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| Lesson Title | Water is Water | Planned Teaching Date | |
| Learning Objective | | | |
| There are different states of matter. Temperature is a factor that changes water's state of matter. | | | |
| Essential Question (s) | | | |
| In what ways does water in different states vary (qualitative and quantitative)? | | | |
| Materials | | | |
| Flags Data sheets and Journals Books | | Thermometers Ice Cubes | |
| Bloom's Level and Question(s) or DOK | | | |
| Identify patterns in data (Bloom's levels 1 & 3: knowledge & application) Make Observations (Bloom's level 1) Collect Data (Bloom's level 1) Draw Conclusions/ Analyze data (Bloom's levels 3 & 4) | | | |
| Reading, Writing, & Science Literacy Connections | | Standards Emphasis | |
| <u>National Geographic Book</u> <i>All Kinds of Snow</i> | | VA Sci 2018: 2.3 (phases of matter), 2.6 (weather types & measurement) NGSS 2-ESS2-3 Earth's Systems | |
| <u>Supplementary Book</u> <i>Water is Water</i> Video of Reading: Water is Water Sung as a song: Water is Water | | VA Sci 2018: 2.3 (phases of matter), 2.7 (weather patterns & seasons) VA Social Studies 2023: 2.13 (natural resources: types & choices about consumption) | |
| <u>Outdoor Activity (connected to the readings)</u> States of Matter: Water or Air temperature over time | | VA Sci 2018: 2.1 (science & engineering practices), 2.3 (phases of matter), 2.6 (weather types & measurement) | |
| Writing Activity- Project Learning Tree: Poet-Tree (change it to observe and journal about a state of matter of water) | | VA English 2024: 2.RV (reading & vocabulary), 2.RI (reading informational texts) | |
| Differentiation | | | |
| Could alternatively use Freezing and Melting from https://drive.google.com/drive/u/0/folders/1Ntk2bmRk_IAdauBhbI2dBp-Xw1V-kuhA page 76 | | | |

| Assessment | Vocabulary |
|---|--|
| <p>Formative- Can students use their senses to identify different states of matter out-of-doors?</p> <p>Summative- Students record and explain the different states of matter for water.</p> | <p>Liquid, solid, gas; weather, seasons, types of precipitation (rain, snow, ice-sleet & hail), thermometer, rain gauge, weather vane; need vs. want, natural resource</p> |
| Hook/Engage | |
| <p>Ice Cube Hand: Hold an ice cube in your hand. Ask: What is in my hand? What state of matter is this? What will happen if I hold this ice cube in my hand for 20 minutes? (It will turn to water.) What happened? (Change the state of matter because of temperature.)</p> | |
| Guided Lesson/Instructional Strategy | |
| <ul style="list-style-type: none"> - Read <i>All Kinds of Snow</i> - As we read, in your journal, record the adjectives used when describing the state of matter featured on pages 7, 8, and 9. <p>NOTE: We will measure air temperature outside because it is August. This activity is intended for use in winter as a great way to get kids outside exploring in the winter season!</p> <ul style="list-style-type: none"> - Outside: (Taken from "Feel the Heat" in Picture Perfect) <ul style="list-style-type: none"> - Ask: We are going to take the temperature at five different locations. Which surface do you predict will be the warmest? Which is the coolest? Discuss with a partner. Then have a pair share aloud. Explain your reasoning. - Do: There are five flagged locations. Go to each location, find the thermometer, and read the temperature. Record the location, temperature, if it is sunny or shady, and any other observations on your data sheet. - Share and discuss: What patterns do you notice when you look at your data? - What can we do with this data? - Now I want you to graph the data you collected - If time - poet tree 4 nouns; 3 adjectives; 2 verbs; 1 noun <p>For the winter season: Look for water outside (in a puddle or place a shallow container of water outside the classroom). Each day for two weeks (wait for freezing temps), record the temperature of the water and the state of matter on the water calendar (see page 4).</p> | |
| <p>Technology/Computer Science</p> <p>Create graphs using computers.</p> | <p>Expected student products or learning objectives met</p> <ul style="list-style-type: none"> -Mandatory: -Optional/preferred: |
| Reflection/Notes | Supporting Resources |

Alt ideas- Math - explore patterns in snow/geometry: are there other frozen water types you see/feel, touch in winter?

Set up an experiment to test freezing water outside at different temperatures, depths, and lengths of time.

[Recess at 20 Below](#) by Cindy Aillaud

VA Sci 2018: K.5, 1.7, 2.6, 2.7

Social Studies: 3.13

Comparing Temperatures

Directions. Write the name of each location on the chart under "location".

You will measure the temperature at each location.

Record the temperatures in your chart.

| Location | Temperature (°F) | Sun or Shade |
|----------|------------------|--------------|
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Circle the highest temperatures. Why do you think it was the highest?
