LEARNING EXPERIENCE 1 OF 3

Content Area/Discipline: Physical Science / Language Arts
Lesson Title: "Properties of Matter"
Estimated Duration: 50 minutes
Where in the Lesson Segment does this learning experience occur?
(Check One) __Beginning _X_Middle ___End

Grade/Level: 2nd grade
Number of Students: 27
Structure(s) of grouping for the lesson:
(Check any that apply)
Whole Class __X___
Small Group __X___
One-to-one __X___
Other (specify) _____

Central Focus

Students will identify observable properties of matter which are color, shape, texture, and flexibility. Then will analyze observable properties and compare how matter's shape is dependent on the container it is placed in. Through observation and experimentation, the student will identify if the matter is a solid, liquid, or gas.

Curriculum Standards

Next Generation Science Standards:

- 2-PS1-1: Plan and conduct an investigation to describe and classify different kinds of materials by their observable properties.

Common Core Standards:

- ELA-LITERACY.SL.2.1: Participate in collaborative conversations with diverse partners about grade 2 topics and texts with peers and adults in small and larger groups.
- ELA-LITERACY.W.2.7: Participate in shared research and writing projects (e.g., read a number of books on a single topic to produce a report; record science observations).
- ELA-LITERACY.W.2.8: Recall information from experiences or gather information from provided sources to answer a question.

Measurable Behavioral Objectives

1. During Guided Practice the student will orally tell their partner one observable property of the ball and the toothbrush.
2. During Collaborative Learning the student will write 4/4 accurate observable properties of all 5 items (pipe cleaner, popsicle stick, Q-tip, ruler, crayon) on their Properties of Matter worksheet.
3. During Independent Practice the student will write a response to the question "What is a property?" indicating that a property is something you can observe about an object with your senses.

Language and Literacy/Academic Language

Reading: The student will read teachers writing on matter's properties on the white board. The item names and classification chart on their worksheet. The question on the back of their worksheet, "What is a property?".

Writing: The student will write observable properties of the items on their worksheet (color, shape, texture, flexibility) and an answer to the question, "What is a property?".

Speaking: The student will speak to their peers and to the teacher about observable properties of matter.

Listening: The student will listen to their peers and their teacher discuss observable properties of matter.

Vocabulary:
Observe: To notice matters characteristics. **Properties**: A trait of matter that can be observed with the senses. **Matter**: Anything that takes up space and has weight. **Color**: matters color. **Shape**: matters shape. **Texture**: How matter feels. **Flexibility**: How easily matter bends without breaking.

Instruction

a) Anticipatory Set/Warm Up

- For the start of this lesson segment the teacher will explain the student expectations and schedule. She will explain that today they will be sitting on the library carpet in a circle, then going to their desk groups to do a science activity. She will then discuss the student expectations for voice level and participation.
- The teacher will call the students to the carpet by their group color names (Red, Green, Yellow, Blue). When all are seated she will place two items (ball and toothbrush) in the center of the circle.
- She will tell the students to observe these items and to raise their hand to tell her what they are. She will pick one or two students to respond and will ask the rest of the students to use their 'agree' or 'disagree' hand signals. If a student disagrees she may call on that student and ask them why they disagree before moving on.
- The teacher will ask, "What else are these items? We learned this word yesterday". She will choose students to respond until the correct answer 'matter' is stated. She will then ask, "How do you know these items are matter?". She will choose students to answer, if no student is able to remember she will remind students that 'matter takes up space and has mass/weight'.

b) Modeling activity

- The teacher will gesture to the ball and toothbrush and will ask, "What do you think we will be doing with these two items today?" she will let two students answer. She will explain that they will be observing the items properties and will ask, "Does anyone know what a property is?". She will choose one or two students to answer, and will add, "A property is something you can observe with your senses." She will ask, "What are our senses?" and will choose multiple students to respond.
- The teacher will write the word properties on the white board and will write underneath it 'something you can observe with your senses'. She will ask, "What are some things we can observe about these two items with our senses? Just from looking at them what properties can we name?". If the students are unable to answer She will add, "Well I can see with my eyes that, that ball is a certain color, what color is that ball?". She will choose a student to answer and will add, "Color is something we can see with our senses and it is a property". She will choose a couple more students to answer what they notice with only their eyes. She will then pick up the ball and toothbrush and will pass them in the circle so that all students can use their sense of touch to make even more observations. She will pass the ball to the left and the toothbrush to the right. The teacher will give the students 5-6 minutes to pass the two items around the circle. She will ask the students to think of different properties they can observe with their senses.

