

Lesson Plan Template

Grade: 1st grade	Subject: Science
Materials: Mason jar, shaving cream, food coloring, marbles	Technology Needed: N/A
Instructional Strategies: <input type="checkbox"/> Direct instruction <input type="checkbox"/> Guided practice <input type="checkbox"/> Socratic Seminar <input type="checkbox"/> Learning Centers <input type="checkbox"/> Lecture <input type="checkbox"/> Technology integration <input type="checkbox"/> Other (list) <input type="checkbox"/> Peer teaching/collaboration/cooperative learning <input type="checkbox"/> Visuals/Graphic organizers <input type="checkbox"/> PBL <input type="checkbox"/> Discussion/Debate <input type="checkbox"/> Modeling	Guided Practices and Concrete Application: <input type="checkbox"/> Large group activity <input type="checkbox"/> Independent activity <input type="checkbox"/> Pairing/collaboration <input type="checkbox"/> Simulations/Scenarios <input type="checkbox"/> Other (list) Explain: <input type="checkbox"/> Hands-on <input type="checkbox"/> Technology integration <input type="checkbox"/> Imitation/Repeat/Mimic
Standard(s) 1.2.1. Record and describe observations with pictures, numbers, or words 1.5.1. Explain that short-term weather conditions can change daily, and how weather affects people’s daily activities Could not find any connection with the NGSS	Differentiation Below Proficiency: In this lesson, students who are below proficiency will have the opportunity of working with other students on this science project. This will help these students as they will gain another student’s perspective on the content that is being taught. These students will also be able to draw pictures of the different things they observe in the science experiment, rather than having to write sentences of their observations. Above Proficiency: In this lesson, if these students record their observations by drawing a picture of what was originally their jar of shaving cream and what happened to their jar of shaving cream, they can write a brief statement about what happened to the shaving cream and what happened to the food coloring dye. Approaching/Emerging Proficiency: This lesson is primarily for these students. Modalities/Learning Preferences: Visual learners: there will be a visual representation of clouds (shaving cream in the water of the jar); students will also get to see how clouds create rain during the explore portion of the lesson Tactile learners: students will have the opportunity to place a marble on the top of the thin film of the jar (cloud) during the explain section; students will also have the opportunity of placing the food coloring dye in the shaving cream during the explore portion of the lesson Kinesthetic learners: during the explain portion of the lesson, the teacher has provided numerous opportunities for students to move, so students continue to stay engaged with the lesson
Objective(s) By the end of the lesson, students will be able to demonstrates how rain forms from clouds by using food coloring to drop into shaving cream (that has been placed on top of some water) and observing as the food coloring sinks to the bottom of the jar. By the end of the lesson, students will be able to show how to record their observations of the science experiment creating rain from clouds by drawing pictures of the different parts of the science experiment and writing a brief description to accompany the drawings. Bloom’s Taxonomy Cognitive Level: Demonstrate/show	Behavior Expectations- (systems, strategies, procedures specific to the lesson, rules and expectations, etc.) During the explain section of the lesson, it is expected that all students sit on the rug in a circle. It is an expectation, that when the jar is being passes around that students have jar seated in front of them, they should not be holding the jar. This should be something that the teacher models to the students before this activity begins. Teacher should also model to students how to appropriately place the marbles on thin plastic lining on the mason jar. During the explore section, students are expected to sit nicely at their desks. They are expected to share their mason jar with their partner. They are also expected to place one drop of food coloring dye into the shaving cream at a time. Teacher will model this to students, so students know what is expected of them before they begin. If students
Classroom Management- (grouping(s), movement/transitions, etc.) The class will be seated at the rug for the beginning portion of the lesson. Students should be sitting in the circle, so they all can see the jar with the shaving cream in it. The teacher will begin by passing the jar around to each student. The teacher will first model to students how to place the marble on thin plastic part that covers the jar, the students should do as the teacher does. The bag of marbles will also be passed around along with the jar. During this time, the teacher will also provide students with multiple movement opportunities. Teacher will make sure students are spread far apart from one another so they are not interfering with other students’ space. Teacher will dismiss students by learning tables to return back to their seat at their learning table. Teacher will model to students the expectations of how to share the mason jar appropriately between	

