



I Just Want to Move It, Move It

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This curriculum unit is recommended for:
3rd, 4th, and 5th grade science classes

Key Words: movement, ADHD, behavior, exercise, brain, socioeconomic, classroom management, attention

Teaching Standards: See [Appendix 1](#) for teaching standards addressed in this unit.

Synopsis: This curriculum unit (CU) focuses on teaching strategies that can be incorporated into any upper elementary classroom to stimulate brain growth and increased focus during class. Teachers will increase the focus and knowledge retention of their students by providing organized brain breaks and choices of student activity, but will also learn about ways to increase their health. Students will have scheduled time periods of physical activity as well as choices that can be incorporated in their classes. Incorporation of movement for classroom learning opportunities are presented and outlined in a way that can be incorporated to any lesson or class for upper elementary age children. Organization ideas for students to help not only the student become more organized, but assist the teacher in setting up an organized system that will promote efficiency while switching classes with elementary age students. To make this unit teacher friendly I included graphs and websites that should be beneficial to all teachers. The goal is for students to learn ways not only to help their physical wellbeing, but also to help students learn ways to channel their energy in a positive way and to help students learn ways to help control their stress levels.

I plan to incorporate these strategies in my three 5th grade science classes, homeroom class, and WIN (What I Need – remediation class). This range of classes includes 76 students on a daily basis and a rotation of students that could include up to 69 additional students during WIN time.

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Tracie D. Cooper

Introduction

Hidden Valley Elementary School (HVE) is an institution that has served the residents of the Hidden Valley Community for 50 years as part of the urban school district of the Charlotte/Mecklenburg School System. HVE is a true community school consisting of 956 students in grades Pre-K to fifth grade. The school's population is forty-nine percent African American, forty-nine percent Hispanic, and two percent other. One hundred percent of our students are economically disadvantaged.

I am currently in my seventh year teaching at HVE. I served the students for five years in the science lab that I built from the ground up. Last year I served the students as a fourth grade math teacher and followed my fourth graders to fifth grade as their science teacher. With this particular group of students, I have taught the students in one form or other sense they started kindergarten through their fifth grade year.

The fifth grade is departmentalized with the students seeing three teachers. I teach science to 24-25 students in 75-minute blocks. Students start their school day at 7:15 A.M. in homeroom. They transition for an hour starting at 8:00 A.M. in specials, and then begin their academic blocks at 9:00 A.M. until 12:45 P.M. The blocks are back-to-back, non-stop. Students then have an hour for lunch and recess before returning to WIN (what I need remediation time). Students are in WIN classes for the last hour of the day.

Rationale

Due to the behavioral issues of the group of students I teach as well as their vigorous schedule, I created this unit to give students a chance to learn to self-monitor and to have opportunities to move and actually grow their brain. The unit seeks to cover ways to engage students from the minute they walk in the door in a way that encourages work to be complete and to help focus and retention of any given unit. The unit is written more as of a strategies unit that can be adapted to various disciplines and grade levels. The focus allows students scheduled opportunities throughout the day to move and make choices that will increase student focus and their ability to retain new information as well as to decrease office referrals and nurse referrals. Teaching the same group of students last year, it is also my focus to make morning work structured so that the students know what to expect and to present the morning work in a way that the students will want to get to class and complete quality morning work in order to make the choices that benefit their learning and well-being.

This is my second year back in the classroom. I looped up with my students from fourth grade and now have them in fifth grade. Because of the research during Exercise and the Brain CTI seminar, I have incorporated or plan to incorporate activities mentioned in this CU. Activities that I have begun to incorporate have greatly increased the amount and quality of the work the students produce in the mornings. Students also get to class more quickly. Last year, I had issues with students taking a long time in the cafeteria and getting to class, visiting other teachers, etc. This year, students hurry to get to class so that they can complete their morning work and get to work on a task of their choosing. The quality of work has greatly improved this year over last year. The students last year rarely completed their work and the work was not quality. As a teacher, I had a difficult time coming up with appropriate morning work. By having the framework I quickly get the morning work together and I know that the main points that I want the students to work on are included daily. The framework also gives students consistency. Students need and like consistency so they know what to expect day to day.

This unit takes a global look at the whole child and can be incorporated into daily routines and procedures. The CU is adaptable to students in the upper elementary grades in any subject.

