

Jean Turney, 3rd Grade, Greenville Elementary
Christy Tayler, 2nd Grade, Signal Hill Elementary
Lorri Dyson, 2nd Grade, Signal Hill Elementary

Grade 2 Matter SOL 2.3

Key Science Content/Concepts:

Students will investigate and understand basic properties of solids, liquids and gases. Key concepts include:

1. Identification of distinguishing characteristics of solids, liquids and gases
2. Measurement of the mass and volumes of solids and liquids
3. Changes in phases of matter with addition or removal of energy

Best learning activities/curricula: how/what students will do.

1. Comparison charts of solids, liquids, gases by making a flip book. Write definition of each and draw pictures for each.
2. Role play the solid, liquid, and gas game by moving themselves as molecules.
3. Use Kidspiration to increase and reduce heat while observing changes in states of matter.
4. Sing the Matter Song.
5. Complete activities in Interactive Notebook.
6. Complete a foldable with definitions and examples to be used as a study guide.
7. Make flashcards to study vocabulary.

Best Teaching Methods: how/what teacher will do:

1. Introduce concept of matter with read aloud.
2. Modeling characteristics with a balloon, yardstick, yarn to demonstrate that gas has weight.
3. Pour same amount of colored liquid into varying shape containers.
4. Demonstrate the unique qualities of water by filling a container with water, freeze it to demonstrate liquid expands to become a solid and then contracts to become a liquid again.

5. Visually demonstrate the vocabulary words expand and contract by using a rubber band.

Cross curricular SOL's: Identify SOL's and how curriculum is integrated.

Reading/Writing:

1. Read trade books during guided reading. Identify elements of NF such as titles, headings, graphs, and charts. SOL 2.10 (a-d)
2. Write facts from trade books about states of matter identified during guided reading. SOL 2.12 a-c, 2.13 a-d)
3. Make student generated NF books on matter to include Information Management Process (IMP) SOL 2.10 (a-d)

Social Studies:

1. Read Aloud George Washington Carver biography. Discuss the scientist's use of peanut and sweet potatoes (solids) to make liquids such as oils and soaps. SOL 1.2 Review
2. During discussion of natural, capital, and human resources, list the resources and then label each as Solids, Liquids, and Gases. SOL 2.7

Math:

1. Use customary and metric measurement tools to determine length, weight, and volume of solids and liquids, and gases. SOL 2.11 a, b, c
2. Use inequalities to compare weight of solids, liquids, and gases. SOL 2.4 (a); 2.5; 2.8

Vertical Team Objectives: How and what the team does to support the process.

Plan unit together. Share materials. Contact outside speaker (Mr. Hicks). Identify Smart Board Activities

Resources: What resources the team has and what resources are needed.

Books:

Matter All Around Us

Solid, Liquids, and Gases by Delores Bouffard
What is Matter? By Don Curry
Computer: Kidspiration and Smartboard Activities

Videos: United Streaming

Timeframe:

4 weeks
Follow county pacing guide for sequence.

Nature and Form of Assessment:

1. Interactive Achievement – multiple choice quizzes
2. Foldables Rubric
3. Vocabulary Quizzes
4. Interactive Notebook Rubric
5. Measurement Centers
6. Written responses to NF books

3rd Grade Matter SOL 3.3 (a-c)

Key Content Concepts:

The students will investigate and understand that objects are made of materials that can be described by their physical properties. Key concepts include:

- a. Objects are made of one or more materials;
- b. Physical properties remain the same as the material is changed in visible size and;
- c. Visible physical changes are identified.

Best Learning Activities/curricula: how/what students will do:

1. Listen to read alouds about Solids, Liquids, and Gases.
2. Watch demonstrations of states of matter on Smartboard and view videos.
3. Use Playdough to make solids. Then use playdough to demonstrate physical changes to solid matter.
4. Participate in groups to form solids, liquids, and gases using playdough, different shape containers, and balloons.

5. Experiment with Oobleck after reading Bartholomew and the Oobleck
6. Sing the Matter Song (Oh Dear, What Can This Matter Be?) while watching U-tube Video
7. Make Vocabulary Flashcards.

Best Teaching Methods: how/what teacher will do:

1. Give out an anticipation guide, ask and answer questions. Discuss background and previous knowledge.
2. Read Aloud Bartholomew and the Oobleck. Discuss the properties of the Oobleck. Discuss properties of solids, liquids, and gases. As the question, what is Oobleck? Solid? Liquid? Gas? Conduct the experiment, make Oobleck.
3. Demonstrate discrepant event: place a glass of soda with ice in it on a table, ask students to observe and then describe observation in Interactive Notebook. Discuss and identify solid (ice); liquid (soda) and gas (bubbles of CO₂)
4. Demonstrate discrepant event: put Alka Seltzer in a film container with 5 mm of water ; let it explode. Ask students to write about what happened. Gas expanded during chemical reaction and filled the container.
5. Chart the characteristics of Solids, Liquids, and Gases.
6. Draw Venn Diagram comparing the properties of Solids, Liquids, and Gases.
7. Use Think Aloud Strategies during interactive note reading.
8. Use textbook to write 3-2-1
9. Conduct a Disappearing Liquid Experiment where students time how long it take for a liquid to disappear (evaporate) on their palms.

Cross Curricular SOLs: identify SOLs and how curriculum is integrated.

Reading/Writing

1. Write a 5 sentence paragraph with a topic sentence, supporting details, and a conclusion for Solids, Liquids, and Gases. SOL 3.10

2. Write directions for how to make Oobleck, draw a cartoon or graphic book that demonstrates an understanding of the process for making Oobleck. SOL 3.10, 3.11
3. Read NF tradebooks about Solids, Liquids, and Gases. Demonstrate comprehension by the taking the AR test. SOL 3.6 e,f

Math

1. Measure and combine the solid and liquid ingredients to make Oobleck. SOL 3.9 b,c
2. Time how long it takes for the liquid to evaporate, graph the results. SOL 3.17a

Social Studies

1. Read the Lorax: identify which natural resources are solids, liquids, and gases. SOL 3.7
2. Play the Economic Choice game. Identify which choices are solids, liquids, and gases. SOL 3.9

Vertical Team Objectives: how and what the team does to support the process

The team will plan together. Teachers cooperate to divide students into cooperative groups and rotate them through different science activities with different teachers. Team plan discrepant events. Plan computer lessons with computer lab teacher.

Resources: what resources the team has and what resources are needed:

Have:

Read Aloud Books

Materials for Discrepant Events

Safari/United Streaming Movie Clips

Interactive Notes

Anticipation Guides

Need:

Guest Speaker

Materials for Oobleck

Playdough

Straws

Timeframe: Duration and sequence

2 weeks

Follow pacing guide

Assessment:

Interactive Notebook Responses

Anticipation Guides

Writing Rubrics for written responses

Non Fiction Comprehension and AR Tests

Senteo Multiple Choice Quiz