to make sure you can spell and remember what each word means.

Scientific vocabulary	Definition
neutral	Describes an object or particle that has no charge, or in which positive and negative charges cancel out, giving no overall charge.
neutralisation	In a neutralisation reaction, an acid cancels out a base or a base cancels out an acid.
salt	A salt is a compound in which the hydrogen atoms of an acid are replaced by atoms of a metal element.



**Q1.** Kerry made some copper sulphate crystals. She wrote a description of what she did.

**I heated some dilute sulphuric acid in a beaker and added some copper oxide to it. I stirred the mixture until it became a clear blue colour. I added more copper oxide until no more would react and then filtered the mixture into a dish. A black solid was left on the filter paper. I left the solution in the dish for a week and saw that the liquid had gone and blue crystals were left.**

Use the information in Kerry's description to answer the questions below.

(a) What colour is:

(i) copper sulphate solution?

.....

1 mark

(ii) copper oxide?

.....

1 mark

(b) Write down a word equation for the reaction which took place in the beaker.

..... + ..... → ..... + water

1 mark

(c) Why did Kerry have to filter the mixture?

.....

.....

1 mark

Maximum 4 marks

**Q2.** Sodium hydrogencarbonate is present in indigestion powders. It is often called bicarbonate of soda. Sodium hydrogencarbonate:

**is a white solid;**

**does not smell;**

**forms a solution with a pH of about 8.5;**

**is very soluble in water;**

**is not poisonous.**

(a) Indigestion can be caused by too much acid in the stomach.

Which **two** pieces of information in the list are the most important reasons why sodium hydrogencarbonate can be used as an indigestion powder?

1 .....

2 .....

2 marks



Name:

Due Date

## HWK 7C11: Weathering and Erosion

Unscramble the anagrams of the vocabulary you learnt last time and write them in the box below.

Use the unscrambled words to complete the definition.

Anagram	Definition	Scientific vocabulary
Station laureni (1 word)	In a _____ reaction, an acid cancels out a base or a base cancels out an acid.	
lats (1 word)	A _____ is a compound in which the hydrogen atoms of an acid are replaced by atoms of a metal element.	
sumlit (1 word)	An indicator. Blue _____ paper goes red on adding acid. Red _____ paper goes blue on adding alkali.	

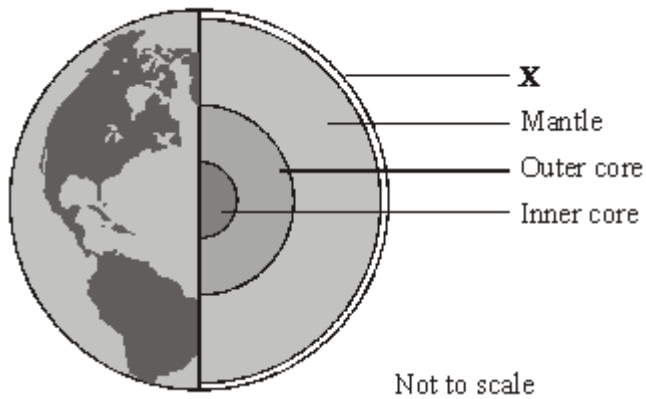
Read through the new vocabulary and definitions below .

Try to make sure you can spell and remember what each word means.

Scientific vocabulary	Definition
core	The innermost layer of the Earth, which extends about halfway from the centre of the Earth to the surface.
crust	The rocky outer layer of the Earth.
deposition	The settling of sediments that have moved away from their original rock.
durable	A property of a material meaning it is difficult to damage.
Earth	A rocky inner planet third from the Sun in the Solar System.
erosion	The breaking of a rock into sediments and their movement away from the original rock.
mantle	The layer of Earth that is below the crust. It is solid but can flow very slowly.
mineral	Chemicals that rocks are made from.
porous	A porous material has small gaps that may contain substances in their liquid or gas states. Water can soak into a porous material.
sediment	Pieces of rock that have broken away from their original rock.
transport	Movement of sediments far from their original rock.
uplift	Uplift happens when huge forces from inside the Earth push rocks upwards.
weathering	The breaking down of rock into smaller pieces by physical, chemical or biological processes.