Assessment

To determine if this unit is successful students will be assessed in various forms. The main assessment will compare office referrals from the prior year to the year of implementation. I was the classroom teacher for the same group of students last year; therefore, the data will be relevant because it compares students to themselves. Students will also be assessed on tardiness and absenteeism. The reasoning behind this assessment metric is that if learning is fun, students will want to be in school. Student Common Assessments in Science growth percentages will increase due to increased student engagement and interest. Students will have more time on task and due to the fact they are enjoying their studies, the students will have increased growth.

Content Objectives

Students will be introduced to activities and exercises that will help them learn and be more successful in school, as well as make learning fun and enjoyable. Students will learn how to take their heart rate and collect other health data that will help them track and monitor their fitness level, (see Appendix 2 for a chart that can be used by elementary students to track their data.)

Students will learn about body systems as they do different exercises and movements. This exercise will give students experiences that can be referred to when they began learning about the human body in their 5th grade science class.

The Fifth Grade Essential Standards for Science

5.L.1.2: Compare the major systems of the human body (digestive, respiratory, circulatory, muscular, skeletal, and cardiovascular) in terms of their functions necessary for life.

Students need to know that each system performs a specific life process function and that the systems work together to maintain health and fitness. Students will learn about the circulatory system as they track their heart rate and learning about aerobic exercises. While learning different stretches, students will learn about different types of muscles, ligaments, and joints. Students will learn about the respiratory system while talking about breathing techniques while exercising. As students learn different stretches they will learn about their digestive system. I will work with the Physical Education teachers in order to make the connection to the PE classroom as well. It is my hope that the Physical Education teachers will incorporate science essential standards into their lessons during their PE classes with all age groups as appropriate with their age group. Kindergarten and first grade students will be able to learn about their muscles and bones and the importance of keeping their bodies healthy through exercise. Second grade students will be able to learn about relaxation and stress releasing activities and continue learning more about their muscle and skeletal system. By Physical Education teachers incorporating the essential standards above, the students will have a strong foundation when they reach third grade and will be taught about the skeletal and muscular system in depth.

3.L.1 Understand human body systems and how they are essential for life: protection, movement and support.

3.L.1.1 Compare the different functions of the skeletal and muscular systems.

Students in third grade also learn about joints, ligaments, and tendons. The Physical Education teacher can help the students learn this concept by explaining to students the different joint movements as well as more in depth discussion on the specific muscles they are using during the PE lesson. Physical Education teachers can incorporate basic first aid and injury prevention while discussing ligaments and tendons. By working as a unit, the PE teacher and classroom teacher will be able to support the other's teaching objectives. Fourth grade students are taught the role of vitamins and minerals, and exercise in maintaining a healthy body (4.L.2.2). With this standard, students know that humans have needs for vitamins, minerals, and exercise in order to remain healthy. Students know that vitamins and minerals are found in healthy foods, as well as dietary supplements. Students also know that movement is essential to the growth, development, and maintenance of the human body and its systems. Where students do not get into depth of their body systems, this is a perfect tie in point for the digestive system, as well as a review of third grade standards for understanding the muscular system. To lay the

foundation for the learning of the body systems in fifth grade, PE teachers and classroom teachers should continue to incorporate the movement coloration into the body system benefits. Fifth grade students compare the major systems of the human body (digestive, respiratory, circulatory, muscular, skeletal, and cardiovascular) in terms of their functions necessary for life (5.L.1.2). Students know that there are many systems in the human body. Some of these systems are: circulatory system (heart, blood, and vessels), respiratory system (nose, trachea, and lungs), skeletal system (bones), muscular system (muscles), digestive system (mouth, esophagus, stomach, and intestines), nervous system (brain, spinal cord, nerves). Students know that each system performs a special life process function and that the systems work together to maintain health and fitness. Exercises that promote good health in the various systems could be taught and reinforced in both the PE classroom and the regular classroom. Brain breaks are a good time to incorporate these quick lessons and exercises into the students' daily routines.

Teachers will be given strategies that will help engage students and have them actually completing quality morning work. The strategies will give a structure to morning routines. Appendix 3 gives a sample of the framework of the morning routine. The framework will give two analogies, a SAT word of the day with both definitions and a sentence for reference, and a math portion. After students have shown they have completed their morning work and meeting the teachers expectations, the students will be given a series of choice that will give them time for quiet talk, a time for playing games with a peer, and a time that they could get out some of the wiggles or time to move and wake up.

