**Add some treatment of 13.2, also do some heat transfer stuff.**

**IB Physics**

Heat and Thermodynamics Syllabus

Chapters 13, 14 and 15

|  |  |  |  |
| --- | --- | --- | --- |
| Block | In Class : | Due on this class: | If You Miss this Class: |
| 1**Sept** **6** | -Welcome back!!**DI**-Introduction to heat engines: Q, U, W **GW**-FA13.1, and W13.1 questions |  | Look at FA 13.1 online**Watch:** Videos 15BRead 15.1 |
| 2**Sept** **10** | **SA 13.1 (first 30 minutes)****VF**-Videos 15C, Solving W = PV problems **DI**-Processes on PV diagrams | Turn in FA 13.1 | **Watch:** Videos 15CRead 15.2 |
| 3**Sept****12**  | **GW**-W15A: #20-29 Work on PV**GW**-W15B: G#1-4 Internal Energy**GW**-W15B: H#10-13 Adiabatic P and V**GW**-FA 14.1  | **VF**: 15G Internal Energy**VF**: 15H Adiabatic P and V | **Watch:** Videos 15G, HLook at FA 14.1 online |
| 4**Sept** **14** | **SA 14.1 (first 30 minutes)****VF**-15 I Calculating Entropy**DI**-Heat Engines Qh, Qc, W and efficiency | Turn in FA 14.1 | **Watch:** Videos 15I, J |
| 5Sept **18** | **GW**-W15B: I#16-18 Entropy**GW**-W15B: J#29-37 Carnot**GW**-FA 15.1 PV Diagrams | **VF**: 15J Carnot Cycle | **Watch:** Videos 15J Look at FA 15.1 onlineRead 15.5,6 |
| 6**Sept** **20** | **SA 15.1 (first 30 minutes)****IW**-IB Thermo questions**GW**-IB Thermo Questions | Turn in FA 15.1 |  |
| 7**Sept** **25** | -Newton's Law of cooling lab -Research Proposals**GW**-IB Thermo Questions**GW**-FA 15.2 | **VF:** 13C Boltzmann's Equation | **Watch:** Videos 13CLook at FA 15.2 online |
| 8**Sept** **27** | **SA 15.2 (first 30 minutes)****IW**-Finish Newton's Law of Cooling**GW-IB Thermo Questions** | Turn in FA 15.2 |  |
| 9**Oct** **1** | **Group Exam on IB Thermo Questions** | Turn in FA 13.2 |  |
| 10**Oct****3** | **DI**-Fluids demosGW | **VF**: 10A, B, F, G Fluids, Density, Hydrostatic Pressure, and Pascal's Principle |  |

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| 5 Formative/ 4 Summative Assessments:* 13.1 - Ideal Gas Law
* 13.2 - Boltzmann's Equation (no SA)
* 14.1 – Heat and calorimetry
* 15.1 – PV diagrams and work
* 15.2 – Carnot Cycle

One IB Group ExamOne Lab:* Newton’s Law of Cooling – Exponential function of temperature, data taken by computer /40 pts
 | Handouts: |