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Developing Student Leaders through Nutritional Empowerment

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Overview

Food is often thought of as just one of life's basic need- and yet it is so much more. When I become ill, the first thing I think about is drinking hot jello. It is my comfort food, the special drink my mom would make me when I had to stay home from school due to sickness. Christmas time is filled with favorite traditional foods such as jelled cranberries and sweet potato casserole. From watermelon at our July 4 th cookout to turkey at Thanksgiving, food is central to bringing people together. Daily we make many decisions about what we put into our mouths.

Elementary students build an understanding of biological concepts through direct experiences. These experiences emerge from the student's natural interests and sense of wonder. Students ask questions such as: "Where does the food we eat go? How does food fuel our bodies? What are the best kinds of food to eat? What can I do to be healthy?"

This unit is based on my fourth grade students taking what they have learned about making wise, informed and healthy choices and challenging them to excel in ways that are meaningful to themselves by passing nutritional information along to others in the form of a Service Learning Project. Through this unit I will encourage students to express themselves in creative ways, to develop their own ideas, and to think critically while sharing their knowledge with others. Designed to empower students to take ownership of their own learning, this unit will build leadership skills and communication skills through service to others.

Demographics

J.H. Gunn Elementary School is a suburban elementary school with single grades K-5. It is located in Charlotte, North Carolina in the urban school district of the Charlotte/Mecklenburg School System, which is the twenty-third largest in the nation. The school has a multicultural population of 730 students and is an English as a Second Language designated site. The ESL Program serves approximately twenty-five percent of our student body. Seventy-three percent of our students receive free or reduced lunch making us a Title I school. The

school has been an integral part of the J.H. Gunn community, an integrated medium-low income neighborhood (African American, Hispanic, Caucasian and others), for over 75 years. Our school reaches out to the surrounding community in many ways. Scouts, Parks and Recreation, and a large After School Enrichment Program use our facilities after school hours.

I am the full time Science Facilitator at our school. I have created a Science Lab from a classroom. The Lab has 6 tables for group experiments and cooperative working groups as well as a Media Viewing Space (carpeted area where a computer connected to a LCD, overhead and TV are located). The Science Lab experience is considered a "Special" on the same level as Art, Music, Media, P. E. and Computer classes. The "Special Area" teachers work with all the students from each of the five grade levels so that that grade level teams have a daily planning time. Every student in the school comes to the Lab during the school year for a forty-five minute lesson one time a week, at least for a semester, many for the entire year depending on the Master Schedule.

I teach Science using the North Carolina Standard Course of Study (See Figure 1) and appropriate teaching methods, resources and strategies related to designing effective science learning experiences for my students. For most lessons I use the Five E's (Explore, Engage, Explain, Elaborate, and Evaluate) in planning interactive lessons. I have discovered many excellent interactive science web sites where students can perform virtual experiments. Viewing these web sites as a group has had a real impact on student learning because most of my students are lacking in life experiences giving them background knowledge to perform their own discovery experiments.

Although I am a teacher of Science I consider myself first a Character Educator. I have served my school as the Character Education Coordinator for four years. During this time I saw the power of Service Learning Projects. For many of our students Service Learning is the first time that they have looked outside of their own world to help some one else. I have experienced first hand the joy on their faces as they understand the importance of helping others and seen how this kind of learning has given real meaning to the student's education.

Rational

In the United States childhood obesity is a major concern of healthcare providers, teachers and parents.There are nearly twice as many overweight children and almost three times as many overweight teens as in 1980. (1,2) Childhood obesity can lead to other health complications, such as Type 2 diabetes, high blood pressure, joint problems, heart disease, and anxiety.

Diet plans and nutritional advice inundate our society. The amount of information, conflicting advice and health claims can be overwhelming for adults. For students whose nutritional needs are different, the task can seem impossible. Our students are barraged with television ads that often make foods with little nutritional value seem very desirable. Candy, snacks and soft drinks companies advertise frequently on Saturday morning cartoons. Major Food Chains create cute "Kids Meals" where students not only get lots of calories but a prize too!