c) Guided Practice

- The teacher will write on the white board 'color, shape, texture, flexibility'. She will ask a student to read the words she wrote on the board. She will say, "These are words that we can use to describe the properties of an object. Can anyone tell me what these words mean?". If students are unable to define flexibility She will explain that it means how easily something can be bent without breaking. She will tell the students, "I want you to think of the objects that were passed around and think about their color, shape, texture, and flexibility properties. What did you observe about the two items using your senses?". She will ask the students to turn and talk to a partner sitting next to them and describe some of the properties of the two objects. She will add that students may talk in a small group of three if they do not have a partner. She will give the students 1 minute to discuss before bringing them back to whole group conversation by saying, "class class".

- The teacher will stand by the white board and ask students what properties they observed about the two items and discussed with their partners. She will ask students to give her one property that was discussed. She will choose several students to answer. If no student has given her a property for one of the categories (color, shape, texture, and flexibility) she will specifically ask the students to give her that property.
- After both items have at least one property listed for each category she will move on to the next activity.

d) Collaborative Learning

- The teacher will tell the students that they will now be going to work in their small groups and she will call them up by group color name to leave the carpet area, but first she will explain the next activity.
- The teacher will show the students the worksheet and the items that they will be observing in their groups. She will explain that they will observe the properties of the items and write down in the chart a property for that item. The teacher will show the student that the item name is on the worksheet and that each item has a color, shape, texture, and flexibility property that they will write in. She will say that once the student has finished the chart they will flip their paper over to the back side and answer the question, "What is a property?" in a complete sentence. She will remind the students that they can work together and ask each other questions if they need help.
- She will ask the students if they have any questions about the activity before moving on.
- The teacher will call the group color names one at a time and will ask the table captain to come and collect the items and the worksheets before sitting down. She will tell the students they may begin once they have their worksheet and items. She will add that if a student finishes early to leave their worksheet on their desk until the end of the lesson and that they will be collected.
- While the students are working She will be walking around the classroom asking students what they have discovered, answering questions, and prompting if needed.
- The students will be given 10-15 minutes for this activity.

e) Independent Practice

- The student will answer with a written response, "What is a property?" during independent practice on the back of their Properties of Matter worksheet.

f) Closure of the Learning Experience

- At the end of the lesson the teacher will ask the students to tell her what they learned today, and how it connects to what they learned yesterday. She will ask five students to share their observations about the properties they recorded on their worksheet. Then will let the students know they will be working with properties of matter more during the week. She will ask table captains to place items on the back table and classroom passers to collect worksheet.

Accommodations, Adaptations, and Differentiation to Meet Individual Needs

Multiple Intelligences:

- Tactile: Students will manipulate real objects during the lesson and describe these objects properties.
- Visual: The students will read the white board and their worksheets, as well as see real objects that they will describe the properties of.
- Auditory: The student will listen to peers and the teacher discuss different properties of objects.
- All Learning Needs: Teacher will leave all writing on the white board to be referenced at any time.

Low Level Reader

- Student groups will be mixed reading ability.
- The teacher will read aloud writing on the white board and the worksheet directions.

English Language Learner:

- The teacher will accept student dictated answers as a correct response to the 'What is a property?' question.
- The student will work directly with a partner to fill in their Properties of Matter worksheet.

Other Health Impaired:

- Student will be given more time to respond to questions.
- Student may eat snack if needed.
- Student will work directly with peers to complete the Properties of Matter worksheet.
- If needed student will receive prompts by teacher.

Emotional Disability

- Student will be given more time to respond to questions.
- Student may sit in the library or at their desk if a break is needed.
- Student will work directly with peers to complete the Properties of Matter worksheet.
- If needed student will receive prompts by teacher.

Developmental Disability

- Student will be given more time to respond to questions.
- Student will work directly with peers to complete the Properties of Matter worksheet.
- If needed student will receive prompts by teacher.

Assessment/Evaluation

Formal: The teacher will use the chart on the Properties of Matter worksheet to assess whether the student was able to correctly identify 4/4 properties of the 5 items, and write the properties in the correct category.

