

CHEMISTRY

Learning objectives I can:	I can do this very well	I can do this quite well	I need to do more work on this
H 4.1 Demonstrate an understanding that one mole of any gas occupies 24 dm ³ at room temperature and atmospheric pressure and that this is known as the molar volume of the gas			
H 4.2 Use molar volume and balanced equations in calculations involving the masses of solids and volumes of gases			
H 4.3 Use Avogadro's law to calculate volumes of gases involved in gaseous reactions, given the relevant equations			
HSW 8 Evaluating methods of data collection and consider their validity and reliability as evidence			
4.4 Recall that nitrogenous fertilisers are manufactured from ammonia and that they promote plant growth			
4.5 Demonstrate an understanding of the environmental consequences of the over-use of fertilisers, including excessive plant growth in rivers and lakes			
4.6 Recall that chemical reactions are reversible and that the Haber process uses a reversible reaction between nitrogen (extracted from the air) and hydrogen (obtained from natural gas) to form ammonia			
HSW 5 Planning to test a scientific idea, answer a scientific question, or solve a scientific problem			
H 4.7 Demonstrate an understanding of the concept of dynamic equilibrium			
H 4.8 Explain how the position of a dynamic equilibrium is affected by changes in: a temperature			
b pressure			
H 4.9 Demonstrate an understanding of the consequential effects of these changes on the rate of attainment of equilibrium and of the need to use a catalyst			
H 4.10 Describe how, in industrial reactions such as the Haber process, the temperature, pressure and catalyst used produce an acceptable yield at an acceptable rate			
HSW 13 Describe the social, economic and environmental effects of decisions about the uses of science and technology			