**IB Physics**

Fluid Mechanics and Gas Laws Syllabus

Chapters 10 and 13

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| Block | Class | Due on this class: |
| 1  **Sept**  **7/8** | -Research Project proposals  -Density  -Pressure/Conversions/Gauge Pressure | **Read:** 10-1 through 10-4  **Practice:** 10: 1,2,3,5,7,8,9,11,12,13,14 |
| 2  **Sept**  **9/12** | -Hydrostatic Pressure  -Pascal's Principle  -Demos | **Read:** 10-5 through 10-8  **Practice:** 10: 22,23,25,27,29  **Practice:** Worksheet 10.1 |
| 3  **Sept 13/14** | -More Pascal  -Buoyant Forces  -Demos |  |
| 4  **Sept 15/16** | -Continuity  -Bernoulli's equation | **Read:** 10-9 through 10-10  **Practice:** 10: 36,38,39,41,43,44  **Practice:** Worksheet 10.2 |
| 5 Sept 19/20 | -More Bernoulli  -Viscosity  -Stokes' law  -Reynolds numbers and turbulence | **Read:** 10-11 through 10-13 |
| 6  **Sept 21/22** | -Surface tension  -More Demos  -Work on Temperature, pressure, pressure conversions, and basic Ideal Gas Law problems.  -Work on W13: 5,6,12,14,15-18,23-29, 30-38 | **Video Flip: 13: A, B, D,F (≈20 minutes)**  **Read:** 13.1-3,5,6-8 |
| 7  **Sept 23/27** | -Work on FA  -Finish Ideal Gas, work on Combined Gas Law problems  -**Absolute zero practical lab.**  -Work on W13: 39-48 | **Video Flip: 13: G (≈7 minutes)**  **Check Formative:** W13.1 30-38  **Turn in:** Research Proposals |
| 8  **Sept**  **28/29** | -Research Proposals discussion  -Work on FA 10.1, 10.2, 13.1, 13.2 | **Video Flip: 13: C (≈10 minutes)**  **Check Formative:** W13.1 39-48 |
| 9  **Sept 30/**  **Oct 3** | **Summative Assessments on:**  **10.1 - Fluid Statics**  **10.2 - Fluid Dynamics**  **13.1 - Ideal Gas Law** | **Turn in:** FA 10.1, 10.2, 13.1, 13.2  **Turn in:** Absolute Zero Lab |
| **Oct**  **4/5** | **Thermodynamics!!** |  |

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| Four Formative/ Three Summative Assessments: (10 pts)   * 10.1 - Fluid Statics * 10.2 - Fluid Dynamics * 13.1 - Ideal Gas Law * 13.2 - Kinetics (no summative)   One Formative Homework set:   * W13.1 #30-48   One Lab:   * Absolute Zero (20 pts) | Handouts:   * Worksheet-13.1-PressureTemperatureIdealGasLaw * Worksheet-10.2-FluidDynamics * Worksheet-10.1-FluidStatics * FA10.1 * FA10.2 * FA13.1 * FA13.2 |