

MANCHESTER COLLEGE

Education Department

LESSON PLAN by: Lauren Bailey

Lesson Title: Oobleck Length: 20 minutes

Age or Grade Intended: Second Grade

Source: Activities For Teaching Science As Inquiry page 30

Academic Standards:

- Science 2.1.3 – Describe, both in writing and verbally, objects as accurately as possible and compare observations with those of other people.
- Science 2.1.5 – Demonstrate the ability to work with a team but still reach and communicate one's own conclusions about findings.

Performance Objects:

- Given an object, students will be able to list 10 properties of that object with 100% accuracy.

Assessment:

- I am trying to introduce the students to observing. Today I will assess their observation skills by looking at their list of properties they created in their groups. I will know they have mastered observing properties if they have listed at least 10 properties of Oobleck. If the students list properties that I did not think Oobleck had, I will ask the students explain where they got their ideas from so I can figure out whether the student does not understand the objective or whether Oobleck has a property that I did not know about.

Advanced Preparation by the Teacher:

- Materials:
 - Four boxes of cornstarch
 - Food Coloring
 - Plastic Bowl
 - Plastic Baggies for each student
 - Newspaper to cover each student's desk
 - Large piece of paper for each group
 - Marker for each group
 - *Bartholomew and the Oobleck (by Dr. Seuss)*
 - Solid Object
 - Liquid Object
 - Paper Towel
- Oobleck Recipe
 - Two hours before class add 15 drops of food coloring to 4 ½ cups of water. Pour the light green water into a large bowl and add four boxes of cornstarch and another 2 ½ cups of water. Swirl and tip the bowl to level the mixture, and then set the bowl aside.

- ****Note****: The students could also measure out the Oobleck mixture ingredients. But, because of the time constraint of this lesson, the Oobleck was provided for the students..

Procedure:

Introduction/Motivation:

- Read *Bartholomew and the Oobleck*. (**Linguistic Intelligence**)
- Ask the students to predict what they believe the properties of Oobleck will be (**Comprehension Question**). Remember properties are anything that can be seen, heard, smelled, or felt by the senses or detected by instruments.
- Ask the students, what can you do to find out what the properties of Oobleck will be? (**Knowledge Question**).

Step-by-Step Plan:

- Split the children into groups. (**Interpersonal Intelligence**) Cover each desk with newspaper. Give each group a large sticky note and a marker. Give each student a bag of Oobleck. (**Intrapersonal Intelligence**) (**Spatial Intelligence**). (**Bodily-Kinesthetic Intelligence**).
- Tell the students they are to be a scientist and write down as many properties of Oobleck as they can discover. (**Linguistic Intelligence**).
- Tell students to put a star besides the properties they believe are most important.
- Ask each group to share their responses with the class. (**Interpersonal Intelligence**).
- Show the students a solid object, and ask, What are the main properties of this object? (**Knowledge Question**) (**Spatial Intelligence**).
- Show the students a liquid object, and ask, What are the main properties of this object? (**Knowledge Question**)
- Discuss with the class whether Oobleck should be called a solid or a liquid, or does it need a third category? (**Analysis Question**).
- Explain that the Oobleck is actually a non-Newtonian fluid, which means it changes properties like water.

Closure:

- Explain to the students that we have been scientists today. Ask students, What have you done that has been like a scientists? (Application Question) During the year, What else do you hope to be able to do as a scientist? (**Synthesis Question**)

Adaptations: Since the autistic child in the classroom does not like to feel different textures, I will provide this child with her choice of disposable gloves to wear, or a spoon to play with the Oobleck.

Enrichment: Ask these students hypothesis what would happen to the Oobleck under different conditions (heating, freezing, water, air blowing, closed container, etc.). (**Application Question**). The students might try some of these experiments. Also ask the students to figure out what other items are non-Newtonian fluids. (**Application Question**).

Self-Reflection: