**Title:** Dancing the Daily Forecast! **Dates:** T 10/25, Th 10/27, 11/8, 11/9

**School:** Sacred Heart Catholic Elementary School **Times:** 9:00 – 9:45 AM

**K12 Teachers:** Hixson, Sivestain **Dance Standards:** 1,2,3,4

**Teaching Artist:** Julie White **ELA/CCSS:** Science/Weather

**ELA Unit Objectives:** The students will learn about clouds, the water cycle, storms, fronts, parts of the plant, how weather affects the planet, and the planets (and their defining weather) in the solar system in relation to Earth.

**Dance Unit Objectives:** The students will learn levels, qualities of movement, bound vs. free, fast vs. slow, abstract vs. literal, body part vs. whole body, expand vs. contract, big vs. small, sequencing, and spatial patterns.

**Day One**

* **Review** (the TA visited the class for ten minutes the previous week to lead them through the BrainDance and teach them the “cue” for dance instruction): The TA will remind students that she is not there to “train them in dance” but teach science with movement. She will review the cue (call and response with clapping) and also take a moment to share the importance of student volunteers and what makes a great volunteer (how she will select these students based on quality participation and focus).
* **Hook:** The TA will ask students if they have ever laid on the grass and stared at the clouds. She will then ask them if they have ever seen a particular shape in a cloud (i.e. a dragon, a fork, a face, etc.). She will ask them to make this shape in their bodies.
* **Introduction of Types of Clouds:**  The TA will let the students know that there are three types of clouds: cirrus, cumulus, and stratus. She will start with cumulus because it was the one they just talked about. These clouds are in the middle of the atmosphere and are puffy. She will ask students to make puffy shapes that twist and float side to side. She will then tell them that stratus clouds are low and flat, and warn us that rain is coming. She will ask the students to slash side to side and at low level. Finally, she will share that cirrus clouds are high in the atmosphere and whispy. She will have students reach above their heads and wiggle their fingers side to side as they gently sway in the same direction. To memorize this information, the TA will lead students in a pattern where they dance and say the three types of clouds in order high to low: cirrus, cumulus, and stratus. The students will learn this sitting down and repeat this standing until everyone is moving full and clearly understands each. The TA will tell students that clouds are termed “condensation” and are a part of the water cycle they are learning about later in class.
* **Introduction of Dance Element (levels):** The TA will point out that in learning the types of clouds, students also learned the three levels used in dance: high, medium, and low. She will ask for student volunteers to offer a type of movement that can be tried at all three levels. She will select three volunteers/three movements that everyone tries and ask the students to do the movements clearly while they say them at the same time.
* **Introduction of Bodies of Water:** The TA will ask students to share the many different bodies of water, making sure that river, stream, lake, ocean, pond, and sea are represented. She will then set movement to several of them, and ask volunteers to offer ideas for the others. She will teach this through accumulation (reviewing all after each new one is set) resulting in the students dancing all the different bodies of water in succession and sequence. The TA will tell students that bodies of water are termed “accumulation” and are a part of the water cycle as well.
* **The Water Cycle:** The TA will draw the water cycle on the board and give a clear visual aid to how the earth and the sky/atmosphere interact in this process. She will go over the terms they know (condensation, accumulation) and introduce evaporation and precipitation, and then order them. Student volunteers will decide what the class will do for condensation (what type of cloud) and accumulation (what type of body of water), the TA will set movement for evaporation (shimmying the hands up to the sky), and the students will each individually decide how they will show rain (precipitation). The class will dance the water cycle several times becoming more clear and confident in both the terms (spoken) and the assigned movements as they go.
* **Connection:** The TA will quickly introduce the idea of temperature in determining what kind of weather happens as a result of the weather cycle. She will ask students to make a movement up to show the perfect day, to show a very hot day, and to show a very cold day. She will point out that “precipitation” will change based on this alone, and how warm and cold condensation interacts can result in different kinds of storms – the two things they will explore on Thursday.
* **Closure:** The TA will ask students to choose their favorite movement from the whole class and perform this in place for five seconds and then freeze in a shape. She will do this twice, asking students to look around the room at their peers after the second time and notice how creative everyone’s shapes are. She will also point out what she saw and reiterate how in dancing you are clear if you are big and energized in your movements. The TA will thank the students for their efforts, and finish instruction with three big breaths to center and focus for ongoing instruction in the classroom.