Informal: The teacher will review if the student answered the question, "What is a property?" and supplied an answer similar to, "something you can observe with your senses" on their worksheet.

Materials:

Ball, Toothbrush, White Board, Expo Markers (3), Expo Marker eraser, Properties of Matter worksheets (27), Pencils (27), Foil Pie Pans (7), Pipe Cleaners (7), Popsicle Sticks (7), Rulers (7), Q-tips (7), Crayons (7)

Resources:

Cooney, T., Cummins, J., Flood, J., & Foots, B. K. (2008). *Illinois science*. Glenview, IL: Pearson Education.
Instructional Plan adapted from McKenna, B. (2016) *What Does It Matter*.

LEARNING EXPERIENCE 2 OF 3

Content Area/Discipline: Physical Science / Language arts
Lesson Title: “States of Matter”
Estimated Duration: 50 minutes
Where in the Lesson Segment does this learning experience occur?
(Check One) __Beginning _X_Middle ___End

Grade/Level: 2nd grade
Number of Students: 27
Structure(s) of grouping for the lesson:
(Check any that apply)
Whole Class __X___
Small Group ___X__
One-to-one ___X__
Other (specify) _____

Central Focus
Students will identify observable properties of matter which are color, shape, texture, and flexibility. Then will analyze observable properties and compare how matter’s shape is dependent on the container it is placed in. Through observation and experimentation, the student will identify if the matter is a solid, liquid, or gas.
Curriculum Standards
Next Generation Science Standards: • 2-PS1-1: Plan and conduct an investigation to describe and classify different kinds of materials by their observable properties. **Common Core Standards:** • ELA-LITERACY.SL.2.1: Participate in collaborative conversations with diverse partners about grade 2 topics and texts with peers and adults in small and larger groups. • ELA-LITERACY.W.2.8: Recall information from experiences or gather information from provided sources to answer a question. • ELA-LITERACY.W.2.7: Participate in shared research and writing projects (e.g., read a number of books on a single topic to produce a report; record science observations).
Measurable Behavioral Objectives
1. During Guided Practice the student will turn and talk with a partner and discuss if the picture they are holding is of a solid, liquid, or gas. 2. During Guided Practice the student will place their picture card in the hula hoop corresponding with their picture cards state of matter with 100% accuracy. 3. During Collaborative Learning the student will write down what state of matter was in containers A, B, and C in the results section of the Is it a solid, liquid, or gas? worksheet with 100% accuracy.
Language and Literacy/Academic Language
Reading: The student will read teachers writing on the states of matter on the white board and picture cards which display The Is it a solid, liquid, or gas? worksheet. Writing: The student will write a hypothesis as to what state of matter is in containers A, B, and C. Observable properties of the items in jars A, B, and C on their worksheet (color, shape, texture, flexibility) and a conclusion as to what state of matter was in each container. Speaking: The student will speak to their peers and to the teacher about different objects and the three states of matter (solid, liquid, and gas).

Listening: The student will listen to their peers and their teacher discuss observable properties of the three different states of matter.

Vocabulary: **Observe**: To notice matters characteristics. **Hypothesis**: What you think the answer to the question will be. **Properties**: A trait of matter that can be observed with the senses. **Matter**: Anything that takes up space and has weight. **Solid**: Has own shape. **Liquid**: Takes shape of container. **Gas**: Takes up all space in container. **Color**: Color of matter. **Shape**: Shape of matter. **Texture**: How matter feels. **Flexibility**: How easily matter bends without breaking.

Instruction

a) Anticipatory Set/Warm Up

- The teacher will discuss the student expectations and schedule. She will explain that today they will be first sitting on the library carpet in a circle, then going to their desk groups to do a science activity. Student expectations of voice level and participation will be discussed. She will call the students to the carpet by their group color names (Red, Green, Yellow, Blue). When all the students are seated she will place the items (water bottle half filled with water, pencil, and a deflated balloon) in the center of the circle. The teacher will tell the students to observe these items. She will pick two students to respond and will ask the rest of the students to use their 'agree' or 'disagree' hand signals. The teacher will acknowledge what the three items are and will ask, "Are these three items matter? How do you know?". She will choose two students to respond.

