



Water Year Round

2nd Grade



Next Gen Science Standards

PS1.A: Structure and Properties of Matter ▪ Different kinds of matter exist and many of them can be either solid or liquid, depending on temperature. Matter can be described and classified by its observable properties(2PS1-1)

LS2.A: Interdependent Relationships in Ecosystems ▪ Plants depend on water and light to grow. (2-LS2-1)

ESS2.C: The Roles of Water in Earth’s Surface Processes ▪ Water is found in the ocean, rivers, lakes, and ponds. Water exists as solid ice and in liquid form. (2-ESS2-3)

NM Science Standards and Benchmarks

II.I.I 1.1. Observe that the three states of matter (i.e., solids, liquids, and gases) have different properties (e.g., water can be liquid, ice, or steam).

NM Social Studies Standards and Benchmarks

Geography II.II-C.1.1 Identify examples of and uses for natural resources in the community, state, and nation.

Geography II.II-F.1.1 Describe the role of resources in daily life.

Econ IV.IV – A. 1.1 Understand how resources are limited and varied in meeting human needs.

Econ IV.IV – A. 1.2 Define and differentiate between needs and wants.

Summary:

Students learn about the three phases of water: solid, liquid, and gas. They see examples of water in each phase and use instruments to represent them as they try to solve the riddle, “Which Season Am I?” Students discuss how all living things need water (plants, animals, and people) and how water is limited here in the desert, so it is up to each of us to conserve it.

Grade: Second

Subject Areas: Science, Social Studies

Activity Materials:

- Easel to display book
- Book of riddles
- Poster of seasons
- 8 rainsticks
- 16 boomwhackers
- 8 sets of clackers

Warm Up:

Go over the three phases of water with students as you teach them how to sing the chorus to the Solid, Liquid, and Gas song. Use hand signals for each (solid = stack forearms, liquid = hands like waves, gas = fingers move fast). Use examples of water in each stage. Where do we find liquid water, solid water, and gas water or water vapor? Explain vocabulary such as "Melt" "Evaporate," "Condense."

Introduce song, using the first verse as students make the motions and say the word when they hear a phase of water in the song. The verse is:

My ice water's missing this morning.

There's no SOLID ice in my glass.

It melted and became a LIQUID.

Then evaporated to GAS!

Activity Part I:

Explain that you are going to try to solve the riddle, WHICH SEASON AM I? Show the poster and go over the seasons. Do they think that the way we use water might change in different seasons? Could they solve the riddle, "What Season Am I?" using only clues about the three phases of water?

Activity Part II:

Put the students into 3 lines of 8 or fewer. Explain that each row will receive an instrument to make the sound of one phase of water. Explain that misusing the instruments means they will have to become the audience and will have to give up their instrument. Show "Stop" with your hand and voice.

Hand out the rainsticks first. Show them how to use the rainstick (don't flip fast or you can't hear anything). Say "liquid" together, then ask them to pick up their rainstick and make the sound while you count out five seconds on your fingers. Now do the same with the clackers. Ask them to click together and then with a neighbor to get the 2 syllables of solid. Count out five seconds on your fingers as they say "solid" five times. Lastly, hand out the boomwhackers. Say "Gas." Ask them to play them softly and hard. Ask them to play in-between loudness while you count seconds with your five fingers.

Activity Part III:

Read the first clue of the Riddle Book. Draw attention to the fact that anything in blue is water.

- Whenever you see water from a faucet or hose, ask, "Where did that water come from?"
- When there is a plant, ask them why the person is watering the plant. Emphasize that plants need water to grow, as do all living things.

Go over the word at the top. Then ask the question, "Which phase of water is this?" Ask them to all say the phase together. Ask that group to pick up their instruments and play for 5 seconds. Count it off on your fingers. Ask students to fill in the blank with the correct season as your read the final clue for that season.

Explain that students should pass their instrument to the group behind them (or on their left) while the final group sends their instrument forward (or to the right). If you are in a circle, then ask students to move clockwise.

Now do the next 2 seasons, the same way you did the first season.