Teachers will be given strategies that will give students breaks during lessons that will help keep students engaged and focused. Students will be given opportunities to get their wiggles out or a chance to wake up and refocus with strategies laid out in this unit.

Teaching Strategies

Morning Work and Procedures

Students will enter the classroom with the morning work posted on the Smart or Promethean Board. Appendix 3 provides an example of what I post on the board for morning work. Students unpack their bookbags and hang them up with the understanding they are not to go back into their bookbags until the end of the day. To assist students in learning to organize their materials for different classes students are assigned a color for each class. This organization not only helps the students learn to become organized, but it helps the teachers on the team become more organized as well. With three classes of elementary students, it is difficult to ensure that students are putting their work and notes in the correct notebook for the correct class. By color coding the notebooks teachers can quickly see if students are in the correct notebook for the particular class. My students use green for their morning work notebook. Green means "go get ready to learn".

Students are required to copy down the date each day as their heading in the notebook. Students are then to complete two analogies. The analogies are based on the skills the students are learning in literacy class or skills that they need to have spiraled into their learning day. The words in their analogies will be based on words the students need to be introduced to from their reading or words that they have had trouble understanding and are in need of extra support. Students will then have a word of the day from a list for kids for SAT studies. Students will be given the word, definition, and a sentence to help them remember the word. The words will be repeated two or three times during the year. Students will then be given one word problem or five computation problems. Math problems should come from what the data shows the students are in need of more practice. These should not be problems the students have not been introduced to or that the students are having extreme difficulty with, but more of a review. The math problems should be based on what students need more practice with or a refresher to spiral past objectives that can help strengthen the students understanding and mastery.

Morning Choices

After students have completed their morning work, in which they should show the teacher to ensure it is quality work, they will have a menu of activities from which to choose. One of the biggest frustrations that many teachers wrestle with in the classroom is a lack of motivation among students (1). As teachers, we worry about how to motivate students who appear unmotivated and apathetic. We worry because as decades of research have revealed that motivation is integrally connected to achievement. We know that students who are motivated tend to learn more. Effective choices help students feel they are in control. *Motivating the Child with Attention Deficit Disorder* by Rick Lavore, states that if a child diagnosed with attention deficit hyperactivity disorder (ADHD) experiences improper levels of stimulation, he will create stimulation by acting out or disrupting his environment in some way. Choices in work provide the stimulation ADHD students need and can assist in curbing the need to create outside stimulation. The choices that are given to students should be carefully chosen and have a specific purpose. Students should be given a time to talk.

Games are a great way for students to have a chance to talk as well as learn to get along with others and follow the rules. I like to use Connect 4, Battleship, Scattergories, and other games that encourage students to use strategy as well as communicate with their partners. It is important to set parameters while playing the games. Voice level of the players must be set. Students should be able to hear their playing partner, but students that are working on other task should not be disturbed.

Students love to use Chrome Books to play games on Cool Math, ABC-ya, Dream Box, and Raz Kids. I allow this activity, but only twice a week. The reasoning behind limiting the usage of the Chrome Books during morning work is that the students use the computers many times during the day and this is one time flexible time when I can have

students up and moving and talking to other students learning 21st century skills of communication.

Students also have physical choices. This choice is very important not only for my students with excess “wiggles”, but also students who have a difficult time waking up for class (we are an early school). Some of the choices that I put on the menu are jump rope, hula-hoop, book walks, and exercise cards. Book walks give students extra reading time to read books or magazines of their choice from the classroom library while walking around the classroom or given area. Students are to choose their reading material and take their heart rate. After recording their heart rate, students will log their heart rate in their exercise journals and then proceed with walking around the specified area in the classroom, silently, while reading. Students “book walk” for a time that is determined by when they complete their morning work. They write down how long they walked and then their heart rate after completing the book walk. The exercise cards are like a deck of playing cards, but they have an exercise that the student is to do when they draw the card as well as what muscle the student will be utilizing. They complete the exercise on the card and then choose another card. Students can change the physical activity as long as the materials are available.

The final choice that I like putting on the menu is Legos and K-nex. I want to give the students time to be creative and discuss ideas. I provide the guides that students can follow to build from, but students may also choose what they want to build. Students do not have chairs for this activity. Students may stand at the table or sit on the table to work. This choice gives the students less time that they have to sit on their uncomfortable chairs in the classroom.

