**IB Physics**

Fluid Mechanics and Gas Laws Syllabus

Chapters 10 and 13

|  |  |  |
| --- | --- | --- |
| 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 |
| 5Sept 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!!** |  |

|  |  |
| --- | --- |
| 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
 |