IB Physics

Forces

Chapter 4 Syllabus

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| Block | Class | | Due on this class | | |
| 1  Oct 29/30 | | -Welcome to Physics! – Aristotle and Galileo  -Newton's laws  -Net Force Part 1 - Horizontal  -The difference between mass and weight | **Read:** 4.1-6 | | |
| 1¾  Oct 31/Nov 3 | | -Projection Science  -Hot Beverages | **Bring a ceramic mug**  **☺☺☺☺☺☺☺☺☺** | | |
| 2  Nov 4/5 | | -Net Force Part 2 - weight  -Solving Net Force Problems with weight  -Calculating Force of friction | **Read:** 4.7  **Practice:** Ch 4: 1, 3, 4(750 N, 130 N, 280 N), 5, 7, 9  Net Force: 1, 2, 5, 6, 9, 7[[1]](#footnote-1) | | |
| 3  Nov 6/7 | | -Solving problems with Friction  -Work on some friction problems in class  -Inclined Planes Demo  -Forces on inclined planes - Note guide/Video Flip | **Practice:** Net Force: 4, 10, 8, 11, 13, 14, **16**, **17,** 12, 15 | | |
| 4  Nov 12/13 | | -Calculating the four forces on inclined planes  -Work on Inclined Planes Problems | **Video Flip: Inclined Planes (I)**  **Read:** p. 94  **Practice:** Friction: 4a, 5, 6, 7, 9, 8, 10, 11 | | |
| 5  Nov 14/17 | | -Solving Pulley problems  -Intro of *Force Lab (no handout)*  -How to deal with no mass on Inclined Planes  -Hand out FA 4.2, 4.3, 4.4, 4.5, Force Lab - Design | **Read:** 9.1-2 (pp. 226-229, only not torque)  **Practice:** Inclined Planes: 1, 2, 5, 6, **10**, **11**  Net Force: **18**, **19** Friction: **16**, **17** | | |
| 6  Nov 18/19 | | -Variables for *Force Lab*  -Work on *Force Lab* | **Video Flip: Force Lab Variables**  **Practice:** Inclined Planes: 7, 9  Ch 4: 15, 24(0.703 m/s/s @ 237o, 0.520 m/s/s @51.0o) 25, 45, 48ab(1.9 m/s/s, 370 N), 87(!) | | |
| 7  Nov 20/21 | | -Work on *Force Lab* | **Practice:** Net Force: **20** Friction: **18, 19**, **20**  Pulleys and Equil: 7 Inclines Planes: **12**, **13**, **14** | | |
| 8  Nov 24/25 | | **-Summative Assessments:**  **-SA 4.2 - Vertical Dynamics**  **-SA 4.3 - Friction**  **-SA 4.4 - Inclined Planes** |  | | |
| 9  Nov 26/ Dec 2 | | -Why it is important to consider the weight of a barrel of bricks.  **Gravity and circular motion!!!!!** | **Turn in: Force Lab (Des)** | | |
| Assignments   * 1 Lab:   + Student designed lab on force * 4 Formative/ 3 Summative Assessments:   + 4.2 – Vertical Dynamics   + 4.3 – Friction   + 4.4 – Inclined Planes   + 4.5 – Pulleys | | | | | \*Handouts:  Syllabus-Forces  FA 4.2/FA 4.3/FA 4.4/FA 4.5  Worksheet-NetForceAndFriction  NoteGuide-InclinedPlanesExample  Worksheet-PlanesAndEquil |

1. This is the order that you should do the problems in. (Increasing difficulty) [↑](#footnote-ref-1)