

CCNY Lesson 2 Planning Template:

Section 1: Basic Information	
Name:	Michaela Go
Expected Date of Lesson:	April 28th, 2023
Supervisor:	Bruce Kanze
Title of Lesson:	Exploring Matter (Science) - Exploring with Oobleck
Target Grade/Level:	Third Grade
Time allotted for lesson:	45 Minutes
Section 2: Lesson Plan	
In the space below, submit a plan of the lesson that you will be teaching for lesson 1. You can use the provided lesson plan template or delete it and use a format of your choosing.	

Instructional Objective/s:

By the end of the instruction, students will have a better understanding of the states of matter and form their own definitions of solids, liquids and gas through experimenting.

Students will be able to make and play with oobleck (mixture of cornstarch and water).

Procedure

Learning Activity	What Teacher and Students Do	Time
Whole Class-Opening	<p>**Prior to this lesson, students will have already been introduced to matter*. We have read pages from the textbook teaching the class about what matter is and the different states of matter. We have also read about the physical and chemical changes that matter can undergo. We have only been able to read about matter. The purpose of this lesson is to allow the students to explore and experience matter through hands-on activities.</p> <p>To open the lesson, the teacher will ask the students to discuss "What is the difference between a solid and a liquid?". The students will turn to the peer seated next to them and share their answers. After a minute or two, the teacher will call the attention of the students and ask each pair to share. The teacher will write down the answers from each student.</p> <p>After all pairs have shared their answer, the teacher will then explain that today we will be a whole class of scientists experimenting with oobleck. The teacher will introduce the ingredients for oobleck which are cornstarch and water. On a worksheet the students will predict what state of matter the oobleck will be. They will have 1-2 minutes to write down their predictions.</p>	3-5 Minutes
Groups		20-30 Minutes

Groups:

Ms. Michaela [REDACTED]
[REDACTED]
[REDACTED]

In small groups, students will be making oobleck. Oobleck is a **non-newtonian substance**, meaning it is a liquid that sometimes acts like a solid when put under stress or pressure. However, ***the teacher will not reveal this information to the students.*** The teacher will only explain that they will be making oobleck and offer guidance to the students when needed (i.e. steps to create oobleck, helping them make the mixture).

Distribution of materials - 2-3 Minutes

Materials Needed:

1. Plastic Containers (13)- Students will be able to take it home
2. Plastic Spoon (13)
3. Water
4. Cornstarch
5. Disposable Gloves (at least 1 per student)

Steps to Create Oobleck:

1. *Before* creating the oobleck, present to the students the cornstarch and the water. Allow students to feel the texture of the cornstarch. Identify whether they are solids, liquids or gas. (Students should already be able to identify their state of matter)
2. Oobleck is created with a 1-to-1 ratio. (i.e 1 cup of water with 1 cup of cornstarch. 1 tablespoon cornstarch and water). Each student will scoop 3 tablespoons of cornstarch into a paper bowl. Then, they will add 3 tablespoons of water. Teachers may assist students if they need to add more cornstarch/water to make their mixture.
3. Mix well. The mixture will start to become harder to mix as the ingredients are combined. Teachers may help with mixing if needed.

Once the oobleck is created, allow students to *safely* play with the mixture. Suggest that they try to tap the mixture lightly then tap with more pressure.

Clean Up	Allow for up to 5 minutes to clean up. Throw out any garbage and wipe down any mess on the tables and floors from the experiment. Students will go back to their own seats.	5 Minutes	
Exit Ticket & Discussion	After cleaning up, the students will complete the oobleck experiment worksheets drawing a picture of the experiment	5 Minutes	

Method of Assessment:

1. Observations of Students Discussions (Whole Class Discussion)
2. Oobleck Experiment Worksheet - Prediction, Drawing, and Reflection

Evaluation Criteria:

1. Quick check of student assignments
1. Formative Assessments:
 - a. In-Class Discussions
 - b. Worksheets
 - c. Observations of their interaction in whole group and small group

Section 3: Instructional Materials

In the space below, list up to 5 instructional tools that you will use for your lesson. Provide either a link to each tool or submit it as an attachment. The total number of slides/pages for instructional tools should not exceed 20.

Instructional Tool	Link
Oobleck Experiment Worksheet	https://docs.google.com/document/d/1bkJsvD4JhPPgLyrQnSezfhbzTrYaCRImEUDOxF-TEI/edit?usp=sharing
Sorting States of Matter (For lesson on Wednesday 4/26)	https://drive.google.com/file/d/1FMFMxm6028rGPpRDor_ohf5h_cWBGRh3/view?usp=sharing
States of Matter and Changes of State Video (For lesson on Wednesday 4/26)	https://www.youtube.com/watch?v=vNvElea-124

Section 4: Pre-Lesson Notes

Provide responses to the following questions. Your answers may be written (limit of 500 words per question) or you can embed links to audio or video files of your responses.

