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| **Lesson Plan:** “All Systems Go!” | **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:**  Science and Dance |  |
| **Overview of the Lesson:**  Using BEST dance elements and abstraction to review and creatively represent the major systems of the body (digestive, respiratory, circulatory, muscular, nervous, skeletal) through movement (5.L.1.2). | **Materials/Equipment:** CD, boombox, anatomical pictures of the body (all systems), Reflexology Chart, Map of Tupelo, pictures of food (15), Body System handout (6), pencils (6)  **School:** Rankin Elementary School, Tupelo, MS |
| **Grade Level:** 5th & 6th Grades | **Date Lesson Created:** March 2015 |
| **Proposed Time Frame:** 60 minutes | **Lesson Author:** Julie White |

**Big Ideas & Learning Objectives**

1. The student will understand BEST dance elements and clearly demonstrate these in given movement exercises (body parts vs. whole body, levels, expansion vs. contraction, pathways, expansion vs. contraction, abstraction of “action” word).
2. The student will connect the given movements to specific systems in the body in order to review, retain, and represent each clearly.
3. The student will understand and be able to articulate (in discussion) how each body system and its specific function, is necessary for life.
4. The student will create a dance based on the movement associated with each body system.
5. The student will demonstrate and understand the importance of respectful and collaborative participation in group creative work, and contribute both ideas and enthusiasm to the process.

**Procedures**

***Affective Hook*:** How many days can we live without eating? That’s right – 30. How long can we live without breathing? Yes – less than two minutes. What would happen if our bones broke to the touch or our muscles didn’t work? Would it be a problem if we couldn’t feel pain? Our body is an amazing collection of systems that work together to give us life. Without some of them, we couldn’t live and without them working well, the quality of our life would significantly change. Today we will be reviewing these six body systems through movement, and at the same time, we will be learning a lot about all the different ways we can move. In the end, we will make a “body dance” that will help us remember what each one is and why it is essential to our life.

***Relevance*:** Knowing about something, helps us to first appreciate it and also to care for it better. Our bodies are what let us move around in the world and experience things – having a healthy body is important and it is up to us to make sure that this happens. Staying active and keeping movement a part of our lives is a big part of this happening. Part of who we are is also connected to the body we live in. These systems are partners in the big picture of our body functioning well and ensuring “life.” Everything has its job and does its part.

***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.

1. Breath – expand and contract
2. Tactile – body parts and whole body
3. Core/Distal – expand and contract
4. Head/Tail – body parts and whole body
5. Upper/Lower – bound and free
6. Right/Left – all qualities
7. Cross Lateral – pathways
8. Vestibular – abstraction and level (high and low level spins)

***Discussion:*** *In our warm-up we experienced the kinds of movement we will be doing today to creatively represent and help us to remember the six body systems. The teacher will remind the students that movement is essential to a healthy body and that the BrainDance is a terrific way for them to get energy, get focused, and get ready to learn.*

***Activities One - Six (Introduction of Movement Concepts): The Six Systems and BEST Elements***

The teacher will introduce each of the six body systems one at a time, but significantly differentiate instruction to keep students engaged and interactive in learning. These systems are introduced in a specific order, to help students understand: 1) how the body systems relate to and support one another in their functions and 2) how basic movements in the body can be developed through the application of progressive BEST elements. During the initial introduction and brief discussion of each system in the body, the teacher will share a picture of this system with the students to aid in its identification.

The Skeletal System: Body Parts vs. Whole Body

***Introduction:*** The body is made up of 206 bones. The skeleton provides a frame for the body, gives support to the other systems, and protects the organs. The teacher will ask students to specifically learn the bones of the spine: cervical, thoracic, and lumbar. She will relate these to movement done at high, medium, and low levels.

***Movement Exploration:*** The students will be asked to “wiggle” with different body parts (hand, arm, leg, foot) and then the whole body. They will repeat this with two more “action” words – “roll” and “flick”. The teacher will then ask students to “dance their spine” with these different actions, adding in both level (within their own body, not in relationship to space) and repetition to represent the number of bones in each section of the spine.

* Cervical (7): wiggle, high level (arms)
* Thoracic (12): roll, medium level (torso)
* Lumbar (5): flick, low level (legs)

\*After doing each separately, students will perform all three movements at once, representing the entire spine.

The Muscular System: Bound vs. Free

***Introduction:*** The muscles of the body are attached through tendons and ligaments to the bones. They are what allows the body to move and pad and protect the bones. It is important that they are strong but also flexible, in order to keep a balance between bound movement and free movement in the body. We will explore what this feels like in our muscles, and also learn a few specific muscles along the way.

***Movement Exploration:*** The students will be led through a brief improvisation of bound and free movement. They will first be asked to flex biceps (upper arm) with a few push-ups and then shake their arms out. To do this with their quadriceps (thigh) with a few leg lifts and then shake them out. To do this with their abdominals (torso) with a few sit-ups and then stretch this out. Having clearly identified the difference between bound and free movement and specifically with muscles, the teacher will then ask the students to stand and attempt to show this in specific body parts and with their whole body through the following “action” words: press (bound), throw (free), pull (bound), melt (free). Finally the students will be given one last word and will be asked to show it both bound and free (“poke”).

