

Spec Ref	Topic	TAP episode	comments
5.2	gravitational field strength, $g = F/m$	402	
	$F = G(m_1 m_2)/r^2$ , $g = Gm/r^2$	401, 402	
	planetary and satellite motion, Kepler's third law	403	
	geostationary satellites	403	
5.3	electric field strength $E = F/q$	408	
	Coulomb's law, $\epsilon_0$	407	
	$E = q/4\pi \epsilon_0 r^2$ , $=V/d$	408, 409	
	compare gravitational and electric fields	409	
5.4	$C = Q/V$ capacitance, the farad	126	
	Energy = $1/2 QV$	128	
	capacitors in series and in parallel	127	
	charge and discharge of a capacitor	129	
	time constant $\tau = CR$ , electronic flash guns	129	Flash guns mentioned only
5.5	magnetic fields	411	
	force on a current-carrying conductor, $F = BIl$	412	
	flux, flux density and magnetic flux linkage	411, 414	
	Faraday's and Lenz's laws	414	
	transformers & transformer equation	416	
	power losses in transformers, high voltage transmission	416	Brief only
5.6	$F = Eq$	408	
	$F = Bqv$	413	
	cathode ray oscilloscope	311-3	But use only, not construction
5.7	linear accelerator	518	
	antimatter	534	
5.8	fundamental particles, forces and exchange particles	536	
	gauge bosons, leptons and hadrons	533, 534	
	hadrons in terms of quarks	540-1	
	conservation of charge, lepton number and baryon number	535	
	$\beta$ -decay in terms of the basic quark model		No specific ref