

This unit is written in English so that it is accessible to all US educators during this institute. However, we advocate that all lessons and units that will be conducted in Spanish be written in Spanish.

GRADE LEVEL: 2nd Grade

Content Big Idea: I want my students to understand that

1. Matter can be classified by its observable properties.
For example, matter can be rough or smooth, opaque or transparent.
2. Adding or removing energy changes the states of matter.
For example, removing energy from a gas such as air, causes it to change into a liquid like water, while adding energy to a solid such as ice, causes it to melt into a liquid like water.

Literacy Big Idea: I want my students to understand that 1) when reading informational texts it is important to 2) describe how reasons support specific points the author makes in a text 3) in order to write a persuasive letter about 4) how change in weather causes matter to change properties and the impact this has on the animals of a given area.

Building Oracy and Background Knowledge

- Strategies – phrases and sentence prompts used:
- Adapted Reader's Theater (ART) with the following words:
 - *Los estados de la materia*
 - *Un gas*
 - *Un sólido*
 - *Un líquido*
 - *Se comienza*
 - *Enfriar*
 - *Calentar*
 - *Se convierte*
 - *Se llama*
 - *Evaporación*
 - *Condensación*
 - *Fusión*
 - *Congelación*
- Closed Sort
- Language Experience Approach (LEA) – based on the Total Physical Response (TPR) and Adapted Reader's Theater (ART) learning.

Formative Assessment

Reading Comprehension

Strategies and balanced literacy routines include:

- Mini Lessons
- Say Something for Reading Comprehension with sentence prompts
- Small group instruction (strategy groups)
- Independent Reading with the Write Something Strategy
- Conferring

Standards:

CCSS.ELA-LITERACY.RI.2.1 - Ask and answer such questions as *who*, *what*, *where*, *when*, *why*, and *how* to demonstrate understanding of key details in a text.

CCSS.ELA-LITERACY.RI.2.5 - Know and use various text features (e.g., captions, bold print, subheadings, glossaries, indexes, electronic menus, icons) to locate key facts or information in a text efficiently.

CCSS.ELA-LITERACY.RI.2.8 - Identify the main purpose of a text, including what the author wants to answer, explain, or describe.

CCSS.ELA-LITERACY.RI.2.10 - By the end of year, read and comprehend informational texts, including history/social studies, science, and technical texts, in the grades 2-3 text complexity band proficiently, with scaffolding as needed at the high end of the range.

Writing

Strategies and balanced literacy routines

- Mini Lessons
- Strategic pairing in order to “Talk It Out with Your Writing Partner”
- Language Experience Approach (LEA)
- Independent Writing
- Conferring
- Small Group Instruction

Content Area Instruction:

Strategies and routines include:

- Conducting experiments and investigations where students can classify materials by their observable properties
- Conducting experiments and investigations that allow students to observe matter change between the different states, and that some changes caused by heating or cooling can be reversed while some cannot be reversed
- Go on field trips to make observations of the different plants and animals that can be found in a given habitat
- Obtain information by watching videos and reading texts to identify where water is found on Earth and that it can be either a solid or a liquid
- With the information gained through observations and investigations, develop a model to represent the shapes and kinds of land and bodies of water in a given area.

Standards:

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

2-PS1-4. Construct an argument with evidence that some changes caused by heating or cooling can be reversed and some cannot.

2-LS4-1. Make observations of plants and animals to compare the diversity of life in different habitats.

2-ESS2-2. Develop a model to represent the shapes and kinds of land and bodies of water in an area.

Standards:**CCSS.ELA-LITERACY.W.2.2**

Write informative/explanatory texts in which they introduce a topic, use facts and definitions to develop points, and provide a concluding statement or section.

CCSS.ELA-LITERACY.W.2.5

With guidance and support from adults and peers, focus on a topic and strengthen writing as needed by revising and editing.

CCSS.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).

2-ESS2-3. Obtain information to identify where water is found on Earth and that it can be solid or liquid.

K-2-ETS1-1. Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.

Word Study and Fluency

- Areas of word study to be addressed:
 - Decoding and fluency
 - Accents
 - Syllable segmentation

Standards:

CCSS.ELA-LITERACY.RF. 2.3. - *Conocen y aplican la fonética y las destrezas de análisis de palabras a nivel de grado, en la decodificación de palabras.*

CCSS.ELA-LITERACY.RF. 2.3.G - *Identifican la última, penúltima y antepenúltima sílaba en palabras multisilábicas y reconocen en cuál sílaba cae el acento tónico.*

CCSS.ELA-LITERACY.RF. 2.3.H- *Clasifican palabras de acuerdo con su acento tónico en categorías de aguda, grave y esdrújula para aplicar las reglas ortográficas del uso del acento escrito.*

1. *Cuentan el número de sílabas.*
2. *Nombran la sílaba que lleva el énfasis (última, penúltima, antepenúltima).*
3. *Categorizan la palabra según su acento tónico (aguda, grave, esdrújula).*

