**Spring Arbor University School of Education**

**Lesson Plan Guide: Direct Instruction**

**Title: What is Matter? by Megan Muzljakovich**

**Subject: States of Matter**

**Grade Level: 2nd**

 **Time Allotted: 45 minutes**

**Materials Required:**

* **The book called, “What is the World Made Of?”**
* **Items for Students to Take Home: pencil, balloon and water bottle(Visual Aids)**
* **Song Three States of Matter (Songs and Nursery Rhymes)**
* **Worksheet Solid, Liquid, and Gas Cut Out (Word Sort)**
* **Glue stick**
* **Scissors for each child**
* **Vocabulary terms(Word Splash)**
* **Assessment worksheet**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Michigan Curriculum framework: Benchmark and/or GLCE/HSCE/EGLCE (write out)**

**P.PM.02.12 describe objects and substances according to their properties (color, size, shape, texture, hardness, liquid, solid, sinking or floating).**

**R.WS.02.09 know the meaning of words encountered frequently in grade level reading and oral language contexts.**

**Core Curriculum- read with sufficient accuracy and fluency to support comprehension, a) read on level text with purpose and understanding, b) read on level orally with accuracy, appropriate rate, and expression on successive readings, C) use context to confirm, or self correct word recognition and understanding, re-reading as necessary.**

**Objective(s): A portion of a GLCE or HSCE stated in terms of Bloom’s taxonomy (level/verb) –**

*The student will {Bloom’s taxonomy verb} … {level of Bloom’s taxonomy learning)*

**The student will be able to apply their knowledge of the three types of matter by contracting a picture of each form of matter. Application level of understanding.**

**Purpose: To have an understanding of what matter is and some general knowledge of the three types of matter. This is important because during the students’ daily lives they will encounter matter.**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Instructional Procedure: What information do students need to accomplish the objective?**

1. **Anticipatory Set: 10 minutes**
	1. Read “What is the World Made Of?”
	2. Last week we learned what scientific inquiry is, by learning about states of matter you are going to be better at investigating scientifically.
	3. Put the list of 4 vocabulary words under the Elmo and review with the class what each word means. Read the word to the class. Then read the definition to the class. Have the class read the word and the definition with you. **(Strategy #28/ Word Splash)**
	4. “We are going to be doing some fun activities today so I need you all to be on your best behavior, raise your hand if you have a question and do your best work.”
	5. We are going to be sending a letter home to your parents to invite them to our ice cream social night that we are going to be having at the end of this unit. We will also be showcasing your work for all the parents to see. (Make sure to have at least three pieces of work form each child to display around the room by the end of the unit).
2. **State Purpose and Objective of Lesson: 2 minutes**
	1. I want the students to learn that there are three kinds of matter and what each type of matter is.
	2. It is important to learn the three states of matter so that you know what each type is and how to change matter from one form to another because you change matter to different forms in your daily life.
3. **Plan for Instruction: 20 minutes**
	1. Modeling
		1. Read the three basic state of matter sheet.
		2. Take each item out of the bag; ask the class what type of matter they think it represents. Then explain to the students what form of matter it represents **(Strategy #21/ Visual Aids)**
			1. Pencil- solid
			2. Water bottle- liquid
			3. Balloon (blow up the balloon to demonstrate) - gas
	2. Guided Practice**:**
		1. Tell students that we are going to sing a song that we need their help acting out each form of matter. **(Strategy #22/ Songs and Nursery Rhymes)**
			1. Solid is jumping- tell them that the floor is solid and we are going to represent that by being able to jump on it then have them practice jumping appropriately.
				1. because the floor is solid so we have something to jump on if we were in the air or water we would not be able to jump because the air or water would not stop us when we made contact.
			2. Liquid is drinking, have them act out drinking and then tell them why drinking represents a liquid
				1. We drink liquids but cannot drink solids like a shoe or book and we can’t drink a gas because we breathe gases.
			3. Gas is breathing, have them act out breathing then tell them why breathing represents a gas
				1. Breathing represents a gas because air is a gas and that is what we breathe. We cannot breathe a shoe or water.
		2. Now we are going to sing that song when I say jump you need to jump. When I say drink you need to act like you are drinking. When I say breathe you need to take a big breath. Put a copy of the song under the Elmo for the class to see.
			1. Sing song to the class
			2. Have class sing the song with you.
	3. Independent Practice: Each student will need the Solid, Liquid, Gas cut out worksheet, a glues stick and scissors. Show the class how to complete the worksheet by cutting out the picture and asking the class where they would put the picture. For example the picture titled “cheese” is a solid because it takes holds its own shape even when up inside a container. **(Strategy #19/ Word Sort)**
		1. Have each student cut out the boxes with pictures on them. Read the words under each of the pictures to the class. (make sure to point out that gasoline is a trick one so pay extra attention to it)
		2. Have the students place the pictures in the column that the picture represents.
		3. Once all students have glued their pictures down review with the class where each picture should go.
		4. Make sure to go around the room to see if the class is getting where each item should go and that they understand why each item goes where they placed it. Ask the students why they placed the picture where they did.
4. **Differentiation Considerations:**
	1. For the children who are having trouble drawing the picture have them describe the picture to you and you can draw it.
	2. Children that are struggling with drawing could also have another student draw it for him or her.
	3. For the child who is having trouble giving examples of each form of matter have them describe or write the characteristics of each form of matter
	4. For those who finish early have them draw one or more pictures of each form of matter on the back of their sheet.
5. **Assessment: 10 minutes**

Give each child an assessment work sheet. Have them draw one example of each of the three forms of matter that they learned about today. Let them know that they can label parts of the picture if they feel it needs clarification. Tell them the things that you are going to be looking for according to the rubric,

* 1. **Details**
	2. **Labels**
	3. **Effort**
1. **Closure: 3 minutes**
2. Let’s review what we learned today by singing the song that we learned earlier today.
3. Who can tell me what matter is?
	1. Anything that has mass and takes up space, it is visible and invisible
4. What are the three states of matter?
	1. Solid
	2. Liquid
	3. Gas

**Explanation of Identified Instructional Strategies:**

During the anticipatory set the students used the strategy called, word splash while reading the book called “What is the World Made of?” by Kathleen Weidner Zoehfeld. By using word splash students will break down the meaning of words by making predictions. While modeling the students will be provided with a bag that they can take home to show their parents what they learned in class. In the bag there will be a take home sheet explaining what we learned and three items that represent the states of matter, for example, water bottle, balloon, and pencil. Visual aids are wonderful to use in class because they help students relate to items they will see on a daily basis. In the guided practice the students will learn a song about the three states of matter that goes with the tune, “The Wheels on the Bus”. The song will help the students remember the information by using repetition and rhyming. For the independent practice the students will do a word sort to help them clarify the meanings and differences between the three states of matter. The word sort can also direct students to think more in depth about why certain items are a solid, liquid or gas.