**IB Physics**

Heat and Thermodynamics Syllabus

Chapter 14 and 15

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| 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),15,21,33,35,37Ch15: 7,13,17,21,25,63 |

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| 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
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