Education 432: Secondary Principles & Practices
Lesson Plan Template

| **Science 9: Electricity Lesson 2** | |
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| **Teachers' Name: Mr. Andrew Kroon** | **Grade: 9** |
| **Subject: Science 9** | **Topic: Electricity (Static – Lesson 2)** |

**A. Learning Goals & Success Criteria**

Learning Goals: For this lesson we hope to…
- Gain a deeper understanding of static electricity
- Hypothesize about static electrical experiments & their results
- Recall and apply knowledge from the previous class to make predictions and evaluate experiment procedures

Success Criteria: Success will be demonstrated by students' ability to…
- Accurately predict the outcome of basic static electric experiments
- Explain why their predictions make sense
- Evaluate results of static electric experiments
- Determine why predictions were or weren't correct
- Draw conclusions from results of static electrical experiments

**B. Lesson Outcomes**

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| GCOs/Competencies: | Knowledge and Skills |
| SCOs: | Students will be expected to…<br>- Identify properties of static electric charges (308-14)<br>- Explain the production of static electric charges in some common materials (308-13)<br>- Communicate questions, ideas, intentions, plans, and results, using lists, notes in point form, sentences, data tables, graphs, drawings, oral language, and other means (211-2)<br>- Investigate materials and describe them in terms of their physical properties (307-12)<br>- Describe changes in the properties of materials that result from some common chemical reactions (307-13) |

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| C. Lesson Phases | |
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| Intro Time:<br>10ish minutes | **Introduction:**<br>- As students enter the room, before the bell rings, I would write some start-up questions on the board.<br>• What is an insulator? Name an example of an insulator<br>• What is a conductor? Name an example of a conductor<br>• What is the law of attraction and repulsion?<br>• What is grounding? Name an example of where grounding is used.<br>- Once the bell rings I would allow students 3-5 minutes to think about these questions and talk quietly with their tablemates. I will also warn them that if nobody volunteers answers that I will cold call.<br>- After the 3-5 minutes is up, get everybody's attention to discuss the questions as a class.<br>- For the 3rd, then ask follow ups (so if I have a negatively charged object and a positively charged object will they repel or attract? What about a negatively charged object and a neutral object?<br>- If nobody volunteers or if it is always the same person volunteering to answer questions then I will cold call. |
| Body Time:<br>40-45 minutes | **Body:**<br>- Static Stations! (Either in the classroom or in the lab…currently undecided)<br>- I will give the students a chance to get into groups (I will remind them that if they are goofing off or not working or doing the stations that I'm not afraid to separate them)<br>- Then I will assign each group to a station and send them off to start out, giving 9ish minutes for each station in order to allow time at the end of class to discuss the findings from each station (if we run out of time we will finish discussing at the start of next class)<br>- For details on each station see the Static Stations instruction/work sheet |
| Closing Time:<br>5-10 minutes | **Closing:**<br>- Discuss what happened at each station & compare to what should have happened<br>- Balloon can race<br>- Remind students to finish answeering questions on the static stations sheet before next class sot hey can hand it in |

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**D. Assessment Tasks**

Introduction Phase Assessment(s):

- Starting with some light retrieval practice allows students the opportunity to reconnect themselves with material from the last class. Getting them to do start thinking about these questions before the bell will get the class on task from the start.
- Cold calling will make students who are usually disengaged get more acquainted with the material so that they will know the answer is they get called.
- Allowing students to volunteer answers to questions asking for examples of concepts proves that they are engaged and thinking about the content in a broader context and can sometimes offer a deeper look into the student's life outside of class (depending on what examples they provide)

Body of Lesson Phase Assessment(s):

- Having learning stations like this creates an interactive experience for learners of all types by allowing visual and kinesthetic stimulus rather than primarily auditory lecturing.
- Allowing students to be in their own groups of their choosing allows them a chance to take responsibility for their own learning and keep themselves and their friends accountable because they know if they aren't on task then they will have to deal with the consequences
- During the stations I will be able to go around the room and listen/watch to see who is participating from each group and who may not be participating as much, allowing me to see who is engaged, and potetnitally who best understands the content vs who may not understand as well

Closing of Lesson Phase Assessment(s):

- Chatting about what we did and why it links back to the material from the previous lesson allows the information to sink in better and lets the students explore the material ina deeper way.
- Seeing who shared more from each group or from the class as awhole shows who was most interested/engaged in each of the stations and who may have abetter understanding of the concepts
- Discussing what should have happened as a class gives the students a chance to think critically about what may have gone wrong and what could be done better next time.

**E. Resources**

- White board (potentially)
- Station Materials
  - Instruction/Work Sheet
  - Balloons
  - Paper
  - Glass & Ebonite Rods
  - Various fabrics (flannel, wool, fur, silk, etc.)
  - Lab Stand

- String
- Electroscope(s)
- Ruler(s)
- Salt & Pepper
- Water (sink or bottle with bason)
- Cans (pop cans)
- Masking tape (maybe?)
- Paper/foam plate (maybe?)

**F. Inclusive Practices**

- Supplementary materials for any activities will be provided as students or their parents shouldn't have to supply those, and some may not be able to.
- Effort would be made to find latex free balloons in case of any latex allergies
- Hands-on, physical activities and visuals allow students of all learning types to apply the knowledge learned in the previous class, and helps to build understanding for those who may struggle to learn more auditorily.