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<p>partners and how to appropriately place food coloring dye into the shaving cream.</p>	<p>cannot handle this, these students may lose the privilege of placing the food coloring into the shaving cream.</p>
Minutes	Procedures
<p>15 minutes</p>	<p>Set-up/Prep: Teacher will need to prepare all of the mason jars with water and shaving cream prior to the lesson. Also, the demonstration jar for the explain portion of the lesson should be prepared.</p>
<p>2</p>	<p>Engage: (opening activity/ anticipatory Set – access prior learning / stimulate interest /generate questions, etc.)</p> <ol style="list-style-type: none"> 1. Students should be seated in a circle on the whole group community rug. Students will be seated at the whole group learning rug. The teacher should show students a mason jar with water and shaving cream on top. 2. Teacher should tell students to think in their brains about what they think this looks like. Now, ask one student to describe what they think it looks like. 3. Explain to students that in today’s lesson they will be learning about clouds and how sometimes clouds can produce weather.
<p>10</p>	<p>Explain: (concepts, procedures, vocabulary, etc.)</p> <ol style="list-style-type: none"> 1. Teacher should students a jar with a thin piece of film on top. In this case, this jar can have a small Ziploc baggie on it. Explain to students this thin plastic baggie represents a cloud. 2. Explain to students that all clouds have tiny drops of water or pieces of ice in them. Explain to students these pieces of ice or tiny drops of water form from water vapor that cools. Ask students to repeat the word water vapor. 3. Explain to students that each drop of water in the cloud that I have here will be represented by a marble. 4. Tell students to think in their heads for a minute about what they think might happen, when clouds get too many drops of water (informal assessment). Tell students make up a prediction inside their head. 5. Now, ask students what their prediction is if clouds get too much water droplets. 6. Explain to students that we are going to experiment to see what might happen if clouds get too much water droplets with the marbles, jar, and plastic film covering our jar that acts as the cloud. 7. Teacher will begin by placing one marble on the plastic film (cloud) on the jar. Have students jump to their feet if nothing happened to the jar (informal assessment). Have students sit at the rug once more. 8. Pass the jar onto the next student, also pass along the bag of marbles. The next student should place another marble on the plastic film. Have students stomp their feet if their observation of the jar showed that nothing happened (informal assessment). 9. Repeat this above step until the plastic film collapses and all of the marbles fall to the bottom of the jar. 10. Ask students what we conclude about a cloud getting too many water drops (informal assessment). Ask students what might this cloud cause? (Rain; perhaps thunderstorms). 11. Explain to students they will have a chance to explore with some “clouds and water droplets” at their table with their learning partners. Dismiss all students based by their learning table groups.
<p>10</p>	<p>Explore: (independent, concrete practice/application with relevant learning task -connections from content to real-life experiences, reflective questions- probing or clarifying questions)</p> <ol style="list-style-type: none"> 1. Once students are seated at the learning tables, explain to students that each pair of partners will get a mason jar of water and shaving cream on top with food coloring dye. Students will need to take out their science notebooks and draw a picture of their jar and shaving cream they have at their learning table. 2. Explain to students that they will be representing the water droplets in the cloud as food coloring. Give students an example of how to drop the food coloring into the shaving cream before the students do it. Also, make sure to emphasize the fact that students should take turns placing a drop of food coloring into the shaving cream. Also, explain to students they have to watch really carefully as they drop the food coloring into the shaving cream. Tell students to record or draw a picture of anything that they may notice that changes the look of their jar. (Students should begin to notice the food coloring seeps into the shaving cream and begins to fall to the bottom of the jar just like the marbles did at the beginning of the lesson). 3. Once students notice that, the teacher should encourage the students to draw a picture of this in their science journals. 4. Ask students why this may be happening. Ask students if they observe anything different about their cloud after they have dropped the food coloring into it. Ask students if they notice any other changes to the jar.