b) Modeling activity

- The teacher will pick up the three items and place the deflated balloon off to the side. She will hold the water bottle in one hand and the pencil in another and will say, "If I wanted to put the water in the bottle and the pencil into two different categories how could I do it? What could I call these two categories?". She will ask the students to turn and talk with a partner and will give the students 1 minute to discuss. She will choose several students to answer. She is not expecting the students to know the correct answer, just generate some ideas on how to categorize the water and the pencil. The teacher will continue, "Matter can be classified into three different categories(states). Scientists can see how an items shape changes based on the container it is in and will use that observation to classify matter."
- The teacher will pick up the pencil and ask the students to observe the pencil and name some of its properties. She will choose two to three students to respond then will take a container and drop the pencil inside and will ask, "Did the pencil keep its shape when I put it into the container or did it take the shape of the container?" She will look for the answer 'keep its shape'. She will explain that we call matter that keeps its shape a solid, and will write 'solid' on the white board and underneath it 'keeps shape'. She will remove the pencil from the container.
- The teacher will pick up the water bottle and ask the students to observe the water in the bottle and name some of its properties. She will choose two to three students to respond. She will then take the container and pour the water into it and will ask, "Did the water keep its same shape when I put it into the container or did it take the shape of the container?". She will explain that we call matter that changes its shape a liquid, and will write 'liquid' on the white board and underneath will write 'shape changes to container'.
- The teacher will say, "We have listed only two states of matter but there are three, what do you think the third one could be?" She will choose a couple students to answer. She will tell the students to take a deep breath in and breathe out. She will say, "The air we breathe in and out is matter, let's put some air into a container. How about we use the balloon this time". She will pick up the balloon and blow into it, expanding it in size, and will tie the balloon. She will say, "Did the air keep its shape or change to fit the size of the container?" She will choose students to answer and will look for the answer 'change size'. She will add, "This sounds a lot like a liquid doesn't it? Although it is different. Air is a gas state of matter

and a gas will take up all the space in the container it is put into". She will write 'gas' on the white board and will write underneath it 'changes shape to fill entire container'. The teacher will review the states of matter before moving on.

c) Guided Practice

- *Previously to this part of the lesson segment the teacher will have taken the mystery box and folded the 27 picture cards inside.* The teacher will remove the water, pencil, and balloon from the carpet area and will put three hula hoops in the center. Each hoop will be labeled as a solid, liquid, or gas. She will take the mystery box and tell the students she will pass it around the circle and they will only grab one piece of folded up paper. She will say when they pick out a piece of paper they can unfold it and see what the picture is and read the words. The teacher will explain that each student has a picture and a description of a type of matter on their picture card, and that they must decide if they have a solid, liquid, or gas. She will ask the students to turn and talk to their partner about what type of matter they have and if they have trouble reading the picture card their partner can help them read it. She will give the students 2 minutes to discuss. The teacher will bring the students attention back to the whole group saying, "class class". She will explain that they will be going around the circle to the left and each student will read their picture card aloud, say which type of matter it is, and put it into the corresponding hula hoop.

d) Collaborative Learning

- The teacher will present three Play-Doh jars labeled A, B, and C and the Is it a solid, liquid, or gas? worksheet. She will explain that they will be working together in their groups to do this activity. The teacher will explain that first they will examine the Play-Doh jars and may shake them, but do not open them yet. After examining a jar, they will write a hypothesis on what state of matter they think is in each container. She will ask, "Who can remind me what a hypothesis is?" and will choose a student to answer. Next she will say that after every student in your group has written their hypothesis you may open the containers and see if your hypothesis was correct. She will add that she wants each student to write the properties of the objects in the containers after they open the jars as well.
- The teacher will call the group color names one at a time and will ask the table captain to come and collect the items and the worksheets before sitting down. She will tell the students they may begin once they have their worksheet and items. She will add that if a student finishes early to leave the worksheet on their desk and to help the other members in their group with the worksheet. While the students are working She will be walking around the classroom asking students what they have discovered, answering questions, and prompting if needed. The students will be given 10-15 minutes for this activity.

e) Closure of the Learning Experience

- At the end of the lesson She will ask the students to tell her what they learned today, and how it connects to what they learned yesterday, and ask students about the results of their worksheet. She will ask all table captains to collect the items and place them on the back table and for the classroom collectors to collect the worksheet.