Afterwards, ask students to change instruments again, or move clockwise, as they did before. You will do the last season using this instrument.

When you have finished the book, tell the students that you are going to sing the solid, liquid, gas song once more, this time using the instruments. Explain the word "vapor." This time sing these verses:

Chorus

On earth there are three states of water.

It's LIQUID in all living things.

It evaporates into VAPOR,

In clouds it condenses again. (to LIQUID)

Chorus

A cloud can hold some LIQUID water.

The extra just falls to the ground.

On warm days it rains, but in winter,

It freezes, and snowflakes abound. (That's SOLID.)

Chorus

Collect the instruments.

Wrap Up – How to Conserve Water

Discuss how water is a limited resource, and that there is not a lot of water here in the desert. Remind students that we can't live without it, so it is important to conserve, or save, what we have.

Ask for ideas. Go over short showers, shallow tubs, never let water just run and run from the faucet. Outside they should never water plants in the hot part of the day. Do it at night when it is cool. Why?

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Water Utility
Authority

CLUES

(Winter)

Which season am I?

In the Sandia mountains, SNOWFLAKES fall gently, while children slide on inner tubes down the hills. Which phase of water is SNOW?

ICICLES hang off the roofs of homes. Which phase of water are ICICLES?

It's so cold, you can see your BREATH when you SING holiday songs. Which phases of water are in your BREATH?

Don't worry about that LEAKY NOSE! Which phase of water is your LEAKY NOSE?

You can warm up by slurping down a bowl of warm, spicy posole, or matzo ball SOUP. Which phases of water make are in SOUP?

Nights are cold and long; grandfathers TELL STORIES. Which phase of water comes out when you TELL STORIES?

I'm the coldest season of the year, I'm ...

{Spring}

Which season am I?

It's time to plant seeds and WATER them so they will grow. Which phase of water is in the watering can?

WINDS blow the skirts of Cinco de Mayo dancers. Which phase of water is the WIND?

NECTAR of flowers feeds the hummingbirds who are returning from their winter home in Mexico. Which phase of water is NECTAR?

Watch out for HAIL storms that tear the flowers! We hope the fruit trees' blossoms are safe. Which phase of water is HAIL?

The only place we want ice now is in the ICE CUBES that cool our lemonade after a hard day of house cleaning. Which phase of water is ICE? How about LEMONADE?

Open the windows to let the fresh AIR in! Which phase of water is AIR?

Remember to WASH the sheets and curtains so that everything feels clean and new. Which phase of water do you use to WASH?

I'm the freshest season, I'm ...

(Summer)

Which season am I?

It's so hot that everyone is SWEATING. Which phase of water is your SWEAT made of?

Cool AIR from your air conditioner cools you down. Which phase of water comes out of your AIR conditioner?

Try a banana POPSICLE or that cherry SNOW CONE to cool you even more. Which phase of water is a POPSICLE? A SNOW CONE?

If only the RAIN would come and cool the land. Which phase of water is RAIN?

In the pueblos, RAINBOW dancers move to the beat of the drums. Which phases of water make a RAINBOW?

Now the seeds you planted in the spring are plants. Be sure to WATER your plants when it is cool, not during the hot part of the day!

I'm the hottest season, I'm ...

(Fall)

Which season am I?

In the mornings, FROST decorates the windshields of your bus or car. Which phase of water is FROST?

Hot AIR balloons float over our homes after they launch from the Balloon Fiesta. Which phase of water fills a hot AIR balloon?

Cranes have flown down from Canada. They CALL to each other while they eat the corn from the corn maze. Which phase of water is in the crane's CALL?

Be careful! Don't step on that ICE-covered puddle while you watch the cranes or balloons overhead. Which phase of water is ICE? Which phase is the water under the ice?

You slipped! But don't cry. If you fall on the playground, the nurse can WASH your cuts. Which phase of water are your TEARS? Which phase of water comes out of the faucet?

On the weekend, you can go to the State Fair and drink delicious AGUAS while you rest your aching feet. Which phase of water is in the AGUAS?

I'm the crispest season, I'm ...