

Bridging Booklet

ANSWER BOOKLET



**KEEP
CALM
AND
STUDY
CHEMISTRY**

Task 1

Ionic or Covalently bonded

- a)
- b)
- c)
- d)
- e)

Task 2

Drawing out

Dot/ Cross diagram

Atoms to Ions

1) Aluminium Oxide

2) Lithium Oxide

3) Barium Nitride

Task 3 (HINT Use Appendix I to help)

Put the final answer in the box provided

1) Silver chloride

2) Lithium sulphate

3) Ammonium Hydroxide

4) Potassium Dichromate

5) Iron (II) Nitrate

Task 4

Elements in compounds

1) AgNO_3

2) PbCO_3

3) SnCl_2

4) Mg(OH)_2

Task 5

Dot / Cross

Line diagrams

1) Ethane C_2H_6

2) Propene C_3H_6

3) Hydrogen Peroxide H_2O_2

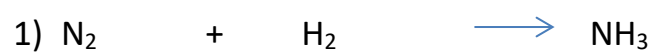
4) Hydrogen Sulphide H_2S

Task 6

Research on melting points Na-Mg-Al

Task 7

Balancing equations



Task 8

Moles in the following:

1) 59 g of cobalt

2) 4.14 g of lead

3) 1.08g of gold

Task 9

Moles in these compounds:

1) 62 g of sodium Oxide Na_2O

2) 174 g of lithium bromide LiBr

3) 3.2 g of oxygen

4) 1.24 g of Ammonia

Task 10

Calculate the mass of:

1) Mass of 2 moles of calcium metal

2) 0.25 moles of lead carbonate PbCO_3

3) The formula mass of a compound which has 0.5 moles of mass 14g

Task 11

a)

b)

c)

d)

Task 12

1) Calculate the moles in 40 ml of 5M of sodium hydroxide solution

2) What is the concentration when you dissolve 2 moles of water

3) How many moles are there in 500ml of 0.1 mol/dm³ of salt solution

4) What is the concentration of 0.25 moles of alkali in 25 ml

Task 13

1) How many grams of potassium oxide (K₂O) are needed to make 100ml of a 0.5M solution ?

2) What is the concentration of a solution when we dissolve 730g of hydrochloric acid in 350 cm³?

3) What is the mass of calcium oxide, CaO needed to make a 250 ml volume of 0.5 M solution?

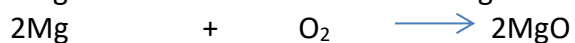
Task 14

- 1) Calcium cyanamide CaCN_2 reacts with water to form calcium carbonate and ammonia



What mass of calcium carbonate is formed if 20g of the CaCN_2 is reacted with excess water.

- 2) Magnesium burns in air to make magnesium oxide



What mass of magnesium would you need to create 0.8g of magnesium oxide powder.

- 3) Iron reacts with water to form iron oxide and hydrogen



If the student starts with 1.68g of iron and it undergoes a complete reaction

- Number of moles of iron started with?
- Moles of tri Iron oxide formed
- Mass of tri iron oxide formed
- The concentration of this solution if we had 500ml of water in the reaction?

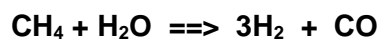
Task 16

	Name	Molecular formula	Structural/displayed
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

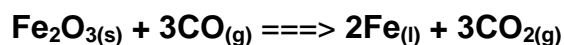
Task 17

- 1) Hydrogen is used in synthesising ammonia and is made on a large scale from reacting methane with water

methane + water \Rightarrow hydrogen + carbon monoxide

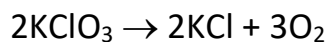


- 2) In the blast furnace where we form Iron .



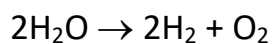
Task 18

- 1) When 5.00 g of KClO_3 is heated it decomposes according to the equation:



- Calculate the theoretical yield of oxygen.
- Give the % yield if 1.78 g of O_2 is produced.
- How much O_2 would be produced if the percentage yield was 78.5%?

- 2) The electrolysis of water forms H_2 and O_2 .



What is the % yield of O_2 if 12.3 g of O_2 is produced from the decomposition of 14.0 g H_2O ?