**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 15B  Read 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 15C  Read 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, H  Look 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 |
| 5 Sept **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 online  Read 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 13C  Look 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 demos  GW | **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 Exam  One Lab:   * Newton’s Law of Cooling – Exponential function of temperature, data taken by computer /40 pts | Handouts: |