

Spec Ref	Topic	TAP episode	comments
1.1.1	<b>Make estimates of physical quantities</b>		
1.1.2	<b>Scalars and vectors, resultants &amp; resolution</b>	201	
1.1.3	<b>Displacement, speed, velocity and acceleration;</b>	205, 206	
1.1.4	<b><math>v = u + at</math>, <math>s = \frac{1}{2}(u + v)t</math>, <math>s = ut + \frac{1}{2}at^2</math>, <math>v^2 = u^2 + 2as</math></b>	206-2	
	<b>Galileo &amp; Aristotle's ideas of motion;</b>		
	<b>Acceleration of free fall g using a falling body;</b>	206-3	
	<b>Projectile motion</b>	207	
1.2.1	<b><math>F = ma</math> &amp; the newton;</b>	211	
	<b>Special theory of relativity at very high speeds</b>		Brief mention in 219
1.2.2	<b>Drag &amp; acceleration with drag, terminal velocity</b>	209	
	<b><math>W = mg</math></b>		
1.2.3	<b>Triangle of forces</b>	202-2	
	<b>Centre of gravity &amp; experiment to determine</b>	203	
	<b>Couples, torque of a couple, moment of force</b>	203	
	<b>Equilibrium &amp; principle of moments</b>	203	
	<b>Density = <math>m/V</math> &amp; pressure = <math>F/A</math></b>		Density assumed. Pressure not until 601 gas laws
1.2.4	<b>Thinking , braking and stopping distance</b>		
	<b>Air bags, seat belts and crumple zones</b>	215	Seat belts only
	<b>Trilateration technique in GPS</b>		nil
1.3.1	<b>Work done, the joule, <math>W = Fx \cos \theta</math> ;</b>	214, 214-1	
	<b>Conservation of energy;</b>	217	
1.3.2	<b><math>KE = \frac{1}{2}mv^2</math></b>		First mention in 215, but definition assumed
	<b><math>E_p = mgh</math>, exchange between GPE &amp; KE</b>	217-3	
1.3.3	<b>Power, the watt</b>	218	
	<b>Efficiency &amp; its definition</b>		First mention is in 416 - transformers
	<b>Sankey diagrams.</b>	217	
1.3.4	<b>Tensile &amp; compressive force</b>	227	
	<b>Extension, elastic limit, Hooke's law and <math>F = kx</math></b>	227	
	<b><math>E_n = \frac{1}{2}Fx</math>, <math>E_n = \frac{1}{2}kx^2</math></b>	229	
	<b>Stress, strain, Young modulus, UTS</b>	228	
	<b>Elastic &amp; plastic deformation</b>		228-5 shows regions on one graph
	<b>Stress/ strain graphs</b>	229	