Accommodations, Adaptations, and Differentiation to Meet Individual Needs

Multiple Intelligences:

- Tactile: Students will manipulate real objects during the lesson and describe these objects properties and what state of matter they are classified as.
- Visual: The students will read what the teacher writes on the white board and will see real objects to be classified as a state of matter, and their picture cards.
- Auditory: The student will listen to students and the teacher discuss different states of matter.
- All Learning Needs: Teacher will leave all writing on the white board to be referenced at any time.

Low Level Reader

- Student groups will be mixed reading ability.

- Teacher will offer support of reading picture cards.
- Teacher will read aloud writing on the white board and the worksheet directions.

English Language Learner:
- The teacher will accept student dictated answers as a correct response to the questions on the worksheet.
- The student will work directly with a partner to fill in their worksheet.

Other Health Impaired:
- Student may eat snack if needed.
- Student may be given more prompting by teacher if needed.
- Student will work directly with peers to complete the worksheet.
- If needed student will receive prompts by teacher.

Emotional Disability
- Student will be given more time to respond to questions.
- Student may sit in the 'quiet space' (library) if a break is needed.
- Student will work directly with peers to complete the worksheet.
- If needed student will receive prompts by teacher.

Developmental Disability
- Student will be given more time to respond to questions.
- Student will work directly with peers to complete the worksheet.
- If needed student will receive prompts by teacher.

Assessment/Evaluation

Formal: The teacher will use the Is it a solid, liquid, or gas? Worksheet to assess if the student correctly identified/wrote the matter in each jar in the results section. Phonetic spelling is acceptable.

Informal: The teacher will use a checklist to assess whether the student was able to place their picture card in the correct hula hoop on the first try.

Materials:

Expo markers (3), White board, Expo marker eraser, Purple pencil, Deflated balloon, Water bottle half filled with water, Clear container, Mystery box, Picture cards (27), Hula hoops (3), Liquid, Solid, Gas labels for Hula hoops (3), Play-Doh jar labeled A filled with green water (7), Play-Doh Jar labeled B filled with air (7), Play-Doh Jar labeled C with quarter inside (7), Is it a solid, liquid, or gas? Worksheet (27), Pencils (27), Green food coloring

Resources:

Cooney, T., Cummins, J., Flood, J., & Foots, B. K. (2008). *Illinois science*. Glenview, IL: Pearson Education

Instructional Plan adapted from Collins, M.(2015) *Is a Solid, Liquid, or Gas?*
Resource used from Kuftic, J.(2013) *States of Matter Picture Cards*.

LEARNING EXPERIENCE 3 OF 3

Content Area/Discipline: Physical Science / Language arts
Lesson Title: “Mystery Matter Investigation”
Estimated Duration: 1 hour 10 minutes
Where in the Lesson Segment does this learning experience occur?
(Check One) __Beginning __Middle __X_End

Grade/Level: 2nd grade
Number of Students: 27
Structure(s) of grouping for the lesson:
(Check any that apply)
Whole Class __X___
Small Group ___X__
One-to-one __X___
Other (specify) _____

Central Focus
Students will identify observable properties of matter which are color, shape, texture, and flexibility. Then will analyze observable properties and compare how matter’s shape is dependent on the container it is placed in. Through observation and experimentation, the student will identify if the matter is a solid, liquid, or gas.
Curriculum Standards
Next Generation Science Standards: • 2-PS1-1: Plan and conduct an investigation to describe and classify different kinds of materials by their observable properties. **Common Core Standards:** • ELA-LITERACY.SL.2.1: Participate in collaborative conversations with diverse partners about grade 2 topics and texts with peers and adults in small and larger group. • ELA-LITERACY.W.2.7: Participate in shared research and writing projects (e.g., read a number of books on a single topic to produce a report; record science observations). • ELA-LITERACY.W.2.8: Recall information from experiences or gather information from provided sources to answer a question.
Measurable Behavioral Objectives
1. During the Anticipatory Set the student will discuss with a partner which item is a solid and which is a liquid and how they can tell for 1 minute. 2. During Collaborative learning the student complete 4/4 investigations by completing the writing prompts by writing “yes” or “no” with the Oobleck on their Oobleck Investigation worksheet. 3. During Independent Practice the student will answer the question, “Is Oobleck a liquid or a solid?” in two or more complete sentences. The student will provide 1 example of evidence to support their conclusion and state whether the Oobleck was liquid or solid in writing on their Oobleck Investigation worksheet.
Language and Literacy/Academic Language
Reading: The student will read teachers writing on matter investigations on the white board and the Oobleck Investigation worksheet.

