***SPH3U – Electricity & Magnetism Assignment***
Due: Monday Jan 25 via Google Classroom

Your job is to write a multiple choice quiz, similar to the Kahoot quizzes that Mr John made earlier.

* Aim for between 10-20 questions
* Include a variety of topics related to electricity and magnetism
* Include a variety of levels of difficulty (easy, medium, harder)
* Put thought into your possible answers – try to think of wrong answers that people might reasonably give
* Include both “concept” type questions, as well as “calculation” type questions. Large, complicated circuit analysis questions probably aren’t suitable for a kahoot, but smaller ones would work.
* Here are links to the Kahoots Mr John made if you would like to see some example questions ([Kahoot1](https://kahoot.it/challenge/08061095?challenge-id=930f5236-634e-428e-bf8e-b05c3dfb9363_1604367250932), [Kahoot2](https://kahoot.it/challenge/03624561?challenge-id=930f5236-634e-428e-bf8e-b05c3dfb9363_1604367363663))
* Include some pictures in your questions if they can help. You can draw by hand or take from the internet. Consider using a picture for multiple questions. Instructions above.

Here are some possible topics to get you started:

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| Drawing circuits (symbols, etc.) | Ohm’s Law (V = IR) | Static vs. current electricity |
| Current, Voltage, Resistance – what are they?  | Series circuits – equivalent resistances | Parallel circuits – equivalent resistances |
| Parallel circuit concepts (ex. what are they? unscrewing one bulb, voltage drop across, how current works | Series circuits concepts (ex what are they? why lightbulbs aren’t bright, current and voltage concepts) | Analogies:Circuit – WaterCircuit – JujubesCircuit – Trucks/Roads/etc |
| Kirchoff’s voltage law around a loop | Kirchoff’s current law at a node | What are magnets? |
| Magnetic attraction and repulsion between magnets | Magnetic attraction and repulsion between magnet and non-magnet | Magnetic field lines |
| The earth’s magnetic field | Oersted’s principle  | Faraday’s Law |
| Left-hand rule (straight conductors) | Left-hand rule (coiled conductors | Motor principle (concepts, directions) |

Here’s what I’ll be looking for when marking:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **R** | **1** | **2** | **3** | **4** |
| Variety of questions (topics, difficulties) |  |  |  |  |  |
| Clarity/accuracy of questions (correct vocabulary, wording, understanding) |  |  |  |  |  |
| Overall impression (pictures, # of questions, general quality, etc.  |  |  |  |  |  |