The Respiratory System: Expand vs. Contract

***Introduction:*** This system carries oxygen to our body. Without the ability to breathe, we don’t live long. The lungs convert oxygen (inhaled) into carbon dioxide (exhaled) and also deliver oxygen to the blood. The first thing we do when we are born is to breathe; it is what turns out body “on” and keeps all body systems running.

***Movement Exploration:*** Our lungs expand and contract. Our body can expand and contract too. If we make a small movement big we accomplish this. The teacher will lead students through a simple expansion and contraction movements, encouraging them to expand and contract in different directions and with different body parts. She will then ask for volunteers to offer a movement that might be expanded and contracted (one for each) and have students do the expanded shape on high level with an inhale and the contracted shape on low level with an exhale. She will ask students to perform this sequence three times making shapes, levels, and breathing clear.

The Circulatory System: Pathways

***Introduction:*** The teacher will pull out a map of Mississippi with Tupelo circled. She will then hold up a picture of the circulatory system and explain to students that this system transports blood throughout the body, and delivers nutrients and oxygen along the way. The circulatory system creates pathways through the body. Tupelo is like the “heart” of this system, in that it is where the blood “comes home” no matter where it travels.

***Movement Exploration:*** The teacher will ask the students to clap the rhythm of a “heartbeat”. She will then ask students to stand up and jump it. To walk it (stutter step/right left). She will then show them each pathway (straight, curved, zig zag) and ask students to choose a pathway for themselves. Once chosen, she will assign the movement to be done on each. She will give students a few minutes to practice this and then have each pathway performed by the students that selected it in the general space.

* Straight path: walk and clap heartbeat
* Curved path: stutter step/stomp heartbeat
* Zig Zag path: jump heartbeat

\*After each group has shown individually, the teacher will ask everyone to stand and perform their pathway at the same time and become the body’s circulatory system. Just like traveling on a road, the students will be told to watch out for traffic and avoid accidents, and to stay clear in their movement as they go.

The Digestive System: Abstraction of Shapes

***Introduction:*** The digestive system allows us to convert food into energy and nourish but also energize the body. In movement, we can show this conversion process through abstraction of a shape or movement. The teacher will then model with the help of a student volunteer, how a picture can be shown literally in a body shape and then in a “different” or “new” way. Pictures will be of different kinds of food.

***Movement Exploration:*** Students will be asked to find a partner and have one person come to the front of the room to get a picture. They will be asked to find a literal way to represent this movement, and also an abstract way. Pairs of students will then show another pair of students what they created for feedback.

The Nervous System: Reflexology (time allowing)

***Introduction:*** The nerves run the length of the body and connect each part of the body to the brain. They are responsible for the sense of touch and also pain. They let the brain know if the body is “ok” or not. This information travels through an electrical impulse along these “nerve wires.” Most nerves connected to the systems in the body have nerve endings in the feet. The study of this information is called reflexology and we will learn a little about this today.

***Movement Exploration:*** The teacher will show students the reflexology chart and lead them through different “sections” of the foot and the body parts that are associated with nerve-endings there. They will be encouraged to continue to take care of their bodies in this way and use reflexology when they have aches and pains in their bodies. This exercise also allows students to rest after much movement, which may be needed. If time does not allow for the inclusion of this, the teacher will simply share this information briefly and distribute the reflexology handout to students at the end of class, encouraging them to try this at home.

***Activity Seven (Culmination of Combined Academic and Movement Concepts): All Systems Go!***

Students will be split into small groups (5-6) and given a handout that lists the five body systems explored through movement in the lesson thus far and the movement concepts that accompany them. They will be asked to select one element (of the two opposites) under each (minus the nervous system) and create an order/sequence for them. They will then be directed to find a movement that can represent each. The students will be given five minutes to create this dance. The teacher will visit each group during this time to check on their progress and provide assistance when and where it is needed. The students will then share their dances with their peers. Observing students will be directed to comment on creativity and clarity in movement choices and to attempt to identify body systems based on what they see. The teacher will review performer/audience expectations before these showings begin. \*\*Another option for this culminating activity (appropriate for a larger group of students – plus 30) would be to assign each group a specific body system and ask them to find three ways to “show” the movement associated with this system and/or use body shaping to represent the structure of the system (i.e. skeletal “bones” in the spine) for the class. This would allow each system to be represented in more detail and for each group to have a more focused experience with the assigned system.

***Differentiated Learning for Culminating Activity***

* *Below Grade Level: The student will participate in the performance of the dance.*
* *On Grade Level: The student will contribute to the creation of the dance and participate enthusiastically in the performance of it.*
* *Above Grade Level: The student will lead in the creation of the dance and perform all movement with confidence and clarity.*

***Closure***

The teacher will ask for student volunteers to name the six body systems and also identify their key functions. She will then ask the class as a whole to tell her the “opposite” for each movement they learned. Finally, she will close the lesson by asking them to stand up in place and do their favorite (personal) movement from the day. The teacher will thank them for their efforts and creativity in class.

**Body System Dance Handout**

**Part I: Circle one thing under each system**

**Skeletal System** Body Parts Whole Body

**Muscular System** Bound Free

**Respiratory System**  Expand Contract

**Circulatory System** Straight Curved Zig Zag

**Digestive System** Abstract Literal

**Part II: Create movement to represent each of these five things**

**Part III: Write them in an order and memorize this as a group**

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2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Part IV: Perform with confidence and clarity!**