**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 |
| 1Oct 22 | -Batteries and electric current-Ohm's Law (Student Lesson: 18.3)-Resistivity | **Read:** 18.1-4 |
| 2Oct 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****☺☺☺☺☺☺☺☺☺☺☺☺☺☺☺☺** |
| 4Nov 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 |
| 5Nov 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 |
| 6Nov 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)  |
| 8Nov 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**  |  |
| 10Dec 2 | -Lab Work |  |
| 11 **Dec 4** | -Lab Work |  |
| 12**Dec 8** | -Lab Work |  |
| 13**Dec 10** | Mock IB Paper II on 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-CurrentsAndCircuitsNoteGuide-SeriesParallelWorksheet-CircuitExercisesPreQuiz-18NoteGuide-NetExamplesPreQuiz-19.1Lab-GraphingPreLabLab-LightBulbAndDiodePreQuiz-19.2 |