Music

In the background “hip” instrumental music is played. Extensive research and experiences demonstrate that music helps control the mood and energy level in the classroom (John Hopkins School of Education in an article published by Chris Boyd Brewer, Music and Learning: Integrating Music in the Classroom). Music stabilizes mental, physical, and emotional rhythms to attain a state of deep concentration and focus in which large amounts of content information can be processed and learned. Learning vocabulary, memorizing facts or reading to this music is highly effective, with beats that is 50-80 beats per minute. The Vitamin String Quartet on Pandora is a great station for this purpose. The music that I choose was taken from current popular music and performed by a string quartet. There are no words to the music which can be distracting to the work the students are tasked to complete.

Poverty and the Brain

Students are children, not miniature adults. Children have lots of energy and need to move. Students are not made to sit in a chair and listen to lectures hour after hour. Children learn by play. Children born in poverty have smaller brain mass than their counterparts that are not born in poverty. Studies also show that children from low-income families have smaller brains and lower cognitive abilities (According to Nature International Weekly journal of Science article “Poverty Shrinks Brains from Birth”). The stress of growing up poor can harm brain development before birth. Even very small differences in income can have detrimental effects on the brain. Children born from parents with an income of less than \$25,000 had up to 6% less surface area than did those of children from families making more than \$150,000. Brain areas associated with language and decision-making skills were the particularly affected. Children’s scores on tests measuring cognitive skills, such as reading and memory ability, also declined with parental income.

Exercise increases brain mass and helps grow the brain so that students have the opportunities to be better learners. Exercise such as running or jogging stimulates the growth of new brain cells and improves the memory and ability to learn (according to PHYS.ORG, an online neuroscience magazine). Researchers do not fully understand how exercise triggers the growth of brain cells, but speculate that exercise increases blood flow and elevates certain hormone levels. Exercise also reduces the level of the hormone cortisol, which is associated with stress.

Students in the United States are at an all-time high in obesity rates. ADD, ADHD, and other disorders are increasing at a phenomenal rate. Children who have ADHD symptoms into adulthood have higher overweight and obesity rates than patients who only had ADHD symptoms during childhood (Pagoto *et al.* (2009)). One hypothesis is that dopamine comes into play in the conditions, thus linking dopamine levels and ADHD together. Researchers note that dopamine levels in the brain increase when food is present, even if the person does not eat it (Benjamin Charles Campbell and Dan Eisenberg (2007)). Dopamine is linked to the reward system, causing a person to feel happy when there is an increase in levels. This unit is to help, even if only in a small way, our children to become more physically fit and learn ways that will assist students in knowing to help control their stress and excess energy, and to become better learners.

Student Engagement

Another strategy to keep students engaged during the lesson is to change the mode of learning throughout the lesson. My class is a science class. The structure of my class is based on the research stated above. Students have a task as they come in their classroom. As mentioned before each class has a specific notebook color they use to help with student and teacher organization. Weather is a difficult concept for fifth graders to grasp. Fifth grade students are expected to be able to predict weather based on weather patterns. 5.E.1: Understand weather patterns and phenomena, making connections to the weather

in a particular place and time. 5.E.1.1 Compare daily and seasonal changes in weather conditions (including wind speed and direction, precipitation, and temperature) and patterns. 5.E.1.2: Predict upcoming weather events from weather data collected through observation and measurements. And 5.E.1.3: Explain how global patterns such as the jet stream and water currents influence local either in measurable terms such as temperature, wind direction and speed, and precipitation.

Activity 1

The first task is to record the weather data, an important objective the students seem to have difficulty understanding. Daily weather data collection is held in each class. Students are asked what the reading of the thermometer, or other weather instrument, instead of just what is the temperature so that the student has to make the connection daily. Weather data collection is a three minute activity that the students are gathered at the tables in the front of the room to create their data chart. I want this daily practice so that the students can see how the weather patterns are moving and have their own collected data to reinforce what I am teaching. Giving the students the time to collect the weather data gives me time to take class attendance as well as take up homework for Friday collection. We quickly go over the data and begin our engage activity.

Activity 2

For this activity we listen to a song or a quick video. This is a fun way for students to quickly be introduced to new material or review old material.

- Study Jams
- <http://www.songsforteaching.com/weathermeteorology/>
- http://www.learninggamesforkids.com/science_songs/educational_videos_hurricane_song.html
- <http://www.freddiesville.com/songs/>
- https://www.youtube.com/watch?v=g4O9z_R5ZSc&list=PLCE7EE0E60A4CB6B1

Activity 3

Wipe Out is a game in which there is a statement pertaining to the lesson or a lesson in the future on the board. After we read it together once, I “wipe out” a word. We read it again, including the word that was wiped out. I then choose a student to wipe out a word and we continue until the students get lost in what they are saying or until we have no words left on the board. The students enjoy Wipe Out and it gives them a chance to move and talk while learning an important phrase, or vocabulary.

