IB Physics

Magnetism and Induction

Chapter 20, 21 Syllabus

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| Block | Class  | Due on this class |
| 1Feb 11 | -Intro to Magnetism-Magnetic Field lines/Domains/Currents-Force on current-carrying wires: Magnitude and direction | **Read:** 20.1-3, 5 |
| 2Feb 16 | -Force on charged particles – motion in B fields-The Hall Effect-Crossed field problems: Eq = qvB-Hysteresis - a demo I probably shouldn't do... | **Read:** 20.4**Book Problems:** 20: 2(1.1 N), 3 |
| 3Feb 18 | -Ampere's Law-Galvanometers and Speakers-DC Motors | **Read:** 20.7, 8, 10, 11, 12**Book Problems:** 20: 9, 10(1.05E-13 N North) |
| 4**Feb 22** | -Lenz's discovery and magnetic flux-Electromagnetic induction-Lenz's law-Induced EMF in moving conductors | **Video Flip: Solenoids****Read:** 21.1-2**Book Problems:** 20: 13, 16(2.5E6 m/s, 4.1 mm) |
| 5**Feb 24** | -My friend eddy-Alternators-Solving voltages, currents and power in transformers -Transmission of electrical power | **Read:** 21.3, 4, 6**Book Problems:** 21: 5, 6(.048 V) |
| 6**Feb 26** | -Magnetic field patterns for Solenoids, Wires, and Flat coils-Lab Explanations-Hand out FAs | **Read:** 21.5, 7**Book Problems:** 21: 11, 12(.0144 V, .120 V/m down ) |
| 7**Mar 1** | -Work on Labs | **Read:** 21.8 |
| 8**Mar 3** | -Work on Labs |  |
| 9**Mar 7** | -Work on Labs | **Turn In:** **20:** 2, 3, 9, 10, 13, 16 **21:** 5, 6, 11, 12(Problems from the book) |
| 10**Mar 9** | Summative Assessments on:SA20.1 - Right Hand RulesSA20.2 - Forces on Wires and ParticlesSA21.1 - Lenz's LawSA21.2 - Electrical Induction | **Turn in:** FA 20.1, 20.2, 20.3, 21.1, 21.2 |
| 11**Mar 11** | Atomic and Nuclear!!! | **Turn In:** MagnaProbe Lab**Turn In:** Magnet Design Lab**Turn In:** Specific Heat of Water(**Turn In:** Index of Refraction) - IB only |
| Assignments* 3 Labs:
	+ MagnaProbe Lab – Station exploration of magnetic fields
	+ Magnet Lab – student designed lab – no handout
	+ Specific Heat of Water lab
* 5 Formative, 4 Summative Assessments
	+ 20.1 – Right Hand Rules
	+ 20.2 – Forces on Wires and Particles
	+ 20.3 - Ampere's Law (no summative)
	+ 21.1 – Lenz's Law
	+ 21.2 – Electrical Induction
* 10 Book Problems: **20:** 2, 3, 9, 10, 13, 16 **21:** 5, 6, 11, 12
 | Handouts* FA20.1
* FA20.2
* FA20.3
* FA21.1
* FA21.2
* Worksheet20.2
* Worksheet21.2
* This Syllabus
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