**IB Physics**

Chapter 6 Syllabus

Work and Energy

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| Block | In Class | Due | | If you miss this class | |
| 1  Jan  3/4 | -Calculating work  -Energy  -Potential and Kinetic Energy  -Springs and force and energy  -Spring Constant Graph assignment – (come to the next class with the points and error bars made) |  | | **Read:** 6.1-4  **Watch:** Videos A-F | |
| 2  Jan  5/6 | -Graphing the Spring Constant – Slope, and uncertainty of slope  -Introduction to Conservation of energy  -Staring death in the eye  -Conservation of Energy Whiteboards  -Hand out FA 6.1, 6.2 | **Video Flip: Making the Spring Constant Graph (Part I and Part II to 4:30)**  **Ch 6:** 4(8100 J),15,26(0.34 m),27  **Turn In: Spring Constant Graph** | | **Read:** 6.5-9  **Watch:** Videos G | |
| 3  Jan  9/10 | -Work on Energy 1, 4, 3, 5, 6, 7, 8  -Power  -Efficiency | **Ch 6:** 19,29 | | **Read:** 6.10  **Watch:** Videos H-J | |
| 4  Jan  11/12 | -Rollercoasters  -Work on Energy 9 - 14, FA 6.1, 6.2  -Energy Lab brainstorm | **Ch 6:** 64(8.1E6 J),58 (28.2 s) | | **Watch:** Energy lab videos | |
| 5  Jan  13/17 | **Summative Assessments:**  **SA 5.2 - Vertical Circle**  **SA 5.3 – Gravity and Orbit**  **SA 6.1 - Work and Power**  **SA 6.2 - Conservation of Energy** | **Turn In:** FA 5.1, 5.2, 5.3, 6.1, 6.2 | |  | |
| 6  Jan  18/19 | -Energy Lab  -Play with Coaster program | **Video Flip: Energy Lab ideas**  **Ch 6:** 35,39 | | Come in before or after school to make up the lab | |
| 7  Jan  20/23 | -Work on lab and problems | **Ch 6:** 40(2.5r), 52(10. m/s) | | Come in before or after school to make up the lab | |
| Jan  24/25 | **Momentum!!!!** | **Turn In: Energy Lab**  **Turn In: Ch6:**4,15,26,27,19,29,64,58,35,39,40,52 | |  | |
| Jan  26/27 | **More Momentum!!!!!!** |  | |  | |
| Finals | **Final - (cumulative for semester)** |  | |  | |
| Assignments   * 2 Labs:   + Spring Constant Graph of data I give you with error bars and uncertainties   + Either Human Power output or a lab of your own choosing * 5 Formative/ 4 Summative Assessments:   + 5.1 – Centripetal Force and Acceleration\*   + 5.2 – Vertical Circle   + 5.3 – Gravity and Orbit   + 6.1 - Work and Power   + 6.2 - Conservation of energy * 12 book problems:   + **Ch6:**4,15,26,27,19,29,64,58,35,39,40,52   \*no summative | | | \*Handouts:  Syllabus-Work and Energy  Worksheet-Energy  Lab-Spring Constant Graph  FA6.1  FA6.2  Worksheet-ConservationOfEnergy6.2  Worksheet-WorkAndPower6.1 | |  | |