Brain Breaks

It is clear that students need “brain breaks” during the course of their lessons. There are several valuable resources that take around three to four minutes on the CMS PE website. The teacher guided portion of the lesson is approximately forty-five minutes. Around the middle of the lesson portion of class, we stop and move. The movement consists of stretches, one of the sites off of the CMS PE website, or tai chi. I pull up the link and when I see a time in which the students need a break; tired, any, just too much of the same, I pull the link up and we take a quick break. I do one per class because we have back to back classes from 9:00 – 12:45 without a break other than to change classes, which is done quickly. I also use tai chi to help the students with stress, calmness, and cross body movements that have been linked to help with activating the brain. According to Kid Sense, a private provider of occupational therapy and speech pathology pediatric services, “Crossing the body midline is important developmental skill needed for many everyday tasks such as writing, tracking a moving object or tracking from left to right when reading which can cause a reading delay, behavior due to a child becoming angry or frustrated when engaging in fine motor activities, and handwriting.” (Kid Sense Child Development website).

Crossover Stretches/Exercises

- Windmills
- Drive the car
- Draw a figure eight
- Opposite knee to elbow
- Play air drums
- Hokey pokey

Tai chi helps stress, circulation, balance, and energy because it targets the core, arms, legs, glutes, and back. I have noticed that tai chi is a quick pick-me-up that has a calming effect while at the same time gives the students an energy boost while doing their lessons. I use tai chi during the EOGs and any other assessment where they sit for long periods. During the EOG, I simply start and the students follow my movements.

I teach students how to take their pulse. By students taking their pulse they began to understand their circulatory system and graphing. We take a resting pulse rate and then an exercising rate. As we do various stretches we talk about the muscles and joints that we are using. Certain poses aid in digestion; while doing these poses we discuss the process of digestion and how exercise assist with their digestion.

An important piece to the movement time is the cooldown. We simply take a couple of breaths, inhaling through our noses and exhaling through our mouths. The breathing gives the students a calming effect and they are able to come back into learning mode and get quickly back on task.

Other strategies that are useful to get the students engaged from Performance Excellence for All Kids (PEAK) (Teaching for Excellence by Spence Rogers and the Peak Team). Any strategies that have the students moving in an organized fashion and talking on the topic given are good strategies. One of my favorite is “graffiti.” I have six tables in my classroom. I put a piece of butcher paper on each and a key word on each of the tables. The students are split up into six groups. They are allowed to use their science journals to help with this activity. When the group gets to their starting table they read the word and quickly look through their notebooks to find facts dealing with that word. They write down their facts and share it with their team. If the team agrees the fact stays on the page, if the team cannot agree on the fact they circle the fact to be checked by another group or to be addressed during class discussion time. The students then move to the next group. At the second group on the students are to read what the other students have written and discuss the facts with their group. If there is something they do not agree with the circle it to be clarified during discussion time. The students move through all six tables before we have class discussion time. I then take all six of the papers and put them on the board. We come together and discuss the facts, pointing out the important facts, discuss circled facts, and clear up misconceptions.

Snowball is another activity that gets students moving and talking about an important topic of discussion. A student writes down an important fact that they know about a topic and crumbles up the paper. As the music starts, the students throw their “snowball”. When the music ends the students pick up a “snowball” that is closest to them and reads it. The students go to the nearest student and read what they have on their snowball and discuss the fact. After a few rounds, teacher determined, the students go back to their seats and writes down as much as they know about the topic.

Force and Motion Activities

3.P.1 Understand motion and factors that affect motion

3. P.1.1 Infer changes in speed or direction resulting from forces acting on an object (students know that when a force acts on an object it will result in a change of speed and/or distance

3.P.1.2 Compare the relative speeds (faster or slower) of objects that travel the same distance in different amounts of time (students know that speed can vary). Students know that varying the speed of a moving object will affect the time it takes for the object to travel a particular distance.

Activity 1 – Marbles

Students will play marbles to get a better understanding of force and motion in relation to a force is needed to change direction of a moving object and it takes a force to move a an object at rest. Playing marbles on various surfaces will help students grasp the concept of friction.