- *Evaporación (5 sílabas – e-va-por-a-ción, la sílaba tónica es -ción que también es la última sílaba, la sílaba ción contiene un diptongo formado por el grupo vocálico **ió**; es una palabra aguda)*
- *Condensación (4 sílabas – con-den-sa-ción, la sílaba tónica es -ción que también es la última sílaba, la sílaba ción contiene un diptongo formado por el grupo vocálico **ió**; es una palabra aguda)*
- *Líquido (3 sílabas – lí-qui-do, la sílaba tónica es lí que también es la antepenúltima sílaba, la palabra es esdrújula)*
- *Sólido (3 sílabas – só-li-do, la sílaba tónica es só que también es la antepenúltima sílaba, la palabra es esdrújula)*

- *Comienza (3 sílabas – co-mien-za, la sílaba tónica es mien que también es la penúltima sílaba, la sílaba mien contiene un diptongo formado por el grupo vocálico ie; es una palabra grave)*

Summative Assessment: After students have conducted experiments, investigations and read informational texts about the states of matter to determine the properties of matter and what caused them to change states, students will write a persuasive letter to the principal that explains the potential hazards that winter weather poses on the school sidewalks. In the letter, students will also propose at least one way the school sidewalks can be kept safe for children during the winter months and will provide an explanation of how this proposal will minimize its effects on the other animals found in the area.

Bridge Transfer (Side by Side with Pictures)

- **Review the Adapted Reader's Theater (ART) with the key vocabulary from the beginning of the unit (throughout the unit, as students gathered information, this ART may have been changed and/or elongated).**
- **Ask students to discuss with a partner the important words they learned throughout the unit (in Spanish).**
- **Elicit and list the important words that students generate in green on the left side of a t-chart.**
- **Using the same movements and pictures, show students how to say the words in English.**
- **Have students practice the words with the movements in English.**
- **List the English words that students generate (based on what the teacher modeled) in blue next to the corresponding Spanish word**

Extension (includes: Listening, Speaking, Reading, and Writing)

1. Students will engage in a guessing game. To practice, the teacher will post pictures of students engaged in some of the experiments and investigations of the unit.
2. The teacher will read a description of that picture. Students will look for and identify the corresponding picture.
3. Student pairs will create their own descriptions (using terminology of the unit such as experiment, investigation, states of matter, gas, solid, liquid, begins to cool,

Bridge: Contrastive Analysis

While the teacher plans a specific metalinguistic teaching point in advance of the Bridge, the teacher also accepts and highlights other areas of metalinguistics noticed by the students.

- Ask the students what they notice that is similar in the two languages. Mark those similarities with a marker.
- Next ask the students what they notice to be different in the two languages. Again, mark those differences with a marker.
- Create a metalinguistic chart based on those similarities or differences.

Possible Contrastive Analysis/Metalinguistic Foci:

Phonology

- The same rules for “hard and “soft” ‘c’ apply in both Spanish and English
- The letter ‘s’ in English makes more than one sound (/s/=states; /sh/=fusion; /z/=begins) while the letter s in Spanish only makes one sound = /s/.

Anticipated Bridge Chart:

Español	English
<i>Los estados de la materia</i>	The States of matter
<i>Un gas</i>	A gas
<i>Un sólido</i>	A solid
<i>Un líquido</i>	A liquid
<i>Se comienza</i>	Begins to
<i>Enfriar</i>	Cool
<i>Calentar</i>	Heat
<i>Se convierte</i>	Turns into
<i>Se llama</i>	Is called
<i>Evaporación</i>	Evaporation
<i>Condensación</i>	Condensation
<i>Fusión</i>	Fusion or Melting
<i>Congelación</i>	Freezing

heat, turns into, is called, habitat, animals, diversity etc.) of other pictures taken throughout the unit (either of experiments, habitats, or other pictures).

4. Pairs will read their description to other students who will guess which picture pertains to their description.

5. These descriptions will be collected in a class book with the corresponding pictures to be read by the second graders to a Kindergarten or first grade class.

Morphology

- There are words in Spanish and English that are spelled very similarly, sound similarly, and mean the same thing. These words are called cognates. Often there are morphological patterns in cognates (-ción - tion).

Sólido = solid

Líquido = liquid

Evaporación = evaporation

Condensación = condensation

CCSS.ELA-LITERACY.L.2.1

Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.

CCSS.ELA-LITERACY.L.2.2

Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.

Syntax/Grammar

- The article in Spanish is written in front of the noun but not necessary in English
 - el sólido* → solid
 - los sólidos* → solids
- In English, the first word and every following word (except for articles and coordinating conjunctions fewer than 5 letters) is capitalized whereas in Spanish, only the first letter of a title is capitalized.
 - Los estados de la materia* → The States of Matter