Writing: The student will write explanations to their investigations on the Oobleck Investigation worksheet. An answer to the question, “Is Oobleck a liquid or a solid?” with supporting evidence on their Oobleck Investigation worksheet.

Speaking: The student will speak to their teacher and their peers about liquids, solids, and the Oobleck.

Listening: The student will listen to their teacher talk about liquids, solids, and properties of both. To their peers discuss how to tell a liquid from a solid and what state of matter the Oobleck is in.

Vocabulary: **Observe**: To notice matters characteristics. **Hypothesis**: What you think the answer to the question will be. **Investigation**: Tests you do in an experiment. **Properties**: A trait of matter that can be observed with the senses. **Matter**: Anything that takes up space and has weight. **Solid**: Has own shape. **Liquid**: Takes shape of container. **Color**: Color of item. **Shape**: Shape of matter. **Texture**: How matter feels. **Flexibility**: How easily matter bends without breaking. **Oobleck**: A substance that contains properties of both a liquid and a solid.

Instruction

g) Anticipatory Set/Warm up

- Before the start of this lesson the teacher will have read ‘Seuss, T. (2014). *Bartholomew and the Oobleck*. New York: Random House.’ to the students. The teacher will have prepared 13 Ziploc bags of ‘Oobleck’.
- For the start of this lesson segment the teacher will explain the student expectations and schedule. She will say that today they will be staying at their desk groups and completing a science investigation. The teacher will discuss the expectations of the students for voice level and participation.
- The teacher will display two items to the students, a crayon and a bottle half filled with water. Then she will ask, “Which item is a solid and which is a liquid? How do you know which is which?”. She will have the students discuss the question with their partners. The students will be given 2 minutes for discussion.

h) Modeling activity:

- The teacher will choose one or two students to answer what state of matter the two items are in and how they can tell. She will then write solid on the board and liquid with columns underneath both. Then she will ask, “What are some ways we can tell an object is a liquid or liquid?”. She will choose some students to answer and write their answers on the board. She will remind the students to use the ‘agree’ and ‘disagree’ hand signals to indicate how they feel about each answer. If the teacher notices a student disagreeing she may ask them why they disagree with the speaker.

i) Guided Practice:

- The teacher will say, “There are four investigations to see if an object is a liquid or solid.” Before the teacher moves on she will ask the students what investigation means, and may give them a definition if there is confusion. The teacher will write 1. Pour Test on the white board. The teacher will ask, “What do you think this means?” and will choose a couple students to answer. The teacher will write next to it ‘can it be poured smoothly?’. The teacher will choose two students to come up. The teacher will place two items (crayon and bottle of water) on a small table and will have one student pour the crayon into a container and the other student the water and will ask, “Which one poured smoothly?” and will look for the answer ‘water’. The teacher will thank the students and ask them to sit down. She will ask, “Do you think all liquids will pour smoothly?” and will look for the answer ‘yes’. The teacher will write liquid on the board.
- The teacher will say, “The second test is the shape test.” And will write 2. Shape Test on the board. She will ask a student what they think it means and will write ‘Does it change to the shape of the container?’ next to it on the board. She will hold up the containers and ask the students which item changed its shape and will look for the answer ‘liquid’. The teacher will write liquid on the board.
- The teacher will say, “The third test is the push test.” And will write 3. Push Test on the board. She will ask a student what they think it means and will write ‘can it be pushed?’ on the board. She will have two

students come up and push the items in their containers and decide which item can be pushed (crayon;solid) and will state all solids can be pushed with your hand. She will write solid on the board.

