IB Physics

Chapter 5 Syllabus

Gravity and Circular Motion

|  |  |  |
| --- | --- | --- |
| Block | Class | Due |
| 1  Nov 26/  Dec 2 | -Why it is important to consider the weight of a barrel of bricks  -Centripetal acceleration  -Centripetal Force  -RPMs, RPS and velocity  -Centripetal vs. Centrifugal -  -Intro to Vertical Circle | **Turn in: Force Lab (Des, CE?)**  **Read:** 5.1-3 |
| 2  Dec 3/4 | -Work on Motion in a Vertical Circle problems  -**Fun**damental forces in Physics  -Universal Gravitation | **Video Flip: Vertical Circle**  **Practice:** (Ch 5): 1, 6(3.6 m/s/s)  **Read:** 5.5 |
| 3  Dec 5/8 | -Work on Orbit Problems in class  - Kepler's Laws | **Video Flip: Orbit Problems**  **Read:** 5.6-8,10 |
| 4  Dec 9/10 | -Banked corners and Gravity in space  -Models of orbital mechanics  -Escape Velocity  -Orbit Lab  -Hand out FA 5.1, 5.2, 5.3 | **Read:** 5.9 |
| 5  Dec 11/12 | -Orbit Lab  -Work on FA 5.1, 5.2, 5.3 | **Practice:** (Ch 5): 4(9.7 m/s),9, 10(0.84),  14(4480 N, 339 N, 31 m/s)  **Turn in: Vertical Circle Problems** |
| 6  Dec 15/16 | **Energy!!!!!** | **Practice:** (Ch 5): 16(1.7 m/s, 3.3 m/s), 29, 43, 48(7080 s)  **Turn in: Orbit Problems**  **Turn In: Orbit Lab**  **Turn in: FA 5.1, 5.2, 5.3** |

|  |  |
| --- | --- |
| Assignments   * 1 Lab:   + Orbit Lab – Computer simulation of orbit – in class * 3 Formative/2 Summative Assessments:   + 5.1 – Centripetal Acceleration\*   + 5.2 - Vertical Circle   + 5.3 - Orbit and Gravity   \*Formative only | Handouts:  Syllabus-Gravity and Circular Motion  Worksheet-OrbitAndGravity  Lab-Orbit (class copies)  Example |