**Q1. (a)** The diagram gives information about some of the layers that make up the Earth.



(i) What name is given to the outer layer of the Earth labelled **X**?

.....

**(1)**

(b) Rainwater can damage rocks by physical and chemical weathering.

(i) Give one way rainwater causes **physical** weathering.  
Give the name and describe the process in the table below.

(ii) Give one way rainwater causes **chemical** weathering.  
Give the name and describe the process in the table below.

	<b>name</b>	<b>description of process</b>
<b>physical weathering</b>		
<b>chemical weathering</b>		

4 marks



Name:

Due Date

### HWK 7C12: Sedimentary, Igneous and Metamorphic Rocks

Unscramble the anagrams of the vocabulary you learnt last time and write them in the box below.

Use the unscrambled words to complete the definition.

Anagram	Definition	Scientific vocabulary
Soon erni (1 word)	The breaking of a rock into sediments and their movement away from the original rock.	
Ring wet hea (1 word)	The breaking down of rock into smaller pieces by physical, chemical or biological processes.	
Men tedis (1 word)	Pieces of rock that have broken away from their original rock.	

Read through the new vocabulary and definitions below .

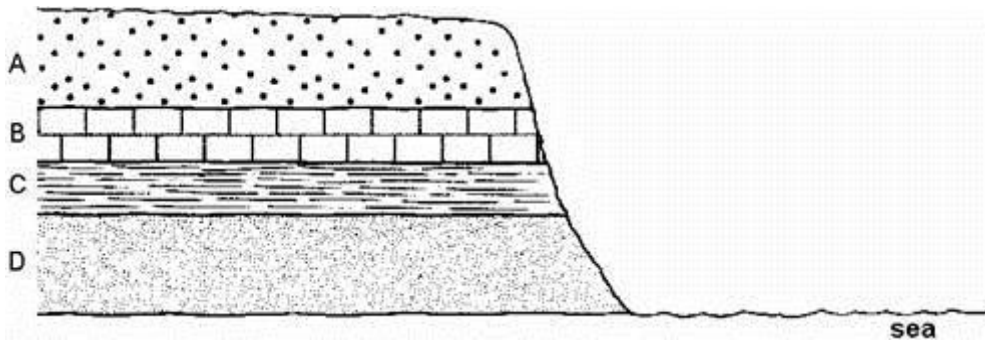
Try to make sure you can spell and remember what each word means.

Scientific vocabulary	Definition
igneous rock	Formed when liquid rock (lava or magma) cools or freezes. Their minerals are arranged in crystals. Examples are granite, basalt, and obsidian.
lava	Liquid rock that is above the Earth's surface.
magma	Liquid rock below the Earth's surface.
mantle	The layer of Earth that is below the crust. It is solid but can flow very slowly.
metamorphic rock	Formed from existing rocks exposed to heat and/or pressure over a long time. Examples are marble, slate, and schist.
obsidian	An example of an igneous rock.
rock cycle	Sequence of processes where rocks change from one type to another, over a timescale of millions of years.
sedimentary rock	Formed from layers of sediment, which can contain fossils. Examples are chalk, limestone, and sandstone.
strata	Layers of sedimentary rock.





**Q1.** The diagram shows four different layers of sedimentary rock in a cliff.



(a) Which layer of , A, B, C or D, is probably the oldest?..... 1 mark

(b) Igneous rock is formed when magma cools.

Choose from the following words to complete the sentences below.

**gas      liquid      metal      solid**

(i) Igneous rock is a ..... 1 mark

(ii) Magma is a ..... 1 mark

(c) Rocks are put into groups according to the way they are formed. The groups are **igneous, metamorphic and sedimentary.**

(i) To which group does sandstone belong ..... 1 mark

(ii) In which group are fossils **never** found?..... 1 mark

Maximum 5 marks

**Q2.** The diagram below shows a section through a volcano.Magma is moving up from a magma chamber. Some of the magma erupts to form lava. The liquid lava cools and becomes solid rock.

(a) As the magma cools underground, it solidifies and crystals are formed.

(i) In what way will these crystals be different from the crystals formed when lava solidifies above ground?.....

1 mark

(ii) Give the reason for your answer.

1 mark