Nutrition is essential to health. Students need to understand how their body uses food and how different kinds

of food contribute to health.When our student's nutritional needs are met, it is easier for them to focus and learn. Good nutrition and learning go hand in hand.

Building a solid foundation of nutritional knowledge while they are young will lay the groundwork for lifelong health habits. It is vital that our students learn about healthy eating patterns at an early age so that they can take responsibility for what they eat, make informed choices and protect their health through diet as they grow older. Healthy eating habits learned early in life will serve them well.

Background

In our Science Standard Course of Study, Food Science is taught only at the fourth grade level for a nine week period. This is the only time during the student's elementary school experience that this subject is presented.I have created this unit based on my belief that reaching all of the students with the message of healthy choices, being responsible to ourselves about what goes into our bodies and gaining a basic understanding of nutrition is of fundamental and of vital importance. The vehicle for sharing this significant information is through my fourth grade student's projects. In the course of sharing their projects with others this message will be infused into our school. My fourth grade students will take ownership of delivering this message in creative "kid friendly" ways building up their own self-esteem as they see themselves taking the responsible role of helping others learn more about this subject.

Food Science Study

The first five weeks of the Food Science Study will include how to read and understand nutritional labels, exploring how the digestive track functions, learning about the food pyramid and exploring essential questions such as: How does food provide energy and materials for growth and repair of the body? What do organisms require to live and grow? What can be used to compare the chemical energy of different foods? What two main food components are examples of carbohydrates? What main components make up foods? The concepts addressed by these questions, along with the questions the students generate will be explored in a multitude of ways. Some of the teaching techniques that I will use include hands on learning, minds engaged experiments, interactive websites, in class demonstrations, large and small group instruction, journalingand science diary entries.

During the first five weeks before this unit is presented a chart will be kept for each of my fourth grade classes. The chart will be broken down into four areas focused on Food Science; 1) what we **k**now, 2) what we **w**ant to learn more about, 3) what we have **l**earned and 4) what we want to **t**ell others (KWLT chart). This chart will be used throughout our study and will serve as an idea board for our unit.

The academic underpinning for the the student's Service Learning Projects is concentrated in five areas of information. Before the fourth grade students begin their projects I need them to understand and know the following information about nutrition.

The first concepts I will teach are the main components of the digestive system and how food provides energy and materials for growth and repair of the body. I will ask my students to write in their Food Study Journal what they already know about how the digestive system functions, what body parts make up the digestive system and how the digestive system provides energy for our bodies. The students will then write in their journals what they would like to learn more about. As a group we will discuss what the students have written in their journals and begin filling out our information on what we call a KWLTchart.

I will then show the students "Dr. Bob", my three dimensional body torso with removable parts. I will take each section of the digestive system out of Dr. Bob and show the class, emphasizingthat unlike the model, our system is one continuous closed system with most of the food being digested. I will also use the book "Under the Microscope Digesting- How we fuel the body" for its excellent "inside" pictures of the digestive system. In this system the food is chemically changed, taken inside the body and used to nourish our bodies. As you chew your food saliva mixes with it and your teeth help to break it into parts. You then swallow a food bolus and it travels past the epiglottis and down the esophagusinto the stomach. Here the digestive system uses the mechanical process (churning) and chemical processes (enzymes) to break down your food. Your food becomes smaller and smaller until it becomes a thick soup like substance called chyme. The chyme is then squeezed into the small intestine where the gall bladder and pancreas squirt it with digestive juices. It is in your small intestines where most digestion takes place. Our simple food molecules are absorbed through the walls of the small intestine through fingerlike villi (similar to a towel). The nutrients that are contained in your food are then carried by your blood to every living cell in the body. One of the nutrients is a kind of sugar called glucose which provides your body with energy. Your body gets energy and materials it needs to make new cells and replace the old ones from the food you eat.