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2	<p>Review (wrap up and transition to next activity):</p> <ol style="list-style-type: none"> 1. Show the students one pair of students jar to the rest of the class. Explain to students that we learned that cloud have tiny water droplets, and when clouds connect too many water droplets, the clouds begin to rain. Sometimes there might be even really large thunderstorms! 								
<p>Formative Assessment: (linked to objectives)</p> <p>Progress monitoring throughout lesson- clarifying questions, check- in strategies, etc.</p> <p>During the explain portion of the lesson teacher will do the following to check for progress:</p> <ol style="list-style-type: none"> 1. Tell students to think in their heads for a minute about what they think might happen, when clouds get too many drops of water (informal assessment). Tell students make up a prediction inside their head. 2. Teacher will begin by placing one marble on the plastic film (cloud) on the jar. Have students jump to their feet if nothing happened to the jar (informal assessment). Have students sit at the rug once more. 3. Pass the jar onto the next student, also pass along the bag of marbles. The next student should place another marble on the plastic film. Have students stomp their feet if their observation of the jar showed that nothing happened (informal assessment). 4. Ask students what we conclude about a cloud getting too many water drops (informal assessment). Ask students what might this cloud cause? (Rain; perhaps thunderstorms). <p>During the explore section of the lesson:</p> <p>Students will be drawing a picture of first what their jar looks like with the shaving cream and water in it before any food coloring has been added. Then, once students have recognized a change in the jar, meaning the food coloring has started to seep into the shaving cream and has begun to sink to the bottom of the jar, the students should draw a picture of what this looks like in their scientific journal. Students should make sure they are labeling their picture, and giving a brief description of what has happened to their jar for the second picture. The recordings of what has happened in their jar will act as the formative assessment for this lesson.</p> <p>Consideration for Back-up Plan: If this lesson cannot be fit into short period of 20 to 30 minutes in length, the teacher should consider breaking this lesson plan apart. For example, the teacher can do the</p>	<p>Summative Assessment (linked back to objectives)</p> <p>End of lesson: The assessment for the end of this lesson will be based on the drawing and brief description the students have added in their scientific journal about what they have observed about adding the food coloring to the shaving cream in their jar.</p> <p>If applicable- overall unit, chapter, concept, etc.:</p> <p>At the end of the lesson, students will be creating a weather journal. Students will create a weather journal that records what types of clouds are in the sky each morning and early evening (before sunset), and any weather they observed during that day. They will also be writing a small explanation for each day about why they think they saw or did not see the weather they did. The students will be journaling for a week. Each day, the student should have two pages filled in the journal. On the first page of the two pages the students will be filling in each day, the student should draw or write a brief description about the clouds they see in the sky. (Are the clouds big, small, wispy, fluffy, ect), Then, on the second page of the two pages the students will be filling in each day, the student should draw another picture of the clouds or write a brief description about the clouds before sunset (around 5 or so in the afternoon). Students must also write a brief description of what weather they saw or did not see during the day. The student must give a brief description about why they think they saw the weather they saw on the second page of the two pages they will journal each day of the week in the weather journal. The rubric is posted below for this assignment.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 70%;">Criteria</th> <th style="width: 30%;">Proficiency Level</th> </tr> </thead> <tbody> <tr> <td>Student has two journaled pages for each day of the week. Each journaled page has all 3 required elements including appropriate pictures/descriptions and is neat.</td> <td style="text-align: center;">3</td> </tr> <tr> <td>Student has two journaled pages for each day of the week. Each journaled page has only 2 of the 3 required elements for each of the 2 journaled pages for each day. The journal is neat.</td> <td style="text-align: center;">2</td> </tr> <tr> <td>Student has one journaled page for each day of the week. 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explain portion of the lesson. Students could also draw the picture of the shaving cream in the mason jar in their scientific notebook. Students should label this picture. This could end the first part of the lesson.

Second part could be picked up later that day. The teacher can provide each pair of students with a jar of shaving cream and water along with food coloring dye. Students can do the activity, teacher should show students how to do the activity with their partners by providing them with instructions and expectations. Then, students should draw a picture of the jar when something has happened to the shaving cream or water in the jar. Students should recognize that the food coloring dye sinks to the bottom of the jar.

Reflection (What went well? What did the students learn? How do you know? What changes would you make?):

The science lesson went well. The students enjoyed this lesson a lot. I think they enjoyed the engaged portion of the lesson. Many of the students were intrigued by the shaving cream and the water and were excited to learn more about clouds as the lesson progressed. The students were also very engaged throughout the explain portion of the lesson. All of the students were watching the jar at all times to make sure they did not miss anything. They really enjoyed predicting what would happen to the “cloud” as we kept on adding more and more marbles to it. The students were also very excited to do the experiment with the shaving cream. I could tell they made the connection between how a cloud forms and how it produces weather to the shaving cream experiment. Many of the students were making excellent observations about what would happen to the food coloring as the food coloring dripped into the shaving cream. Also, one student made the connection that as more and more food coloring was added to the shaving cream, the more likely the shaving cream would “break” and fall to the bottom of the jar. We connected this to real-life when we explained how when rain is produced by clouds after it rains there are no more clouds because what once formed the clouds in the sky is now on the ground. The students learned about what makes clouds and how clouds produce weather. Some of the terminology I used included: water vapor, rain, hail, pieces of ice, and predict. Students had to draw in their science notebook their experiment. They also had to label the experiment. When I reflect back on my lesson there are some things I might consider changing. One thing that I might consider changing is how to distribute the jars with the shaving cream to each table group. It became a lot of work for me, to figure out which students were ready to do the experiment based on whether or not they had the picture drawn in their notebook and which ones still needed time. This part in my lesson, actually worked quite smoothly; however, if I do it next time, I may call on students to come and get a jar of shaving cream and food coloring rather than passing them out to each of the groups. Another thing that I would consider changing is how to wrap up the activity. I did like how we got a chance to debrief as a class after the experiment; however, I realized if I did not have the help of Mrs. Fischer, I would not have been able to clean up the jars by myself. Rather than having myself wash out all of the jars from the experiment, I may consider designating a student from each table to clean out the jars from each of the tables. These jars need to be dumped of the shaving cream and water, so they needed to be taken to the bathroom. It would be wise to choose students who can be trusted in the bathroom alone to do this job. I think with a few minor adjustments this lesson could be even better.