IB Physics

Simple Harmonic Motion and Waves

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| A/B | Class  | Due on this class | If you miss this class: |
| 1Apr 18/19 | -Intro to Simple Harmonic Motion (SHM)-Kinematics of SHM |  | **Read:** 11.1,3**Watch:** Videos A (ch 11) |
| 2Apr 20/23 | -Dynamics and Energy in SHM-Resonance (Intro/Film)-Resonance Demos/Destroying the School | **Check: 11.1:** 1, 2, 6, 7, 11, 12 | **Read:** 11.2,4-6**Watch:** Videos B, C |
| 3Apr24/25 | -More Resonance | **Check:** **11.1:** 16, 17, 21, 22 | **Read:** 11.6**Watch:** Videos D |
| 4Apr26/27 | -Intro to Waves: Frequency, wavelength and velocity-Types of waves /Energy Transport | **Turn in: 11.1** | **Read:** 11.7**Watch:** Videos A (ch 12) |
| 5Apr 30/May 1 | -Reflections-Superposition and Interference patterns | Practice: 11: 36(2.2 m/s), 37 | **Read:**  11.8,9,11, 23.2**Watch:** Videos B,C |
| 6May2/3 | -Young's double slit experiment -Standing waves  | Practice: 11: 38(190 m to 550 m, and 2.78 m to 3.41 m) | **Read:** 11.12,13 24.3**Watch:** Videos D, E, F, G |
| May 8/7 | **Oaks Park Prep** |  |  |
| May 10/9 | **Oaks Park Prep** |  |  |
| May11 | **Oaks Park Day!!!!!!!** |  |  |
| May14/15 | **Work on Presentations** |  |  |
| May16/17 | **Work on Presentations** |  |  |
| May18/21 | **Oaks Park Presentations to class** |  |  |
| 7May 22/23 | -More standing waves-Standing wave demos |  Practice: 12: 46(343 Hz, 1029 Hz, 1715 Hz) | **Read:** 12.4**Watch:** Videos G |
| **May 23 - Extravaganza 6:00 - 7:00 in the TuHS Commons, 7:30 - 8:30 in the Auditorium** |
| 8May 24/25 | -The Doppler effect/Shock Waves -Pass out FA 11.1, 12.1, 12.2 | **Check:** **12.1:** 1a-c, 2a-c on front, 1, 2, 3, 6, 7, 8 on the back**Turn in: 12.1** | **Read:**12: 7,8**Watch:** Videos H |
| 9May29/30 | -Sound Introduction –-Beat formation-Sound, Standing waves and Music-Description of Sound lab | **Check:** **12.2:** 1, 2, 3, 4, 5, 9, 10, 11, 12**Turn in: 12.2** | **Read:** 12.1,2,3,5,6 **Watch:** Videos I |
| 10May 31/June 1 | **Summative Assessments on:****11.1 - Simple Harmonic Motion****12.1 - Standing Waves****12.2 - Doppler Effect** | **Turn In:** FA 11.1, 12.1, 12.2 |  |
| 11June4/5 |  -Sound lab or SHM Lab - An eclectic group project |  |  |
| 12June6/7 | -Refraction in one dimension -Solving refraction problems in two dimensions-Total internal reflection and critical angle/dispersion-Hand out FA 12.3  | **Turn In:** Sound Lab | **Read:** 11.14, 23.4, 5, 6**Watch:** Videos J, K, L |
| 13June8/11 | -Diffraction and resolution-The Rayleigh Criterion-Bats | **Turn In:** FA 12.3 | **Watch:** Videos M, N, O**Read:** 25.7, 8 |
| Finals | **Cumulative Super Fun Final**  |  |  |
| skip | -Properties of Electromagnetic waves-Polarisation |  | **Watch:** Videos P, Q**Read:** 24.10,11,12 |
| 4 Formative Assessments/3 Summative:* 11.1 – Simple Harmonic Motion
* 12.1 – Standing Waves
* 12.2 – Doppler and interference
* 12.3 – Refraction and interference (Formative Only)

Homework * 11.1: 1, 2, 6, 7, 11, 12, 16, 17, 21, 22 /20 pts
* 12.1: 1a-c, 2a-c on front, 1, 2, 3, 6, 7, 8 on the back /24 pts
* 12.2: 1, 2, 3, 4, 5, 9, 10, 11, 12 /18 pts

A Cumulative Final (Don't freak out - I will tell you exactly what is on it)Two Labs:* Sound lab – Your own procedure – done in class. No handout.
* Oaks Park – Student presentations of analysis of work done at Oaks Park
 | Handouts: |