Activity 2 - Walking/Running Graphs

Students create distance/time graphs from data collected during their walking or running activities. Students will understand what the graphing lines mean on a distance/time graph and how to figure speed based on their data. During this activity, it is important to have students graph moments of rest and to understand that at rest is 0 mph.

Activity 3 - Push the Box (push an empty box then push a box filled with books)

This activity will provide students a better understanding of it takes more force to move objects that have more mass. This activity can also be done on different surfaces to incorporate the concept of friction.

5.P.1 Understand force, motion and the relationship between them.

5.P.1.1 Explain how factors such as gravity, friction, and change in mass affect the motion of objects. Students know that gravity pulls any object on or near the Earth toward it without touching it. Students know that friction is a force that is created anytime two surfaces move or try to move across each other. Students know that all matter has mass. Students understand that changing any or all of these factors will affect the motion of an object. 5.P.1.2 Students know that it is possible to measure the motion of an object based on the distance it will travel in a certain amount of time. 5.P.1.3 Students know that a graph can be created using one axis to represent the distance that an object travels, and the other axis to represent the period of time the object is traveling. Students know how to construct a graph that demonstrates a relation of distance to time. 5.P.1.4 Students know that the greater a force is, the greater the change (in motion) it produces. The greater the mass of the object being acted on, the less the effect of the (same) force.

Activities

- Tug-of-War – Who has the most force? What happens when one end drops the rope?
- Use the gym and have the students run in stop in tennis shoes and then in socks.
- Push the empty dolly seats across the gym floor. Have a student sit on the dolly seat and try to push it across the floor using the same force. What happens?
- Use the track to have students run. Students will learn to graph time/distance to find speed. Be sure to include periods of rest on your graph.

Resources

Materials Needed

Velcro

Various seating opportunities (desk style, chair style, etc)

Games to include:

- Connect 4
- Battleship
- Stress balls
- Legos
- K-nex
- Jump ropes
- Hula-hoops
- Scattergories
- Stopwatches
- Graphing paper
- Dollies
- Marbles

Class Schedule

By organizing the students' day in predictable patterns, creating ways to teach them self-organization, teaching stress management and how to help self-control their impulses, students will be better, more productive learners, with fewer behavioral issues. The amount of behavioral issues will be measured by a decrease in student marks that fifth grade tracks via a chart that travels with the class from classroom to classroom as well as a decrease in office referrals.

After special area class, students start out with their homeroom teacher and their subject area. As students enter the classroom students have a warm up problem related to a previous taught science skill in which the data has shown they are in need of more practice. After the warm up students will go through a three-minute tai chi routine. As students learn a tai chi move, we will go into actual routines. (I purchased a tai chi for beginners' video for \$14.95.)

Breaking the seventy-five minute class into chunks with physical activity embedded throughout the time periods is critical to learning (based on What is Brain-Based Learning?), Brain-based education is the purposeful engagement of strategies that apply to how our brain works in the context of education. Students are then shown a demo, picture, or video clip that related to the daily essential question. Students are allowed to talk quietly to a peer as they make their way back to their seats about the demo, picture, or video clip. When they get to their seats they are given one minute to journal about what they saw or what they discussed as they made way back to their seats. Students are

then to work on the Exploration portion of their lesson. This part can either be in pairs or small groups. Depending on the lesson students may have a hands-on activity, a game, a passage to read and analyze or a video to watch and respond to. It is important that the students work in pairs or small groups in order to give students the time to converse about the subject content as they work. Being afforded the opportunity to speak with native language speakers is especially important for my English language learners (ELL) and my exceptional children (EC). During this time students are allowed to gather at one of the tables, on the floor in a carpeted area, or at their desk. Student groups will be pulled to work in a group with me depending on the needs of the students. Half-way through the Exploration portion students will be afforded a brain break. The brain breaks last approximately three minutes. At the end of the brain break it is important to bring the students to a calm place prior to expecting students to get right back to work. Activities that bring students back from being active to being ready to learn include breathing exercises and or a silent mediation time that lasts only for a few seconds to a minute. Students then pick up where they left off in their work.

