P2 Topic 3 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
3.1 Demonstrate an understanding of the following as vector quantities: **a** displacement			
b velocity			
c force			
3.2 Interpret distance / time graphs including determination of speed from the gradient			
3.3 Recall that velocity is speed in a stated direction			
3.4 Use the equation: $\text{speed (m/s)} = \frac{\text{distance (m)}}{\text{time (s)}}$			
HSW 11 Present information using scientific conventions and symbols			
3.1 Demonstrate an understanding of the following as vector quantities **c** acceleration			
3.5 Use the equation: acceleration (metre per second squared, m/s^2) = $\frac{\text{change in velocity (metre per second, m/s)}}{\text{time taken (second, s)}}$ $a = \frac{(v - u)}{t}$			
3.6 Interpret velocity/time graphs to: **a** compare acceleration from gradients qualitatively			
b calculate the acceleration from the gradient (for uniform acceleration only)			
H **c** determine the distance travelled using the area between the graph line and the time axis (for uniform acceleration only)			
HSW 10 Use qualitative and quantitative approaches when presenting scientific ideas and arguments, and recording observations			
3.7 Draw and interpret a free-body force diagram			
3.8 Demonstrate an understanding that when two bodies interact, the forces they exert on each other are equal in size and opposite in direction and that these are known as action and reaction forces			
3.9 Calculate a resultant force using a range of forces (limited to the resultant of forces acting along a line) including resistive forces			
3.10 Demonstrate an understanding that if the resultant force acting on a body is zero, it will remain at rest or continue to move at the same velocity			
3.11 Demonstrate an understanding that if the resultant force acting on a body is not zero, it will accelerate in the direction of the resultant force			
HSW 10 Use qualitative and quantitative approaches when presenting scientific ideas and arguments, and recording			

observations			
3.15 Investigate the relationship between force, mass and acceleration			
3.12 Demonstrate an understanding that a resultant force acting on an object produces an acceleration which depends on: that a resultant force acting on an object produces an acceleration which depends on: **a** the size of the resultant force			
b the mass of the object			
3.13 Use the equation: force = mass × acceleration (newton, N) (kilogram, kg) (metre per second squared, m/s^2) ***F* = *m* × *a***			
3.14 Use the equation: weight = mass × gravitational field strength (newton, N) (kilogram, kg) (newton per kilogram, N/kg) ***W* = *m* × *g***			
3.16 Recall that in a vacuum all falling bodies accelerate at the same rate			
3.17 Demonstrate an understanding that: **a** when an object falls through an atmosphere air resistance increases with increasing speed			
b air resistance increases until it is equal in size to the weight of the falling object			
c when the two forces are balanced acceleration is zero and terminal velocity is reached			
HSW 5 Plan to test a scientific idea by controlling relevant variables			