**IB Physics - cut 1 day - add internal resistance of a battery lab**

Currents and Circuits

Chapter 18&19 Syllabus

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| Block | Class | Due on this class | |
| 1 Oct 22 | -Batteries and electric current  -Ohm's Law (Student Lesson: 18.3)  -Resistivity | **Read:** 18.1-4 | |
| 2 Oct 28 | -Electric Power (Student Lesson: 18.5)  -Alternating Current and RMS  -Circuits - How to think about them  -**Note guides for Series/Parallel (handout)** | **Check(#1):** 18:1,2(1.2E5 C), 5, 7, 12(0.47 mm), 13  **Read:** 18.5-9 | |
| 3 Oct 30 | -**Circuit Exercises (handout)**  -Work on Circuit Ex. Page 1 and 2 and 18:40 in class  -Resistances in series and parallel  -Resistance Networks  **-Note guides for networks (handout)** | **Video Flip: Series Circuits**  **Video Flip: Parallel Circuits**  **Check(#2):** 18:26(17 Ω), 27, 41  **Read:** 19.1 | |
| 3¾Nov 3 | -Electric Currents in slide projectors  -Beverages | **Bring a ceramic mug**  **☺☺☺☺☺☺☺☺☺☺☺☺☺☺☺☺** | |
| 4 Nov 5 | -**Pre-Quiz 19.1 (simple series and parallel)**  -Work on CE #3A , and 19:1, 3 in class  -Terminal Voltage  -Voltages and currents in circuits | **Video Flip: Reducible Networks – Single Popper**  **Check(#3):** Circuit Ex. page #1 and page #2 + 18:40(0.13 kg/s)  **Read:** 19.2 | |
| 5 Nov 7 | -Work on CE #3B and 19:5,7 in class  -**Skill Set 19.1** | **Video Flip: Reducible Networks – Double Popper**  **Check(#4):** Circuit Exercise #3A, 3B (the first one), 19:1, 3 | |
| 6 Nov 13 | -**Pre-Quiz 18 (current, voltage, power, AC)**  -Spreadsheets of circuits lab Intro  -Work on Matrices and Kirchhoff’s Laws in class  -Intro to Light bulb and Diode **(handout)**  **-**Intro to internal resistance of a battery lab  -Graphing PreLab **(handout)** | **Video Flip: Kirchhoff’s Laws**  **Check(#5):** Circuit Exercise #4A, 19:5, 7  **Read:** 19.3 | |
| 7Nov 17 | -**Skill Set 18**  -Intro to Oscilloscope lab (no handout)  -Intro to Resistance of a Wire lab (no handout)  -Lab Work | **Video Flip: Graphing Prelab (optional)**  **Check:** Graphing Prelab  **Check(#5EC):** CE #3A, and 19:27, 32a(.77A, .71A, .055A) | |
| 8 Nov 19 | -**Pre-Quiz 19.2 (networks)**  -Lab Work | **Video Flip: PQ 19.2 2 different ways (optional)**  **Turn In:** Graphing Pre-Lab | |
| 9Nov 21 | -**Skill Set 19.2**  -Lab Work | **Check(#6):** Circuit Exercise #4B, 19:17, 20(4.55kΩ) | |
| **Nov 25** | **Show and Tell – Setup Presentations** |  | |
| 10 Dec 2 | -Lab Work |  | |
| 11  **Dec 4** | -Lab Work |  | |
| 12  **Dec 8** | -Lab Work |  | |
| 13  **Dec 10** | Mock IB Paper IIon Currents and Circuits | **Turn In:** Resistance of a Light bulb and Diode  **Turn In:** Resistance of a Wire  **Turn In:** Oscilloscope Lab  **Turn In:** Circuit Spreadsheet  **Turn In: Homework (7 stamps)** | |
| Assignments   * 6 Labs/Pre Lab   + Graphing Prelab   + Resistance of wire – You design the DCP   + Resistance of light bulb and diode   + Internal resistance of a battery   + Oscilloscope Lab – Quick thing with the oscilloscope   + Circuit Spreadsheet – An Excel Spreadsheet that models a circuit * 3 PreQuizzes/Skill sets   + 18 – Ohm’s law, current, power   + 19.1 – Simple series and parallel circuits   + 19.2 – Networks of circuits * Homework from 6 days   A **Mock IB HL paper II test** on the two chapters – You will need to study for this – especially for the essay questions. | | | Handouts:  Syllabus-18-19-CurrentsAndCircuits  NoteGuide-SeriesParallel  Worksheet-CircuitExercises  PreQuiz-18  NoteGuide-NetExamples  PreQuiz-19.1  Lab-GraphingPreLab  Lab-LightBulbAndDiode  PreQuiz-19.2 | |