The material that is left is mainly fiber from fruit, vegetables and grain. These enter the large intestine and are considered waste material. They travel through the large intestine where most of the water is reabsorbed back into your body. The waste material will be excreted by the body.

After learning about the digestive system the students will engage in a hands on model of the villi using washcloths. Students will examine the washcloth laid out on the table, then fan fold them to see for themselves how much more surface area is available in a smaller space. Students will write vocabulary words in their journals and work as a group to put together the digestive system puzzles. Using the web site http://www.harcourtschool.com/activity/digest/index.htm I will demonstrate how to connect the individual parts of the digestive system to complete the whole system. I will share this site with my students so that they can use it at home, in their free time, or in the Computer Lab. Students will be asked to keep a food journal of everything that goes into their mouths over the course of three consecutive days.

The second body of knowledge includes a review of vocabulary words from the introduction and a review of the essential question, "What can be used to compare the chemical energy of different foods?" The students will write in their journals their own questions and insights on this topic. We will continue to work on our KWLT chart. After a short discussion on why reading and understanding nutritional labels is important we will move to the viewing area where the students will learn how to read nutritional labels and be introduced to potions sizes on the following interactive website: http://www.cfsan.fda.gov/~ear/hwm/hwmintro.html. Working as a whole group and using the lunch selections from the cafeteria that day, we will design a menu for the student's typical lunch. We will then record a typical fast food lunch. To compare these two lunches we will move to the viewing area and use the web site: http://www.fitday.com. We will then discuss some activities and how many calories our bodies use for each activity. Examples are: reading, 65 calories an hour (cal/hr), walking 246 cal/hr and running 576 cal/hr. Students will have visuals in the form of labels from different kinds

of foods. Working in small groups they will select a food item (snack), then figure out what activity they would have to do in order to burn off the amount of calories in their snack. The students will then use their journals to reflect on the insights learned from this lesson.

The third body of knowledge will center on the essential questions of: What do organisms require to live and grow? What main components make up foods? What two main food components are examples of carbohydrates? Most of my students will have background knowledge that organisms need energy (food), water, and space. I will build on this background information and discuss how we get our energy through the food we eat. I will introduce two new vocabulary words- macronutrients and micronutrients. Macronutrients are needed in larger quantities and include carbohydrates, protein, fat and water. Carbohydrates, fat and protein provide our body with energy and are called the energy-yielding nutrients. This powerful trio transport energy to every cell in our bodies. They are the main components that make up our food. Water plays a vital role in processing and transporting macronutrients. Micronutrients include vitamins and minerals which our bodies need small amount of, but they play a very important role! They keep our bodies regulated and functioning properly so that the macronutrients can properly do their job. Micronutrients are mandatory for our bodies to repair normal wear and tear and to heal us from illness and infection.

Students will then be asked to work in cooperative learning groups (table groups) to create a visual to represent the information about micronutrients and macronutrients. They will have fifteen minutes to discuss, plan, and design a way to share the information. They can use thinking maps, flow charts, or create their own design.

While students are working on their project I will set up a tasting experiment using white bread and whole grain bread. Each student will be given a small portion of each of the breads. They will place the white bread in their mouths and see how the taste changes, then place the whole grain bread in their mouths. They will compare the taste of the two breads. In their Food Study Journal they will write the experiment and their experiences. We will discuss how starches and sugars are the two main food components that are examples of carbohydrates. I will use the following web site to help explain how the bread is changing in taste- http://www.thenakedscientists.com/HTML/content/kitchenscience/exp/white-bread-and-the-wonder-of-enzymes/

We will review our KWLT chart and add to it as necessary. The visuals will be collected and some will be selected for the hallway bulletin board.

