**IB Physics**

Heat and Thermodynamics Syllabus

Chapter 14 and 15

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| Block | In Class : | Due on this class: | If You Miss this Class: |
| 1  Oct  4 | -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 min.)** | **Read:** 14.1-3, 5  **Watch:** Videos 14:A-D |
| 2  Oct  6 | -Work on Calorimetry problems W14: 19-24  -Heat transfer by Conduction  -Heat transfer by Evaporation and Convection | **Video Flip: 14: E (≈13 min.)** | **Read:** 14.4  **Watch:** Videos 14:E  **Watch:** Videos 14:F-H?? |
| 3  Oct  10 | -Heat transfer by radiation  -The First law of thermodynamics  -W15A and W15B and these coming video flips | **Turn in:** W14:4-7, 12-14, 17, 18, 19-24, 26-29, 30-33 | **Watch:** Videos 14:I??  **Watch:** Videos 15:A |
| 4  Oct  12 | **-Newton's Law of cooling lab**  -Intro to Heat engines: heat, work and internal energy (noteguide) | **Video Flip: 15: G (10 min.)**  **Check:** W15B: **G**1-4 | **Read:** 14.6-8  **Read:** 15.1,2  **Watch:** Videos 15: B, G |
| 5  Oct  17 | -Work on: W = PΔV: W15A: 1,2,7,9,16,17,20,23, 26, 27[[1]](#footnote-1)  -Processes on PV diagrams – Isochoric, Isobaric, Isothermal and Adiabatic (noteguide) | **Video Flip: 15: C (19 min.)** | **Read:** 15.5,6  **Watch:** Videos 15: C  **Watch:** Videos 15:D-F?? |
| 6  Oct  19 | -Carnot Cycle problems  -Hand out FA 14.1, 15.1, 15.2 | **Video Flip: 15: H (8 min.)**  **Check:** W15B: **H**10-13  **Turn In:** Newton’s Law of Cooling lab  **Turn in:** W15A: 1,2,7,9,16,17,20,23, 26, 271 | **Read:** 15.1,4,7-12  **Watch:** Videos 15: H, J |
| 7  Oct  23 | -Entropy calculating and understanding  -The three laws of Thermodynamics  -Energy production current and future | **Video Flip: 15: I (18 min.)**  **Check:** W15B: **I**16-18, 29-33 | **Watch:** Videos 15: I |
| 8  Oct  25 | -Summative Assessments on  **14.1 - Heat and Calorimetry**  **15.1 - PV Diagrams and work**  **15.2 - Carnot Cycle** | **Turn In:** W15B: 1-4, 10-13, 16-18, 29-33  **Turn in:** FA14.1, FA15.1, FA15.2  Turn in **any** Formative work you want credit for from this unit!! |  |
| Oct 31 | Definitelynotapartyscarystorieshikingtripsslidesjokesanddancingbutitallhastodowithphysicsreally! | **Bring a ceramic mug.....** |  |

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| Three Formative problems sets:   * W14: 4-7, 12-14, 17, 18, 19-24, 26-29, 30-33 /46 pts * W15A: 1,2,7,9,16,17,20,23, 26, 27 /20 pts * W15B: 1-4, 10-13, 16-18, 29-33 /32 pts   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 /40 pts | Handouts: |

1. Please keep these problems separate from your 15B homework. 15A and 15B need to be turned in separately. [↑](#footnote-ref-1)