# Electric Circuits-4th grade

Timeframe:
10 weeks

May 4, 2012 DRAFT

| Standards | Assessment/ Student Evidence | Academic Vocabulary | Resources |
|---|---|---|---|
| **SYSA Systems contain subsystems** | • Identify at least one of the subsystems of an object, plant, or animal (e.g., a battery is a subsystem of a light bulb circuit system) | System<br>Subsystem | *Electric Circuits* Teacher Guide by Science & Technology for Children with SPS inserts |
| **SYSB A system can do things that none of its subsystems can do by themselves.** | • Specify how a system can do things that none of its subsystems can do by themselves (e.g. a light bulb circuit system can light up, but a wire cannot ) | | |
| SYSD One defective part can cause a subsystem to malfunction, which in turn will affect the system as a whole. | | | |
| **INQF A scientific model is a simplified representation of an object, event, system, or process created to understand some aspect of the natural world. When learning from a model, it is important to realize that the model is not exactly the same as the thing being modeled.** | • Create a simple model to represent an event, system, or process<br>• Use the model to learn something about the event, system, or process<br>• Explain how the model is similar to and different from the thing being modeled | Model | |
| INQG Scientific explanations emphasize evidence, have logically consistent arguments, and use known scientific principles, models, and theories. | • Generate a conclusion from a scientific investigation and show how the conclusion is supported by evidence and other scientific principles | Conclusion<br>Evidence | |

**Power Standards in green** | **Complementary Standards in yellow**

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|---|---|---|---|
| INQH Scientists communicate the results of their investigations verbally and in writing. They review and ask questions about the results of other scientists' work. | | | |
| INQI Scientists report the results of their investigations honestly, even when those results show their predictions were wrong or when they cannot explain the results. | | | |
| **PS3A Energy has many forms, such as heat, light, sound, motion, and electricity.** | • Identify different forms of energy (e.g., heat, light, sound, motion, electricity) in a system | Energy<br>Forms of Energy | |
| **PS3B Energy can be transferred from one place to another.** | | Energy transfer | |
| PS3C Heat energy can be generated a number of ways and can move (transfer) from one place to another. Heat energy is transferred from warmer things to colder things. | | | |
| PS3E Electrical energy in circuits can be changed to other forms of energy, including light, heat, sound, and motion. Electric circuits require a complete loop through conducting materials in which an electric current can pass. | | Electric Circuit<br>Conductor<br>Current | |

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