**Day Two**

* **Review:** The TA will quickly review the three types of clouds, ask students to do (individually) their favorite body of water, and will verbally review the water cycle (with a visual aid). She will then ask students to choose their own body of water, movement for evaporation, their own type of cloud, and their own type of rain to show the water cycle. She will give students two minutes to make this up and then ask half the class at a time to show this to their peers.
* **Introduction of Types of Precipitation:** The TA will lead students through a movement exploration of all different types of precipitation (snow, sleet, ice, mist/fog, and the many kinds of rain). In this way, the TA will teach “qualities of movement” (dance element) or the many different ways you can do movement while simultaneously teaching the academic concept. The TA will then tell the students that room is now “cold” and ask them to choose a movement that represents precipitation that might happen if this was the temperature. She will do the same for “warm weather.”
* **Introduction of Warm, Cold, and Stationary Fronts:** The TA will define a “front” as the boundary between two air masses containing different temperatures AND different water vapor content. She will explain that warm air tends to have more water vapor or mass and is heavier (students will do movements that are heavy/bound) and that cold air tends to be thinner and lighter (students will do movements that are light/free). She will ask the students to use their hands to show warm air and cool air at the same time and in relationship to each other.
* **Dancing the Fronts:** The TA will ask for two different volunteers to come up and show the three separate types of fronts. One student will be warm air, one will be cool air in each demonstration.
	+ **Warm Front:** One student (warm) will move high and above the other student (cool) who is moving low. The students will also move towards each other. The result is “precipitation”.
	+ **Cold Front:** The students will stand in front of each other with one student (cool) being at low level and the other (warm) being at high level. The cold air will push the warm air upwards, forcing it to rise. The cold front is faster than the warm front so the students will show this with a quick tempo and the result is “wind”.
	+ **Stationary Front:** The students will face each other touching palm to palm and slowly walk their feet backwards until they are leaning on one another (with weight). In a stationary front, neither is advancing.
	+ **Whole Class Dancing Fronts:** The TA will thank the volunteers and split the class in half and have one side of the room be warm, one side be cold. The class as a whole will dance the fronts towards and away from each other. The TA will point out that once again they are doing levels, movement qualities, and now relationships (dance element) because they are dancing towards and away from each other along with dancing in partnership with one another.
* **Reviewing and Dancing Storms**: The TA will share that what results from these different types of fronts interacting are storms. She will ask students to name storms, making sure that hail storms, thunderstorms, ice storms, tornadoes, blizzards, floods, hurricanes are represented. She will then distribute cards to each student that has two types of storms listed on them. She will ask them to work independently to create movements to clearly show their storm and practice it enough to be ready to show it to the class (2 minutes). The TA will then call out the types of storms one at a time and ask the students who made up a movement for them to stand and dance together. The TA will point out the different movements students chose to creatively show their storms.
* **Literal and Abstract**: The TA will share that she wants to teach the students one more dance element based on what they just did. She will ask a student volunteer to come up and share one storm movement they created. She will define whether this movement is literal or abstract and then demonstrate the opposite. She will ask students to go back to the storm movements they made and make sure one is very literal (it looks exactly like what it is) and one is abstract (it is a creative interpretation of what it looks like). This is a difficult concept for this age group but is an important part of dance-making and is thus introduced at this early stage.
* **Connection**: The TA will tell students that in the next class they will learn how weather affects plants and the planet. They will actually be a garden and the weather that is needed to make plants grow. She will also ask them to think about many of the things that happen if weather is not balanced or is extreme (storms): flooding, erosion, global warming, etc. and tell students that they will be learning about these things too.
* **Closure**: The TA will thank the students for their effort, energy, and attention and to say goodbye, she will ask them to wave like it is very hot out (slow and smooth), and wave like it is very cold out (fast and sharp).

**Day Three**

* **Review:** The TA will review how warm and cool air, result in different weather patterns and different kinds of precipitation. She will ask students to make a big, relaxed shape (warm air) and a small, bound shape (cool air). She will remind students that fronts can cause storms, but another cause of storms is global warming.
* **Introduction of Global Warming:** Global warming can cause the following weather situations:
	+ Changes in snow and rain patterns *(heavy and light)*
	+ Changes in animal migration and life cycles *(trace pattern with right and left hand)*
	+ Higher temperatures, drought, wildfires *(doing the wave with waving arms)*
	+ Warmer oceans, rising sea levels, flooding *(rising from low to high level)*
	+ Stronger storms *(pick favorite from last class and make bigger/faster)*
	+ Thawing permafrost (North and South poles) *(students melt one body part at a time)*
	+ Changes in plant life cycles
* **Parts of the Plant:** The TA will reread “changes in plant life cycles” to students (global warming) and review the relationship of plants to weather. The TA will list the parts of the plant: seed, roots, stem, leaves, flower. She will lead students through each stage of growth sitting at their desks and then in personal space away from their desks.
* **Dancing the Garden:** The TA will then discuss how precipitation and sunlight are essential for plants to grow, along with insects (butterflies, bees) and birds. Students will be split into two groups with three smaller groups within representing plants, weather, and animals/insects. The TA will play music and give verbal cues to the students so that they can be the garden and also perform and be an audience for their peers. The TA will ask for feedback from both groups.
* **Connection:** The TA will remind students that they have learned a lot about weather on the planet Earth and that tomorrow they will travel into the galaxy where weather is a part of every planet in our solar system!

