

Electrical Circuits

Alignment to

New York State Learning Standards for Mathematics, Science, and Technology

Elementary Level Science Core Curriculum

Standard 4 - Science

Key Idea 3

Matter is made up of particles whose properties determine the observable characteristics of matter and its reactivity.

Performance Indicator 3.1

Observe and describe properties of materials, using appropriate tools.

<u>Major Understandings:</u>
3.1b - Matter has properties (color, hardness, odor, sound, taste, etc.) that can be observed through the senses
3.1c - Objects have properties that can be observed, described, and / or measured: length, width, volume, size, shape, mass or weight, temperature,
3.1e - The material(s) an object is made up of determine some specific properties of the object (sink / float, conductivity, magnetism). Properties can be observed or measured with tools such as hand lenses, metric rulers, thermometers, balances, magnets, circuit testers, and graduated cylinders.
3.1f - Some properties of an object are dependent on the conditions of the present surroundings in which the object exists.

Key Idea 4

Energy exists in many forms, and when these forms change energy is conserved.

Performance Indicator 4.1

Describe a variety of forms of energy (e.g., heat, chemical, light) and the changes that occur in objects when they interact with those forms of energy.

Performance Indicator 4.2

Observe the way one form of energy can be transferred into another form of energy present in common situations (e.g. mechanical to heat energy, mechanical to electrical, chemical to heat energy).

<u>Major Understandings:</u>	<u>Major Understandings:</u>
4.1a - Energy exists in various forms: heat, electrical, chemical, mechanical, light, and sound	4.2a - Everyday events involve one form of energy being changed to
4.1b - Energy can be transferred from one place to another.	4.2b - Humans utilize interactions between matter and energy
4.1c - Some materials transfer energy better than others. Energy and matter interact: water is evaporated by the sun's heat: a bulb is lighted by means of electrical current: a musical instrument is played to produce sound: dark colors may absorb light, light colors may reflect light.	
4.1d - light.	
4.1e - Electricity travels in a closed circuit. Heat can be released in many ways, for example, by burning, friction (rubbing) or combining one substance with another.	
4.1f -	
4.1g - Interactions with forms of energy can be either helpful or harmful.	