

# P3 Topic 5 Revision tracker

## PHYSICS

Learning objectives I can:	I can do this very well	I can do this quite well	I need to do more work on this
<b>5.1</b> Use a simple kinetic theory model to describe movement of particles in the three states of matter			
<b>5.2</b> Explain the pressure of a gas in terms of the motion of its particles			
<b>5.3</b> Describe the effect of changing the temperature of a gas on the speed of its particles			
<b>5.4</b> Describe the term absolute zero, $-273^{\circ}\text{C}$ , in terms of the lack of movement of particles			
<b>5.5</b> Convert between the Kelvin and Celsius scales			
<b>5.6</b> Recall that the average kinetic energy of the particles in a gas is directly proportional to the Kelvin temperature of the gas			
<b>HSW 3</b> Describe how phenomena are explained using scientific models			
<b>5.7</b> Investigate the temperature and volume relationship for a gas			
<b>5.9</b> Investigate the pressure and volume relationship for a gas			
<b>5.8</b> Use the relationship: $V_1 = \frac{V_2 T_1}{T_2}$ to calculate volume for gases of fixed mass at constant pressure (rearranging not required)			
<b>5.10</b> Use the relationship: $V_1 P_1 = V_2 P_2$ to calculate volume or pressure for gases of fixed mass at constant temperature			
<b>H 5.11</b> Use the equation: $\frac{\text{initial pressure (pascal, Pa)}}{T_1} \times \frac{\text{initial volume (metre}^3, \text{ m}^3\text{)}}{\text{initial temperature (kelvin, K)}} = \frac{\text{final pressure (pascal, Pa)}}{T_2} \times \frac{\text{final volume (metre}^3, \text{ m}^3\text{)}}{\text{final temperature (kelvin, K)}}$ $\frac{P_1 V_1}{T_1} = \frac{P_2 V_2}{T_2}$			
<b>5.12</b> Apply an understanding of the equation in <b>5.11</b> to the use of bottled gases in medicine, including the need for a pressure above atmospheric and the calculation of the volume of gas released at atmospheric pressure			
<b>HSW 10</b> Use qualitative and quantitative approaches when presenting scientific ideas and arguments, and recording observations			