- The teacher will say, “The fourth test is the pick-up test.” And will write 2. Pick- up Test on the board. She will again ask a student what they think it means and will write ‘can it be picked up?’ next to it on the board. She will have two students come up and attempt to pick up the water and crayon out of the containers and decide that only the crayon (solid) can be picked up all the way out of the container. The teacher will write solid on the board.
- The teacher will quickly review all four investigation methods.
- The teacher will ask the students, “What book have we been reading together on the carpet?” and will choose a student to answer. The answer is *Bartholomew and the Oobleck.* The teacher will ask, “The green substance that fell from the sky, Oobleck, do you think it is a liquid or a solid?” she will have them discuss with a partner for 20 seconds and will choose a few students to answer.

j) Collaborative Learning:

- The teacher will say, “I have brought all of you some Oobleck to do our four investigations with.“and will show the students the bags of Oobleck.
- The teacher will show the students the Oobleck Investigation worksheet. The teacher will explain the steps of the investigation. First they must make a hypothesis as to what they think the Oobleck is (solid or liquid). Next they will complete the four investigations with the materials. Then they will list the Oobleck’s properties, and last they will use the evidence they have gathered to write a conclusion on if Oobleck is a solid or liquid.
- The teacher will ask the students to keep the Oobleck in its container when they are doing their investigations she will ask, “Why do you think it is important to keep the Oobleck in the containers?”. The teacher will look for the answers that ‘it is messy’ and will remind them that we never put science materials into our mouths.
- The teacher will also tell the students that they can use the wet wipes placed at their table to clean off their hands at any time.
- The teacher will have classroom passers pass out the worksheet and she will ask the students to write their hypothesis. Next the teacher will walk around and pass out the materials.
- While the students are working the teacher will be walking around the classroom asking students what they have discovered, answering questions, and prompting if needed.

k) Independent Practice:

- For Independent Practice the student will answer the question “Is Oobleck a liquid or a solid?” on the Oobleck Investigation worksheet in writing.

l) Closure of the Learning Experience

- The teacher will ask the students to place their materials on the back table then clean their hands if they have not done so already. She will ask them to keep their worksheets on their desk. The teacher will review the what they did today and ask students what their conclusions were about Oobleck.

Accommodations, Adaptations, and Differentiation to Meet Individual Needs

Multiple Intelligences:

- Tactile: Students will manipulate the Oobleck with their hands.
- Visual: The students will read what the teacher writes on the white board and will read their worksheet. The students will see their peers handling real representations of matter (Oobleck, the crayons, and water).
- Auditory: The student will listen to students and the teacher discuss liquids, solids, and properties of matter.
- All Learning Needs: Teacher will leave all writing on the white board to be referenced at any time.

Low Level Reader

- Student groups will be mixed reading ability and the student will work together with a partner to read the worksheet questions.
- The teacher will audibly say what she writes on the white board.

English Language Learner:
- The teacher will accept student dictated answers as a correct response to the questions on the worksheet.
- The student will work directly with a partner to fill in their Oobleck Investigation worksheet.

Other Healthy Impaired:
- Student will be given more time to respond to questions.
- Student may eat snack if needed.
- Student may be given more prompting by teacher if needed.
- Student will work directly with a partner to complete the Oobleck Investigation worksheet.

Emotional Disability
- Student will be given more time to respond to questions.
- Student may sit in the 'quiet space' (library) if a break is needed.
- Student may be given more prompting by teacher if needed.
- Student will work directly with partner to complete the Oobleck Investigation worksheet.

Developmental Disability
- Student will be given more time to respond to questions.
- Student may be given more prompting by teacher.
- Student will work directly with partner to complete the Oobleck Investigation worksheet.

Assessment/Evaluation

Formal: The teacher will use a created rubric to assess the students writing on the question "Is Oobleck a solid or liquid?". The teacher will be looking for if students wrote 1 or more accurate evidence claims to support their answer.

Informal: The teacher will review if the student completed all investigations on their Oobleck Investigation worksheet, by writing "yes" or "no" under the prompts.

Materials:

Seuss, T. (2014). *Bartholomew and the Oobleck*. New York: Random House, Corn starch box, Green water color, Ziploc bags (13), Ziploc bags of Oobleck (13), White board, Expo marker (3), Expo marker eraser, Crayon, Water bottle half filled with water, Clear containers (2), Oobleck Investigation worksheet (27), Pencils (27), Foil pie pan (13), Wet wipe containers (2)

Resources:

Instructional Plan adapted from Hoover, R. (2015) *Mystery Matter*.

Instructional Plan adapted from Theisen, C. (2014, September 23). *Investigating Matter, Solid or Liquid: Barthlomew and the Oobleck*.