**Day Four**

* **Review:** The TA will remind students that they have been on the planet Earth the entire time they have danced together. She will ask students to share some of the weather and planet information they have learned (different kinds of clouds, the water cycle, different kinds of bodies of water, different kinds of fronts, different types of storms, how weather affects plants and the planet, weather problems). She will then explain that today the class will be exploring different weather patterns and traits in the solar system.
* **Introduction of Concept of Earth and Sun:**Two student volunteers will then be asked to assist in demonstrating the difference between a planet’s orbit and a planet’s rotation. Earth will be used as an example. One student will be the sun and one student will be the Earth. The Earth will slowly walk around the sun, which stays in place. The teacher will ask students how long it takes the Earth to go around the sun one time (365 days). The teacher will then explain that for each day – or 365 times in one orbit – the Earth spins on its own axis one time AND on a tilt. The student representing the Earth will demonstrate this a few times. The teacher will check with all students if they comprehend this concept, and remind them that all planets do both.
* **Building a Spaceship:** The teacher will solicit assistance from three more student volunteers. She will explain that the students will be making a movement spaceship and that in order to do this they will choose one movement that they can repeat and do individually that represents a part of the machine/ship. One student volunteer at a time will “add on” their movement to the ship to show how this can be done. The teacher will encourage students to be creative and choose movements that either interact with the movements done around them or are really different (to add variety) from what is already happening. She will remind them that they are not to touch and must be safe, but that they should dance close to their peers and add on in any place and space they choose. The volunteers will then be thanked and the entire class will be asked to stand and come to the side of the room. The teacher will explain that when she taps the student on the shoulder, they are to add onto the spaceship with their movement. Students will be tapped 2-3 at a time. Once the spaceship is formed, the students will be asked to “carefully move it” forward, backwards, and to the side. The teacher will then congratulate the students on making a great ship that clearly can take them to the planets, and will be asked to sit once more on their personal spot.
* **Visiting the Planets:**The teacher will verbally cue students regarding which planet they are visiting throughout this activity, sharing distinct facts about the weather conditions on each planet as they go and also prompting and modeling movement explorations in support of this. Between each planet, students will be asked to “blast off in their rocketship” (go from a squat to a high jump in the air, landing on two feet and the “new planet”) in between each. The planets will be visited in the order that they occur in relationship to the sun. At the end of each “planet visit” the movements and the facts that were learned about each planet, will be put in an order, and said and done repeatedly to foster memorization and the integration of the dance and academic concepts. Finally the teacher will identify which planets make up the inner solar system and are called “terrestrial planets” (Mercury, Venus, and Earth) and which planets make up the outer solar system and are called “gaseous planets” (Mars, Jupiter, Saturn, Uranus, Neptune).
	+ ***Mercury:*** Very hot in the day (400 degrees F) and very cold in the night (-200 degrees F). Students will be asked to do big open movements to represent the hot day, and small bound movements to represent the night. They will also trace a small circle with their hands to represent that Mercury is the smallest planet in our solar system.
	+ ***Venus:*** A hot, dry, windy planet that is full of craters. The students will walk while changing levels to represent walking up and down craters and also use parts of their body and then their whole bodies to show a “very windy day.”
	+ ***Earth:*** Earth is the only planet that has water and rotates on a tilt. Students will explore different kinds of bodies of water through movement (ocean, lake, river) and also practice turning with a slight tilt right and left.
	+ ***Mars:*** This is the red planet. Students will be asked to pick a movement that they can repeat that can represent the color “red” for them. They will then dance this and be asked to do it big and small, in place and moving through the space (if possible and appropriate). This planet is also covered in dust, so students will mimic a sneeze and also brush dust off their spacesuit.
	+ ***Jupiter:*** The biggest planet in the solar system, and also the stormiest. It has a big red spot that the students will show with their hands, while they represent storms through their movements. They will be asked to shake their body to show thunder, stab with their arms to show lightning, and then combine these with wiggling everything to show wind. They will be told that besides the red spot, the surface of Jupiter is always changing because of these volatile storms. It rarely looks the same way twice.
	+ ***Saturn:*** This planet has three large rings around it made of ice, and is also very light because it is comprised completely of gases – it would float if it was in a tub of water. Students will trace three rings around their bodies and then skate on the three ice rings and also do movement that floats them in place and through the space.
	+ ***Uranus:*** Uranus has a frozen mass of ice at its core, and gases on its exterior. Students will lie on their backs on the floor and let their torso be the inner frozen core of the planet and their legs and arms (moving freely above their bodies) be the gases. This planet is also the only one that rotates on its side as it orbits. Students will sit and roll their arms forwards and backwards to represent this.
	+ ***Neptune:*** Neptune is the only planet that has a moon that orbits in the opposite direction of its planet. To represent this, the teacher will lead students in oppositional movement, such as one arm swinging forward and one arm swinging back or one arm reaching up while the other arm reaches down. This planet also orbits very slowly, taking 165 Earth years to go around the sun once, so students will be encouraged to do these movements in slow motion to remember this fact.
* **Planet Performance:**  Time allowing, the TA will lead students through a “flow” of the planets or “planet dance” where students connect and say each planet in the order that it occurs in the solar system, complete with assigned movements.
* **Closure:** The TA will thank the students for dancing so many “weather facts” with her over the last few weeks and remind students that movement can help them understand something, but also