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| Course/Subject/Grade(s): Science 9 | | | | | | Planning Team | | |
| Unit Big Idea: Electric current is the flow of electric charge. | | | | | | Unit Guiding Question(s): How does current change in a circuit?  How does current affect us? | | |
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| Goals  Circuits  V = IR | | Access – This is what I NEED to know and do | All – This is what I MUST know and do | | Most – This is what I CAN know and do | | Few – This is what I COULD know and do | Extension – This is what I can TRY to know and do |
| Content Goal:  Describe the types of circuits  Use V = IR  Describe how electricity affects the body | | I know what a circuit is  I can match voltage, current and resistance to their units | I can identify the basic components of a circuit  I know voltage current and resistance  I can perform 1 step isolated V = IR calculations  I know the most dangerous part of electricity | | I can identify a circuit as series or parallel  I know the difference between AC and DC  I can explain how voltage, current and resistance  I can solve word problems involving V = IR  I can explain why current and voltage have different effects on the body | | I can identify short circuits  I can compare and contrast the risks and benefits of AC and DC  I can explain how voltage, current and resistance are related  I can analyze a circuit to identify and calculate this missing voltage, current and/or resistance  I can explain how to protect the body from electricity | I can identify the best type of circuit for a particular application  I can explain how to convert AC into DC current  I can describe the voltage, current and resistance changes in a circuit  I can determine equivalent resistance / current for a circuit  I can explain how electricity effects different body systems |
| Curricular Competencies: Questioning and predicting  Planning and conducting  Processing and analyzing data  Communicating | Make observations aimed at identifying their own questions | I can wonder about this phenomena in this unit. | I can create a question based on observations of science phenomena in this unit | | I can create multiple questions based on observations of science phenomena in this unit | | I can create multiple variable questions based on science phenomena in this unit | I can extend my questions to include societal impacts of the science phenomena being studied |
| Formulate multiple hypotheses and predict multiple outcomes | I can guess what might happen in an experiment | I can create `hypothesis for the a two variable experiment in this unit | | I can create more than one hypothesis for an experiment in this unit | | I can rationalize why a hypothesis is more probable in an experiment in this unit | I can explain and justify multiple hypothesis for an experiment in this unit |
| Analyze cause and effect relationships | I can identify the cause that produces an effect | I can analyze the cause and effect relationships in this unit | | I can explain the cause and effect relationships in this unit | | I can predict the cause and effect relationships in this unit | I can explain with reference to scientific facts, why a prediction of cause and effect will occur. |
| Select and use appropriate equipment to systematically and accurately collect data | I can Identify equipment and its use | I can select the appropriate equipment to collect and record data for an experiment | | I can select the most efficient and best equipment to collect and record data | | I can explain why equipment and data recording techniques where chosen | I can suggest improvements to data collection techniques. |
| Communicate scientific ideas, claims, information for a specific purpose and audience | I can explain an science idea | I can communicate scientific ideas using appropriate vocabulary and representations | | I can present a well-reasoned argument based on scientific evidence using appropriate vocabulary and representations. | | I can express and back-up my opinion on scientific ideas using evidence for my argument | I can refute challenges to my opinion using evidence based argumentation |