

## Lesson Four

### Circuits with Formative Assessment

**Grade:** Fourth Grade

**Time:** 30-45 Minutes (w/small group accommodations, prediction, and writing support)

**Materials:** Science journals, the class K-W-L, pencils, and pages B68-B71 in the Scott Foresman Science text (ISBN 0-328-03424-X).

**Objective:** Students will analyze written text as well as photographs to obtain an understanding of an electrical circuit. Students will answer the question “how do electric circuits work?” Students will gain an understanding of two circuits a series circuit as well as a parallel circuit.

**Standards:** NYS/National Standards

**New York State Standards:** Standard One: Analysis, inquiry, and design.

- Scientific Inquiry: Key Idea One, The central purpose of scientific inquiry is to develop explanations of natural phenomena in a continuing creative process. **S1.1** Ask “why” questions in attempts to seek greater understanding concerning objects and events they have observed and heard about.

#### National Standards:

NS.K-4.2 Physical Science

- As a result of the activities in grades K-4, all students should develop an understanding of the following: properties of objects and materials, position and motion of objects, and light, heat, electricity, and magnetism. Utilized to build an electrical circuit as well as being able to understand electricity and its path traveled.

NS.K-4.1 Science Inquiry

- As a result of the activities in grades K-4, all students should develop abilities necessary to do scientific inquiry, and understanding about scientific inquiry.

#### Procedure:

- 1.) The teacher will pose the question “How do electric circuits work? On the front board. The teacher will ask anyone if they know exactly what an electric circuit is. The teacher will take and allow for predictions to be discussed.
- 2.) The teacher will then reflect on the student’s previous activity involving the three common household items, when all three items were connected just perfectly and in the correct order electricity was flowing through the unit creating the light bulb to light up.
- 3.) The teacher will state that today we will be finding out how electric circuits work, as well as identifying exactly what a circuit is.
- 4.) The teacher will conduct a read aloud of pages 68 and 69, pausing to read captions, focus on diagrams and photographs, as well as glossary terms in the columns.

## Lesson Four (cont.)

- 5.) The teacher explains that the circuit that we have made at this point is an example of a series circuit, because the bulb and wire makes a single path.
- 6.) The teacher then asks students what other materials we would need to make a parallel circuit. The teacher asks what the major difference is between the two. ( more than one path to a bulb)
- 7.) The teacher will then ask for volunteers to read through the "Using Electricity Safely" section.
- 8.) The teacher will then explain to students that on assessments they will often have to read a passage, and answer questions based directly off of the text they had read.
- 9.) The teacher will model answering question one of the lesson review. The teacher will copy the question, model restating it in a complete sentence, model locating information directly back in the text, paraphrasing the information while using key details and vocabulary, and writing their final answer.

### Conclusion:

(Formative Assessment)

The teacher will then assign the last two questions of the lesson review to be completed by the students. The teacher expects the students to copy the question, restate the question in complete sentences, and locate the answer with in the text, paraphrase, and write their final answer. This should be done in their journal. This is a skill that has been previously taught and mastered in reading and carried over across the curriculum. The teacher will assign this as a formative assessment. The teacher will orally review this at the end sharing and recording correct results this allows for clarification of misunderstanding.

The teacher will circulate around the room to observe students, give corrective feedback, and writing/locating information guidance.

The three questions are.

- How is a series circuit different from a parallel circuit?
- Name three ways to use electricity safely?
- Write about how the unsafe use of electricity can cause harm?