1. Lesson Context – Describe where the lesson you will teach is situated within a larger unit of instruction. What are students primarily expected to learn over the unit of study and what are the major activities and/or assignments? What are objectives for lessons that preceded the lesson you will be teaching and that will follow?

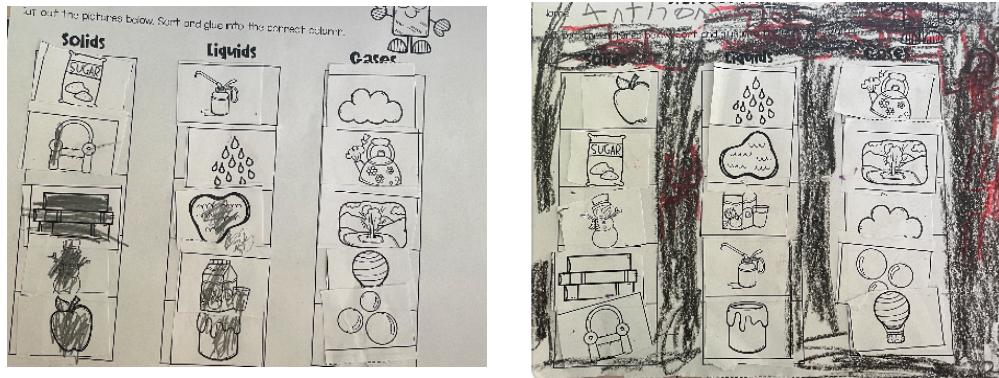
We do not have a period that is allocated specifically for science, other than STEAM which is focused primarily on engineering. However, during word study periods we are able to have one rotation that is focused on science. We go through one chapter of the science textbook and have covered the chapter on

matter. The first reading we got to was learning about what matter is and the different kinds of matter. The second was about the changing states of matter. And the third was about the properties of matter. This lesson is in between the first and second reading we have done together. Over the course of the unit, students are expected to form their own definitions of matter and be able to recognize/identify the state of matter of different objects.

2. Knowledge of Students – How has what you know about your students informed your planning and preparation for the lesson? What do you know about your students' prior academic learning and prerequisite skills, and how has this knowledge shaped your planning? What do you know about your students' everyday experiences, cultural and language backgrounds and practices, and interests?

The students have never gotten an official and full lesson on the state of matter so I know that their knowledge is very limited. When I ask them what they remember from our past readings, only a few were able to recall information. Knowing this, I had to make sure that my lesson is accessible to all. I planned a review lesson for Wednesday 4/26/2023 where we watch a short video that explains the 3 states of matter (solids, liquids, and gasses) and then proceed to do a sorting activity. This lesson was a success. The video was incredibly helpful, the students were so focused on it. The students also love fun challenges so to motivate them even more [REDACTED] put up a ten minute timer to see how fast they can cut and match the objects to the correct state of matter.

Examples:



I know that they prefer to work on tasks that are hands-on and do not do well when they sit for a long period of time. Instead of a writing or reading assignment, it was very important for me to find an interactive and fun activity for them to do in the lesson. This is why I chose to do an Oobleck experiment where they can experience making the mixture and even play with the Oobleck. I believe that this lesson will truly allow them to explore the different states of matter.

3. Describe and justify why your instructional strategies and planned supports are appropriate for groups of students with specific learning needs.

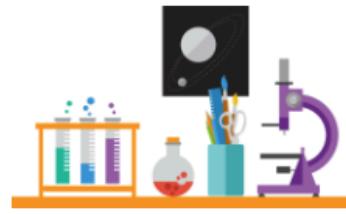
With a lesson that involves an experiment I am incredibly lucky to have 3 other teachers in the room with me. I will be accompanied by [REDACTED] which is a great privilege. I will be splitting up the class into 4 groups based mostly on their behavior (i.e. how they work with other students). I also chose the groups to have a mix of students who can complete work independently and students who may need some assistance. I am confident that the students who are able to work independently will be able to offer help to their peers. When the students and teachers are in their groups ready to make the

oobleck, there will be printed sheets for the instructions as an extra support. There are about 3 who do have trouble reading so the teachers in each group will offer oral instructions also.

I find that having refresher lessons and using resources like youtube videos are necessary because the children are able to hear or see the subject in different ways. The visuals from the video can help the students process the information easier than just hearing terminology like “particles”, “physical change”, and so on. With the sorting activity they are actively and physically sorting the images under the correct state of matter. This helps them internalize the content by doing.

Oobleck! Experiment

Name _____
Date _____



Prediction: Do you think the Oobleck will be a liquid or a solid?

Draw a picture of the Oobleck you created!

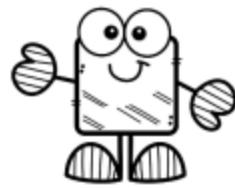


Was your prediction correct? What did you notice?

States of Matter Sort

Name _____

Cut out the pictures below. Sort and glue into the correct column.



Solids

Liquids

Gases