Brain Break Sites

- <https://www.gonoodle.com/>
- <https://www.youtube.com/watch?v=388Q44ReOWE>
- <http://teachtrainlove.com/20-brain-break-clips-fight-the-fidgeting/>
- <http://brainbreaks.blogspot.com/>
- <http://www.learningstationmusic.com/blog/2014/07/23/32-free-energizing-brain-breaks-vids-kids/>

After the Exploration portion of the lesson, the teacher explains what they have been exploring and is given the chance to clarify any misconceptions. During this time students are again allowed to change their seating by being able to come to the tables at the front of the room. Students can sit at the table, sit on the floor, or stand as long as they are not blocking others from seeing what is being shown to the class.

Exit Ticket Activities

Exit tickets are the last part of the science class. Exit tickets sum up what the student has learned or what the teacher needs to spend more time on teaching.

- Students are sent to their seats to complete a short exit ticket; a couple of questions that only take 2-3 minutes to complete
- Students are given an exit ticket in which they have to go to a corner that matches their thought to the question.
- Students write as much as they remember about the class

Lunch and Recess

After the three classes student go directly to lunch. We have a total of sixty minutes for lunch, restroom, and recess. We have a ten minute silent lunch period so that the students actually have time to eat their lunch. Students are willing to give up a few minutes of their lunch time in order to get to the restroom so that we can get to recess quickly to have our full thirty minutes. Once a week I plan team building activities. Team building activity time is held on Physical Education days. By law I am not required to have recess on PE days, but I feel that the students need more play. I take this opportunity to make it more of team building in to support a family dynamic to our classroom.

Team Building Ideas

- <http://www.elementarymatters.com/2013/05/team-building-activities.html>
- <http://www.scholastic.com/teachers/article/great-group-games-team-building-kids>
- <http://teambuildingactivitieshq.com/team-building-activities-for-kids/>

WIN time starts promptly at 1:45 P.M. WIN time is broken up into three fifteen minute stations. One station is on the computer in the form of research or a game. One of the stations is with me. I focus on skills that the students need assistance with, but in a fun way. We play games, stand instead of sit, and we are allowed to walk around the classroom to read. The third station is for practice and “worksheets”. For this station students work on a situation together, unless it is a quick assessment on where they are, or do an activity that has them walking around the room to find information in the form of a scavenger hunt, graffiti work, or gallery crawl.

Appendix 1: Implementing Teaching Standards

- 5.L.1.2: Compare the major systems of the human body (digestive, respiratory, circulatory, muscular, skeletal, and cardiovascular) in terms of their functions necessary for life.
- 3.L.1: Understand human body systems and how they are essential for life: protection, movement and support.
- 3.L.1.1: Compare the different functions of the skeletal and muscular systems.
- 4.L.2.2: The role of vitamins and minerals, and exercise in maintaining a healthy body.
- 5.E.1: Understand weather patterns and phenomena, making connections to the weather in a particular place and time.
- 5.E.1.1: Compare daily and seasonal changes in weather conditions (including wind speed and direction, precipitation, and temperature) and patterns.
- 5.E.1.2: Predict upcoming weather events from weather data collected through observation and measurements.
- 5.E.1.3: Explain how global patterns such as the jet stream and water currents influence local either in measureable terms such as temperature, wind direction and speed, and precipitation.
- 3.P.1: Understand motion and factors that affect motion.
- 3.P.1.1: Infer changes in speed or direction resulting from forces acting on an object.
- 3.P.1.2: Compare the relative speeds of objects that travel distance in different amounts of time.
- 5.P.1: Understand force, motion and the relationship between them.
- 5.P.1.1: Explain how factors such as gravity, friction, and change in mass affect the motion of objects.
- 5.P.1.2: Students know that it is possible to measure the motion of an object based on the distance it will travel in a certain amount of time.
- 5.P.1.3: Students know that a graph can be created using one axis to represent the distance that an object travels, and the other axis to represent the period of time the object is traveling. Students know how to construct a graph that demonstrates a relation of distance to time.
- 5.P.1.4: Students know that the greater a force is, the greater the change it produces.

Appendix 2

	Monday	Tuesday	Wednesday	Thursday	Friday
Resting HR					
Type of Movement					
Active HR					
Type of Movement					
Type of Movement					
Breakfast					
Lunch					
Snack					
Dinner					
How I felt at school today					

	Q1	Q2	Q3	Q4
Body Weight				
Sit Ups				
Push Ups				
Run Time				

Appendix 3



Appendix 4

Plank



Abdominals

Arm

Superman



Core

Lower Extremity

Lunges with a twist:

Stand with feet in stride, supported on a flat foot in front and ball of toes in the back. Flex the front knee, keeping back leg straight and lower into a lunge. Push to return to upright.

