Atomic and Nuclear

Chapter 27, 28, 30, 31 Syllabus

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| B/A | In c lass:  | Due on this class: | If you miss this class: |
| 1Mar7 | -Hubris at the end of the century-Einstein's particle theory of light-Photo-electric effect |  | **Read:** 27-1, 2, 3**Watch:** Videos A-F (atomic) |
| 2Mar 9 | -de Broglie wavelengths and electron microscopes-Electron optics-Photon interactions with matter | **Check:** P27.1 #2, 4, 6, 7, 11, 13, 14 | **Read:** 27-4, 7,8,9**Watch:** Videos H (atomic) |
| 3Mar 13 | -Rutherford's atom and Closest approach -Nuclear radius-Bohr’s atom and atomic spectra | **Check:** P27.1 #16, 17, 18, 21, 22, 23**Turn in:** P27.1 #2, 4, 6, 7, 11, 13, 14, 16, 17, 18, 21, 22, 23 | **Read:** 27-10,11,12,13**Watch:** Videos I, J, K, L (atomic) |
| 4Mar 15 | -The Heisenberg uncertainty principle -The Einstein-Bohr debate | **Check:** P27.2 #1, 2, 3, 6, 7, 8 | **Read:** 28-1,2,3,4,5**Watch:** Videos M, N, O (atomic) |
| 5Mar19 | **-Collect IB Take Home Test** -Particle Physics – Accelerators-QED and field particles-Hadron reference sheet | **Check:** P27.2 #11, 12, 13, 14, 15, 17**IB take home tests (from February)** | **Read:** 32-1-3**Watch:** Videos A, B (particle) |
| 6Mar21 | **-Take Home tests to graders**-Particle Physics -Decays and conservation laws-“Six quarks for Muster Mark!” |  | **Read:** 32-4-9**Watch:** Videos C, D (particle) |
| 7Mar23 | -Atomic Notation and Binding Energy-Isotopic mass reference sheet-Radioactivity/Types of radiation | **Check:** P27.2 #A1,3,B1,3, C1-6 | **Read:** 30-1,2**Watch:** Videos E (particle)**Watch:** Videos A, B (nuclear) |
| 26-30 | **Yay Spring Break Yay Spring Break Yay Spring Break Yay Spring Break Yay Spring Break Yay Spring Break Yay Spring Break Yay!**  |
| 8Apr 4 | **-Return Take home tests**-Alpha decay energy/Tunneling -Beta and Gamma decays | **Check:** P30.2 #1, 2, 3 (separate paper pls)**Turn in:** P27.2#1, 2, 3, 6, 7, 8, 11, 12, 13, 14, A1,3,B1,3, C1-6 | **Read:** 30-3,4,5,6,10,12**Watch:** Videos C, D, E, F, G, H (nuclear) |
| 9Apr 6 | -Half life-Decay rates | **Check:** P30.1 #1a, b, 2, 3, 7ab (same paper as 30.2) | **Read:** 30-8,9,11**Watch:** Videos I, J, K (nuclear) |
| 10Apr 10 | -Nuclear Reactions-Nuclear Fission and Fusion-Build Your own Nuclear Weapon Lab | **Check:** P30.1 #14, 16, 18, 20, 21, 22 | **Read:** 31-1,2,3**Watch:** Videos M, N, O, Q (nuclear) |
| 11Apr 12 | -Nuclear stability – The strong nuclear force -Decay Lab/Young’s Double Slit Lab | **Check:** P30.2 #6ab, 7, 8, 12, 13 | **Watch:** Video L (nuclear) |
| 12Apr 17 | -Work on Decay lab-Work on Young’s Double Slit lab | **Check:** P30.1 #8, 9, 10, 11, 12, 13**Turn in:** P30.2 #1, 2, 3, P30.1 #1a, b, 2, 3, 7ab, P30.1 #14, 16, 18, 20, 21, 22, P30.2 #6ab, 7, 8, 12, 13, P30.1 #8, 9, 10, 11, 12, 13 |
| 13Apr 19 | **Summative Assessments on:** **27.1, 28.1, 30.1, 30.2** | **Turn In:** Decay Lab**Turn In:** Young’s Double Slit Lab (EC)**Turn in:** FA 27.1, 27.2, 30.1, 30.2 |  |
| April 23, 25, 27 - IB Review |  |  |
| Assignments* 2 Labs:
	+ Decay Lab – Determine the half-life of a computer-simulated nuclear decay
	+ Young's Double Slit - EC lab for IB
* 4 Formative/Summative Assessments
	+ 27.1 – Photons
	+ 28.1 – Atomic and particle
	+ 30.1 – Radioactivity
	+ 31.1 – Nuclear Reactions
* 3 sets of homework:
	+ P27.1 #2, 4, 6, 7, 11, 13, 14, 16, 17, 18, 21, 22, 23 /26 pts
	+ P27.2#1, 2, 3, 6, 7, 8, 11, 12, 13, 14, A1,3,B1,3, C1-6 / 40 pts
	+ P30.2 #1, 2, 3, P30.1 #1a, b, 2, 3, 7ab, P30.1 #14, 16, 18, 20, 21, 22, P30.2 #6ab, 7, 8, 12, 13, P30.1 #8, 9, 10, 11, 12, 13 /54 pts

  | Handouts |