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| **Lesson Plan:** “Where is the Point?” | **Room Requirements & Arrangement:** Open space (if desk or chairs are in the way, these are to be moved to the walls of the room to create open space) |
| **Content Area & Arts Discipline:**  Math and Dance  |  |
| **Overview of the Lesson:**  Reviewing comparing two decimals, place value in 10’s and 100’s and ordering given decimals on a line plot. The dance elements taught in partnership are size, body parts vs. whole body, and degrees of energy.  | **Materials/Equipment:** CD, boombox, dry erase board and marker, dancing scarves, ten decimals on pieces of paper, 10 action word handouts **School:** Poplar Springs Elementary School, Meridian, MS |
| **Grade Level:** 4th Grade | **Date Lesson Created:** January 2018 |
| **Proposed Time Frame:** 60 minutes | **Lesson Author:** Julie White  |

**Big Ideas & Learning Objectives**

1. The student will correctly identify place value of given numbers in order to identify whether a number involving decimals is greater than or less than another. The student will also correctly use the greater and less than symbols to write the correct answer when comparing numbers.
2. The student will be able to correctly place a number involving a decimal on a line plot.
3. The student will clearly demonstrate an understanding of size, body parts vs. whole body, and degrees of energy and clearly and confidently demonstrate how these relate to the math concepts taught in the lesson.
4. The student will participate, practice, and perform movement individually and in group work with clarity, creativity, and confidence. The student will work cooperatively and respectfully with peers and the instructor throughout the class.

**Procedures**

***Affective Hook*:** Who gets an allowance? Who likes to save? Who likes to spend? Knowing how much money we have is important if we are going to do either, correct? Knowing how much of something we have, or what something is worth, in math is important too. It helps us solve problems we are given and it helps us compare one number to another. Today we are going to learn about place value with decimals and also compare these numbers to one another and arrange their order on a line plot. We are going to do this, and show this, through movement!

***Relevance*:** It is important to know what something is worth. It is also important for students to understand that decimal place values are in reverse order of whole number place values and how these also differ when ordered on a line plot. Greater than and less than symbols will be integrated to reinforce math symbols and terms as well. In dance, it is important for students to be able to use many different ways to show value, and to use these combine these elements to clearly demonstrate math values and given equations.

***Introduction of Participation Expectations:*** *This is a special kind of class. You need to give me your full attention and do your best to watch me as I teach. In a movement class, you follow-the-leader and what you see me do as much as you listen to what I am saying and follow spoken directions. You also want to be spatially aware and respectful of those around you. Keep your body to yourself and stay safe in your movement above all else. We will be working together in teams for part of this class, which is important to know how to do well, and I will be asking for volunteers to help me be leaders and demonstrators as well (define a good volunteer). Make it clear to me if this is you from the beginning of class so I notice you and ask you to help me teach! Finally, we have a special “cue” for attention in class because we are moving a lot (model call-and-response and have students practice it several times). Any questions? Now we are ready to go.*

***Warm-up*: *BrainDance***

Follow my lead but feel free to explore. We will be moving in all different kinds of ways in the warm-up. Do your best to do everything clearly. We will do the warm-up in place and it is designed to help you focus, get your body and brain talking to and working together, and get your muscles ready to do any kind of movement needed! This BrainDance focuses on size, body parts vs. whole body, and degrees of energy (high vs. low) to preview the dance elements of the lesson.

* Breath (inhale and exhale four times). Large, whole body, calm energy.
* Tactile (brush the body, squeeze the body, pat the body, tickle the body). Various.
* Core/Distal (expand and contract – stretch into a big “X” and then contract into the belly button, repeat four times and attempt doing the last few expansions on one leg!). Large, whole body, big energy.
* Head/Tail (the bobble head and moving one part of the spine at a time and then altogether slow and fast). Small, body parts, calm energy.
* Upper/Lower (paint the ceiling with feet planted and then hands on hips and move just the legs). Alternating all.
* Right/Left (sharp point with arm and leg on the right and soft point with arm and leg on the left; repeat 8 times each side working to make each one really distinct from the other). All.
* Cross Lateral (elbow to opposite knee, deepening the stretch by touching the opposite foot if desired). Large, body parts, high energy.
* Vestibular (three spins to the right and jump to a freeze, breath and shake out the dizzies and then repeat to the other side). Always finish the BrainDance with three big breaths that return the students to a seated position where volunteer expectations can be briefly introduced/reviewed and the themes of the day can be verbally shared (both academic and dance). Small, whole body, big energy.

***Activity One: Comparing Decimals & Shark Song***

The teacher will write two decimals on the white board (1.27 and 1.72) and ask students to identify the 1’s, 10’s, and 100’s place. She will then write a whole number on the board (127) and ask them to do the same. She will point out that with decimals, these place values go in reverse and increase to the right (10 to 100) instead of increase to the left. She will then ask for a student volunteer to identify the number in each place value (6.29) and ask if there are any questions. Once a general understanding of this is established, she will put two numbers on the board and ask students to write the greater than/less than symbols to indicate which one has more value. She will compare decimals to money to help the students understand which number is bigger or “worth more.” She will do this with two volunteers just to reinforce this and ensure the midline learner understands.

