

## Early Childhood Lesson using Guided Discovery method

**Lesson Plan by:** Sarah Hanson

**Lesson name:** Discovering scientific tools

**Length:** 20-25 minutes

**Age or Grade Level Intended:** 2<sup>nd</sup> grade-Science

### **Academic Standard(s):**

2.1.2 Use tools — such as thermometers, magnifiers, rulers, or balances — to gain more information about objects.

### **Performance Objective(s):**

Given various objects, the students will use scientific tools to discover how to gain information about those objects when observed.

### **Assessment:**

-By observation, the teacher will check for understanding by the students of each of the scientific tools used in the lesson and their purposes.

### **Advanced Preparation by Teacher:**

- need magnifying glasses, rulers, and balances/scales (enough for 1 of each tool per group)
- need random objects (pencils, books, pennies, cups, paper clips, crayons, etc.)

### **Procedure:**

**Introduction/Motivation:** (*Engage*) Explain to the students how there are various items in front of them. Explain how each of these items is different, and we often compare and observe items by using our five senses, whether by touching, seeing, or even hearing the items. I know that when I go shopping for clothes, I like to compare different things before I buy something. For example, before I buy a shirt, I like to see what kind of fabric it is, how much it costs, or if it is the right size. So, we are constantly making comparisons and observations. Well, we can use other things besides only our senses to help us compare and observe objects. What are some other ways we can observe or compare different objects to gain information about those objects?

#### **Step-by-Step Plan:** (*Encourage*)

1. Place the students into small groups and give each group at least 1 scale, 1 ruler, and 1 magnifying glass, and plenty of other various objects.
2. Allow the students to manipulate the objects in their small groups (*Gardner-Interpersonal, Visual/Spatial*).
3. Teacher walks around and observes what the groups do with the objects and the tools.
4. If a group does not seem to be understanding, ask open-ended questions, such as, “What is something we could use to compare or observe some of our items?” or “How have you seen some of these tools used before?” (*Bloom’s-Application*)
5. Teacher needs to observe each group and scaffold the groups towards the correct answer.

**Closure:** (*Engage*) After the students have had plenty of time to manipulate the objects and tools, bring them back together and have a class discussion about what they discovered (*Bloom’s-Comprehension; Gardner-Linguistic*). How can we gain information about different objects, besides only using our senses? After different groups have shared what they found, the

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teacher can explain what each tool is used for and how we could use those tools to find out more information about some of the different objects. Ask the students what other tools they have seen used or have used to make observations and learn more about something (*Bloom's-Analysis*).

### **Accommodations/Modifications:**

- For a higher achieving student, h/she can explain to the teacher in what situations each of the tools would be most appropriate to use and then share that information with the class.
- For a student with a learning disability or is MiMH, the teacher may ask more basic questions about the scientific tools or give more concrete examples of when and where those tools may be used.