Lesson Plan Date: Sept 26-27, 2011

**ACTIVE CHEMISTRY**

**Ms. Ramos**

1. **Unit Title/Lesson Title/Type**

**Unit 1 Introduction to Matter**

**Kinds of Matter**

Chapter 2 Activity 3 – **Solutions, Suspensions, and Colloids**

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1. **MSDE and BCPSS Standards**

GOAL 4: The student will demonstrate the ability to use scientific skills and processes to explain composition and interactions of matter in the world in which we live.

1. Kinds of Matter

Expectation 1.C. The students will explain that matter is grouped according to certain basis of classification.

Indicator 1.C.1. The students will compare and contrast pure substance and mixture.(8.4.d.1.b)

Indicator 1.C.2. The students will investigate and describe how are the components of mixtures and compounds be separated. ( 8.4.d.1.a.and 8.4.d.1.b)

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1. **LESSON OBJECTIVES:** The student will be able to:

1. Distinguish between solutions and suspensions at the macroscopic and atomic-molecular scale. This includes recognizing that oil and water form a suspension called an emulsion because oil is not polar.

2. Trace substances in water through connected systems and recognize them when substances will mix and unmix from the water.

3. Trace substances in solution into the soil, vegetation, and surface systems, but not the atmosphere.

4. Trace substances in suspension through the surface water system but expect that these substances will not move with water through vegetation, soil or the atmosphere.

5. Trace oil, which is immiscible, through the surface and soil systems as a different substance governed by gravity.

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1. **DRILL** ( **5 minutes** )

To help students recall the water cycle, a picture of the water cycle is given and they are to complete the different stages of the cycle by writing in the names of the processes involved.

1. **DEVELOPMENT**

* **Engagement of Students (20 minutes)**

A map of Southside will be shown to the class and some pictures of its landscape and they will think about what substances could be mixed with water in our schoolyard. They will then fill up a “Schoolyard Substances Chart”.

The class will be divided into groups to compare the lists of substances that they think would mix with water, where the substances would go, and how the substances would move with the water.

* **Exploration activity ( 45 minutes )**

The students will do Activity 3, Tracing how substances move and may affect aquatic life.

**Modification:**

Adjusted workload, repetition/rephrasing of directions, extended time

Reduce distraction

* **Explanation (20minutes)**

Each group will share the results of the experiment. They will fill up a worksheet that contains discussion questions.

* **Extension (20 minutes)**

Students will complete the online simulations.

* **Evaluation/Assessment**

Students’ worksheets serve as the evaluation for the day.

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F**. Homework**

Students will complete the Fertilizer Assessment.