

Spec Ref	Topic	TAP episode	comment
3.4.3 A	gravitational field strength	402	
	Newton's gravitational law	401	
	local variations in g ; typical magnitude of variations		
	g using pendulums and mass spring systems.	303,304	In SHM, not for measuring 'g'
	The gal = 0.01 m s^{-2}		
B	$F = BIL$, flux and flux linkage	412, 414	
	Faraday's and Lenz's laws, induced emf	414	
	eddy currents	414	
	measuring flux density using induced emf	411	
	variations in magnetic flux density		
	proton magnetometer, metal detector		
C	Geophone, seismic surveys		
	waves used in mineral exploration		
D	principles, properties & production of X-rays		
	properties of electron beams, electron gun	413	
	maximum photon energy $hf = eV$	502	In p/e effect
	X-rays in diagnosis, safety precautions		
	principles of ultrasound, echoes, wavelengths & resolution		
	image types		
	comparison of ultrasound and X-rays		
	principle of the MRI scanner		
	superconducting magnets	110	superconductivity only
	alignment of spinning protons in the field, precession		
	'gradient' field coils		
	detection of relaxation and computer build up of final image		
	advantages and disadvantages of MRI , X rays and ultrasound		
	endoscope, recall from AS, refraction of light and TIR	318	NOT endoscope
	fibre optic cable: non coherent and coherent bundles	318	
image production using a digital camera, ccd's			