*Obliques

Arm Circles:

Stand with arms straight out. Circle 10 big circles to then front and then to the back. Repeat with small circles.

*trapezoids, deltoids

Materials for Classroom Use

Spiral notebooks (color-coded)
Connect 4
Battleship
Scattergories
K-nex
Legos
Chrome Books/I-Pads
Jump ropes
Hula-Hoop
Exercise cards
Stop watches
Weather.com
Study jams
Tai chi video
Marbles
Tug-of-War Rope
Dolly seats
Velcro
Graphing Paper

Useful Sites

<http://www.songsforteaching.com/weathermeteorology/>
http://www.learninggamesforkids.com/science_songs/education_videos_hurricane_song.html
<http://www.freddiesville.com/songs/>
https://www.youtube.com/watch?v=g4O9z_R5ZSc&list=PLCE7EE0E60A4CB6B1
<https://www.gonoodle.com/>
<https://www.youtube.com/watch?v=388Q44ReOWE>
<http://teachtrainlove.com/20-brain-break-clips-fight-the-fidgeting/>
<http://brainbreaks.blogspot.com/>
<http://www.learningstationmusic.com/blog/2014/07/23/32-free-energizing-brain-breaks-vids-kids/>
<http://www.elementarymatters.com/2013/05/team-building-activities.html>
<http://www.scholastic.com/teachers/article/great-group-games-team-building-kids>
<http://teambuildingactivitieshq.com/team-building-activities-for-kids/>
Vitamin String Quartet (on Pandora)

Suggested Reading List

1. *Classroom Fitness Breaks to Help Kids Focus* by Sara Longhi (Sept 1, 2011)
This book provides more than 50 fun exercises and games that motivate students to get in shape while also helping them focus their attention and develop self-control.
2. *The Kinesthetic Classroom: Teaching and Learning Through Movement* by Traci L. Anthony-Lengel
This is an inspiring book that shows how to integrate movement with classroom instruction.
3. *How the Brain Learns* by David A. Sousa
This book discusses current developments in neuroscience, education, and psychology to form your instruction and enhance your students' learning.
4. *Classroom Exercise Breaks for Elementary Students* by National Education Association (2002-2015)
5. *Easy Elementary Exercises* by Kids Health from Nemours
6. *Motivating the Child with Attention Deficit Disorder* by Rick Lavore
7. *Music and Learning: Integrating Music in the Classroom* by Chris Boyd from the John Hopkins School of Education
8. *Poverty Shrinks Brains from Birth* by Nature International Weekly Journal of Science
9. *PEAK: Teaching for Excellence* by Spence Rogers
10. *What is Brain-Based Learning: The New Paradigm of Teaching* by Eric Jensen

Bibliography

Lavoie, Rick. *Motivating the Child with Attention Deficit Disorder*. New York: Simon & Schuster, Inc., 2007

This book helps us better understand ADD and strategies to help the child. Suggestions on how to stimulate the student, instead of the student having to stimulate himself.

Brewer, Chris Boyd. *Music and Learning: Integrating Music in the Classroom*. John Hopkins School of Education, 1995.

This article explains the relationship between music and learning. It serves as a guide for useful ways to use music to help students learn.

Jensen, Eric. *What is Brain-Based Learning?* California: Corwin Press, 1995.

In a nutshell, brain-based education says, "Everything we do uses our brain; let's learn more about it and apply that knowledge." This book gives us the information and research to help teachers learn more to better teach their students in ways that better "feed the brain".

Longhi, Sara. *Classroom Fitness Breaks to Help Kids Focus*. New York: Scholastic, Inc., 2011

This book provides more than 50 fun exercises and games that motivate students to get in shape while also helping them focus their attention and develop self-control.

Anthony-Lengel, Traci L. *The Kinesthetic Classroom: Teaching and Learning through Movement*. California: Corwin Press, 2010.

This is an inspiring book that shows how to integrate movement with classroom instruction.

Sousa, David A. *How the Brain Learns*. California: Corwin Press, 2011.

This book discusses current developments in neuroscience, education, and psychology to form your instruction and enhance your students' learning.

Rogers, Spence. *PEAK: Teaching for Excellence*. Colorado: Peak Learning Systems, 2010.

This book gives examples of various ways to structure lessons and create a safe environment. Teachers will find the assessments and the activities easy to incorporate in any lesson.