The teacher will then teach the students the “Shark Song”: “Baby Shark doot doot doot doot Baby Shark doot doot doot doot Going Swimming doot doot doot doot Baby Shark doot doot doot doot.” This is performed with hands together like the jaw of a shark opening and closing as you sing the verse. It is repeated with “brother shark”, “mama shark” and “papa shark” with the arms getting bigger and bigger until your whole body is opening and closing with the arms. The teacher will then explain that the students will replace the words with math. For example: “3.45 doot doot doot doot 3.45 doot doot doot doot is bigger than doot doot doot doot 1.67 doot doot doot doot.” The students will sing four rounds of comparing the decimals the student volunteers just solved on the board and choose the right size “shark gesture” to reflect the greater than or less than sign involved in the equation. This is a fun way to get the body, the voice, and the mind reviewing this concept together, and it also previews a bigger exploration of size, energy, and body parts in the next part of the lesson.

***Activity Two: Size, Body Parts vs. Whole Body, and Degrees of Energy***

***Size*** – The students will be asked to find a partner. The teacher will hand one student in each partnership a dancing scarf and remind them to hold the prop still and keep their focus on the directions they are about to be given. The teacher will share with the students that there are three ways to show value in dance – size, using more or less of the body at one time, and degrees of energy. To explore size, one person in the partnership will move very small, slow, and in place while the other partner moves around them moving big, fast, and in a circle. By having students work in teams and also use a scarf to show big movements, classroom management is maintained and space/others/safety is respected in this exercise. The students will trade roles after one minute and the teacher will point out what she sees that is clear, creative, and confident in performance.

***Body Parts vs. Whole Body*** – The partnerships will be given a decimal number on a piece of paper. For the one spot they are asked to show this number as a shape in their body. For the 10 spot, they are to do a movement (from the action word list) this number of times with their upper body and for the 100 spot, they are to do a movement this number of times with their lower body. In other words, each group uses body shaping and upper/lower body parts to show a decimal through movement.

***Degrees of Energy*** – For the last area, the teacher will ask each partnership to choose either a new movement (from the action word list), or one they have already done and find three ways to show this. For example, if the word is “shake” they can shake their head, shake their whole body, and pretend the floor is shaking. The way they show the word can be literal or abstract, but needs to be clear and confident and if possible, creative. They will then return to their assigned decimal and decide which number (place value) is worth the most, the least, and in between the two. They will then order the three movements they have just created for their word to go with each of these and be performed with varying degrees of energy. For example, if the decimal is 7.12, and the word is shake, for the “7” the movement would be large and with big energy, like pretending the floor is shaking. For the 1 in the 10’s place, the movement would be small with calm energy, like shaking the head. For the 2 in the 100’s place, the movement would be moderate, like shaking their body but gently. In other words, they correlate the amount of energy they use to perform their movements with the value of each number, and also make creative decisions about which version of their word would work best for each. The student partnerships will then perform these for their peers half a room at a time, giving the teacher a chance to make sure they are clearly demonstrating the decimal value and the dance elements.

***Activity Three: Dancing a decimal***

The teacher will then ask each student partnership to combine all three to show their decimal. For the number in the 1 spot, they will use size. For the number in the 10 spot, they will use body parts (small value) vs. whole body (large value), and for the number in the 100 spot, they will use degree of energy. The students will have 2 – 3 minutes to confer, collaborate, create, rehearse, and memorize their decimal phrase before performing it. If time allows, the teacher should once again give the students the opportunity to share these with their peers so that they can have a chance to perform and get additional peer feedback on their work.

***Activity Four (Culmination of Combined Academic and Movement Concepts): Dancing on a Line!***

The teacher will tape a line down on the floor indicating where the “zero” is. She will then ask students to talk to one another to determine where they belong on the line plot based on what their assigned decimal is. Once ordered, the teacher will spread students out to allow them enough room to safely and fully move. The students will then “dance their decimal” (activity 3) on the line plot with the entire class. If possible, the teacher will videotape this and show students so that they can comment on themselves as well as their peers and also see and appreciate their creative work! For differentiated learning and an additional challenge, the teacher can ask students to say their decimal as they perform and when she goes “down the line” on the line plot so everyone can collectively hear that the order is correct as they are dancing. Again, this challenging coordinating the body and mind working in partnership, and integrates the whole system in the learning process.

***Closure***

The teacher will thank the students for dancing so much during the lesson and with such focus and energy and enthusiasm. She will congratulate them on making a group dance as well and encourage them to use what they learned today to put “math in their body” when they get stumped or struggle with something. Sometimes doing “value” in this way will help them grasp what they are being taught on paper and in a more abstract concept/way.