Lesson Plan 19 Title: “Let’s ask an engineer”

Concept / Terminology / Topic to Teach: consulting, improving, comparing, testing

Class Goal(s)/Objectives: While developing a final model, engineers try, test and compare different solutions for various elements in their constructions. Along with their personal testing, consulting also takes place. It is not necessary that only one solution is the optimum every time. Today parents or friends that are engineers will visit class to show to the children different ways to assemble and test electric circuits, and to discuss children’s building ideas.

Required Materials: 2 gender neutral puppets, lamps or multiple color LEDs, sockets, wire, battery holders

Setting: Classroom, Large group time, small group time.

Step-By-Step Procedures: During large group time you will start by prompting the children to explain to the engineer that is visiting what they have been doing in the past activities. Children can consult the images placed on the wall to tell their story. The engineer can in parallel ask the children if they thought the activity was easy or hard, and why, i.e. during the last activity children seemed to have a hard time making the electrical tape stick on the battery. The engineer then can provide a solution and ask the children to test this solution and decide if they prefer the one way or the other. One more circuit that can be shown to the children to discuss new ideas could be one that would require two batteries in a row instead of one.

VERY IMPORTANT NOTICE: Since this activity is based on a previous one, the visiting engineer should discuss with the teacher prior difficulties that the children may have encountered so that he/she can use them as starting point in order to provide “improvement solutions”

Plan For Independent Practice: In the small groups have the children try the new solution suggested by the engineer. Then have them test it and discuss which solution they prefer.

Closure (Reflect Anticipatory Set): End the class by repeating both solutions and count how many children prefer the one to the other.

Assessment Based On Objectives: Every child should have a circuit with a light that it turned on.

Possible Connections To Other Subjects: language and reasoning (while presenting the new ideas), science (when choices are getting discussed), math (when counting how many children agree with each idea).