

Topic: Energy: Current Electricity	
Included Standards: SC.912.P.10.14 SC.912.P.10.15	
Grade: Physics	
Score 4.0	In addition to Score 3.0, in-depth inferences and applications that go beyond what was taught. <ul style="list-style-type: none"> ○ Redesign an existing circuit to make it more energy efficient.
Score 3.0	The student will understand Ohm’s Law and be able to calculate energy used in power and circuits. <p>Performs complex skills:</p> <ul style="list-style-type: none"> ○ Assess the conditions that create an electric circuit. ○ Find the current and potential difference across each resistor in a circuit. ○ Calculate the power dissipated in a circuit. ○ Investigate the relationships between potential difference, current, and resistance. <p>The student exhibits no major errors or omissions regarding the score 3.0 content.</p>
Score 2.0	The student: <p>Recognizes or recalls specific terminology: conductor, circuit, current, insulator, power, resistance, semiconductor, voltage, Ohm, Ohm’s Law, series circuit, parallel circuit, resistor</p> <p>Recognizes or recalls non-specific terminology: power, properties, energy, difference, dissipate, diagram, equivalent</p> <p>Recognizes or recalls specific affixes: dis-, pot-, re-, dia-, equiv-</p> <p>Performs basic skills:</p> <ul style="list-style-type: none"> ○ Classify materials as conductors, semiconductors, or insulators. ○ Identify circuits as series, parallel, or a combination, and describe their benefits. ○ Solve problems involving circuits using Ohm’s Law. ○ Interpret voltage (V) vs, current (I) graphs to determine resistance. ○ Calculate the equivalent resistance for a circuit of resistors in series and parallel. <p>No major errors or omissions regarding the score 2.0 content.</p>
Score 1.0	With help, I know some of 2.0 and 3.0.
Score 0.0	Even with help, I am unable to understand.

Topic: Energy: Electricity	
Included Standards: SC.912.P.10.1 SC.912.P.10.13	
Grade: Physics	
Score 4.0	In addition to Score 3.0, in-depth inferences and applications that go beyond what was taught. <ul style="list-style-type: none"> ○ What is the best way to reduce the threat of static charge in electronics?
Score 3.0	The student will understand the configuration of static charges as they relate to the electric field, electric force, electric potential, and electric potential energy. <p>Performs complex skills:</p> <ul style="list-style-type: none"> ○ Predict the magnitude and direction of electric force between two charged objects. ○ Discriminate the ways that static charges present in nature. ○ Create electric field vector diagrams around point charges, dipoles, and parallel plate capacitors. <p>The student exhibits no major errors or omissions regarding the score 3.0 content.</p>
Score 2.0	The student: <p>Recognizes or recalls specific terminology:</p> <p>electric field, attraction, electric potential, Coulomb’s Law, electric force (F), electric potential energy, charge (q), conduction, induction, electroscope, coulomb (c)</p> <p>Recognizes or recalls non-specific terminology:</p> <p>magnitude, transform, potential energy, force, electron, neutron, proton, vector diagram, dipoles, point charges, capacitor</p> <p>Recognizes or recalls specific affixes:</p> <p>con, in, mag, di, pole, trans, neu, pro, ele</p> <p>Performs basic skills:</p> <ul style="list-style-type: none"> ○ Calculate the charge (q) of an object when given a number of excess electrons or excess protons. ○ Recognize the appropriate units for electrical charge, electric force, electric potential ○ Recognize that electric force between two charged particles depends on the size of the charge and distance between charges. ○ Use Coulombs Law to solve problems. ○ Draw and interpret electric field lines given charges in a specific arrangement. <p>No major errors or omissions regarding the score 2.0 content.</p>
Score 1.0	With help, I know some of 2.0 and 3.0.
Score 0.0	Even with help, I am unable to understand.