Year 12 Physics Self-Assessment: Atoms and Relativity NAME\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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| **Learning Intention** | **Review Test Qs** | **Chapter Qs** | **Proficiency** | **Comments/questions** |
| X-rays | Test 3 Q3 | 102-104 |  |  |
| Incandescence | Test 3 Q1(a)-(b) | 107 |  |  |
| Emission spectra | - | 108  112(e) |  |  |
| Discrete frequencies in spectra | Test 3 Q2(b)(1) | 109 |  |  |
| Emission spectrum of hydrogen | - | - |  |  |
| Ionisation energy | - | 112(a)-(b) |  |  |
| Absorption spectra | Test 3 Q1(d) | 110-111 |  |  |
| Excited states and fluorescence | Test 3 Q1(f) | 112(c)-(d)  113 |  |  |
| Spontaneous and stimulated emission | Test 3 Q2(a)(2)  Test 3 Q2(b)(2) | 115(c) |  |  |
| Coherent light by stimulated emission | - | 114(d) |  |  |
| Population inversion | - | 114(b)  115(a) |  |  |
| Lasers | - | 114(c),(e)  115(d) |  |  |
| Gauge bosons | - | 116(c), 117(a), 118(a) |  |  |
| Fundamental particles | - | 116(b), 118(b)-(c), 120(a) |  |  |
| Quarks | - | 118(d)-(e) |  |  |
| Lepton and baryon numbers | Test 3 Q1(c) | 119  120(b)-(d) |  |  |
| Annihilation | - | 121 |  |  |
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| Relativistic subatomic particles | Test 1 Q2 | 41-42 |  |  |
| Length contraction | - | 43-45 |  |  |
| Relativistic momentum | - | 46-47 |  |  |