**IB Physics**

Heat and Thermodynamics Syllabus

Chapter 14 and 15

|  |  |  |
| --- | --- | --- |
| Block | Class | Due on this class: |
| 1  **Oct 7** | -Work on specific and latent heat problems, and graph reading problems: W14:4-7, 12-14, 17, 18, 26-29, 30-33 | **Video Flip: 14: A-D (≈25 minutes)**  **Read:** 14.1-3, 5 |
| 2  **Oct 12** | -Work on Calorimetry problems W14: 19-24  -Heat transfer by Conduction  -Heat transfer by Evaporation and Convection | **Video Flip: 14: E (≈13 minutes)**  **Read:** 14.4  **Turn in Formative:** W14:4-7, 12-14, 17, 18, 26-29, 30-33 |
| 3  **Oct 14** | -Heat transfer by radiation  -The First law of thermodynamics | **Turn in Formative:** W14:19-24 |
| 4  **Oct 16** | **-Newton's Law of cooling lab**  -Intro to Heat engines: heat, work and internal energy (noteguide) | **Video Flip: 15: G (10 minutes)**  **Read:** 14.6-8  **Read:** 15.1,2 |
| 5  **Oct 20** | -Work on:  W = PΔV: W15: 1,2,7,9,16,17,20,23, 26, 27  -Processes on PV diagrams – Isochoric, Isobaric, Isothermal and Adiabatic (noteguide) | **Video Flip: 15: C (19 minutes)**  **Read:** 15.5,6 |
| 6  **Oct 26** | -Carnot Cycle problems  -Hand out FA 14.1, 15.1, 15.2 | **Video Flip: 15: H (8 minutes)**  **Read:** 15.1,4,7-12  **Turn In:** Newton’s Law of Cooling lab  **Turn in Formative:** W15A: 1,2,7,9,16,17,20,23, 26, 27 |
| 7  **Oct 28** | -Entropy calculating and understanding  -The three laws of Thermodynamics  -Energy production current and future | **Video Flip: 15: I (18 minutes)** |
| **Oct 30** | Definitelynotapartyscarystorieshikingtripsslidesjokesanddancingbutitallhastodowithphysicsreally! | **Bring a ceramic mug.....** |
| 8  **Nov 3** | -Summative Assessments on  **14.1 - Heat and Calorimetry**  **15.1 - PV Diagrams and work**  **15.2 - Carnot Cycle** | **Turn in:** FA14.1, FA15.1, FA15.2  **Turn in Formative:**  Ch14: 14(283.6 J/kg oC),15,21,33,35,37  Ch15: 7,13,17,21,25,63 |

|  |  |
| --- | --- |
| Three Formative problems sets:   * W14:4-7, 12-14, 17, 18, 26-29, 30-33 * W14:19-24 * Ch14: 14,15,21,33,35,37 and Ch15: 7,13,17,21,25,63   Three Formative/Summative Assessments:   * 14.1 – Heat and calorimetry * 15.1 – PV diagrams and work * 15.2 – Carnot Cycle   One Lab:   * Newton’s Law of Cooling – Exponential function of temperature, data taken by computer | Handouts:   * This Syllabus * FA14.1 * FA15.1 * FA15.2 * Newton’s Law of Cooling Lab * Worksheets 13, 14, 15A, 15B * Noteguide-QUW * Noteguide-IIIA |