

| Spec Ref | Topic | TAP episode | comments |
|----------|---|-------------------|--|
| 5.3 | specific heat capacity of a solid and a liquid | 607 | |
| | internal energy | 603, 605 605-1 | |
| | absolute zero and $\frac{1}{2} mc^2 = \frac{3}{2} kT$ | 602, 603 | |
| | the equation of state for an ideal gas | 603 | |
| 5.4 | background radiation, background count rate | 509 | |
| | nuclear radiations & their characteristics | 510, 511 | |
| | half life, decay constant, exponential decay | 514, 515 | |
| | the applications of radioactive materials | | No specific reference |
| 5.5 | simple harmonic motion | 301 | |
| | equations for a simple harmonic oscillator | 302 | |
| | energy of a simple harmonic system | 305 | |
| | free, damped and forced oscillations | 307, 307-10 | |
| | resonance & reducing the amplitude | 307 | No reference to how plastic deformation helps this |
| 5.6 | Newton's Law of gravitation | 401 | |
| | the gravitational field due to a point mass | 402 | |
| | comparing electric and gravitational fields | 409 | Final part |
| | flux, luminosity and distance | | |
| | distance by parallax & standard candles | 704-8 | |
| | Hertzprung-Russell diagram | | No reference |
| | Stefan-Boltzmann law for black body radiators | | No reference |
| | Wien's law for black body radiators | | No reference |
| | Red shift and Hubble constant | 702, 704 | |
| | dark matter | 705 | |
| | nuclear binding energy, mass deficit | 525 | |
| | nuclear fusion and fission | 528, 527 | |