The fourth area of knowledge is based on healthy choices the students make daily and the introduction of food pyramids. It will begin with a review of our vocabulary words. Students will add to their journals the vocabulary words, Food Pyramid and serving sizes. We will first go to the viewing area and look at the short two minute video about my pyramid at http://www.mypyramid.gov/downloads/animation/Presentation_English.wmv. The students will think about the topic, get in pairs with other students to discuss the topic, then share why they feel the pyramid was changed and what other choice, beside what goes into our mouth, are important for us to be healthy. The students will then be introduced to Dr. Willett's New Healthy Eating Pyramid (minus the alcohol section). We will compare and contrast the two pyramids and discuss the similarities and differences. I will then pass out paper plates. The student will draw a large pyramid on their plates and select one day from their food journals. On the paper plate pyramids the students will draw pictures of what they ate for breakfast, lunch and dinner in the appropriate places then see if their individual pyramid plates are balanced. Students will then reflect in their Food Study journals how their pyramid compares to the Healthy Eating Pyramid. Students will note any areas

that they may need to improve in.

We will then discuss food portion sizes. I will demonstrate using a variety of measuring tools (measuring cups, measuring spoons, food scale) and foods to discover what a potion is. For example, I will show them a bag of popcorn, pour some into a bowl, and ask the class if this is a single serving. I will then measure it. I will show them a bottle of soda and have them guess how many servings are in the bottle. I will use the web site www.calorieking.com/foods/ as a reference and show the students how they can use the website from home or the computer lab.

The KWLT chart will be reviewed and new student generated information will be added. I will briefly introduce the idea of the Service Learning Project so that students can start to think about what they might want to do.

At this point it will be time to wrap up our Food Study and look toward our Service Learning Projects. We will begin with a review of the vocabulary words and then I share with the students that we will be welcoming a guest speaker, the manager of the cafeteria. The students will write down any questions they might want to ask him in their Food Study journal. I will ask the manager to do a short presentation showing how portion sizes are determined using different scoops, scales, and spoons which are most commonly used to control serving sizes. He will be asked in advance to explain to the students how the cafeteria foods are selected and how menus are decided upon. He will also explain where the food comes from and how it is handled and prepared. As a closure, he will answer questions from the class.

We will visit our KWLT chart and update any of the areas that we can. We will focus on the "T" part of the chart- what we want to tell others. I will then introduce the Developing Student Leaders through Nutritional Empowerment unit. The Nutritional Service Learning Project Contracts (see figure 2) will be distributed followed by a discussion period where such issues as topics, partners, etc. will be addressed. A time of questions and answers will follow.

Developing Student Leaders through Nutritional Empowerment

This unit will be taught the last four weeks of the Food Science study.Through the unit we will reach beyond the goal and objectives of the Standard Course of Study. I will empower Fourth grade students to demonstrate leadership qualities as they learn the necessary skills and motivation to take responsibility to make their own healthy choices. The students will use the information gained through their initial study of food science to inform others (students, staff, and community) in a variety of self-selected Service Learning projects.

Service Learning Projects- What are they?

Through my research I found many different interpretations of service-learning as well as different objectives and contexts. A basic concept upon which many agree is that service-learning combines service objectives with learning objectives with the intent that the activity/project will change both the recipient and the provider of the service in a positive way. This is accomplished by combining service tasks with structured opportunities that link the task to self-reflection, self-discovery, and the acquisition and comprehension of values, skills, and knowledge content. Service learning projects combine service with learning to the benefit of all who participate.

Service-learning offers a unique opportunity for my fourth grade students to get involved with their school communities in a tangible way by integrating service projects with our Food Science Study. Service-learning engages students in the educational process, using what they learn in the Science Lab to solve real-life problems. Students not only learn to take responsibility for healthy choices, they become actively contributing citizens and community members through the service they perform.

Students build character and become active participants as they work with others in their school and community to create service projects. Students' develop personal and social responsibility as they use skills and knowledge in real-life situations. Students will develop leadership skills as they foster a sense of caring for others.

Strategies

Fourth grade students are preparing to take leadership roles as "seniors" at the elementary level. This unit is designed to challenge the students to take the knowledge gained through our Food Science study and see themselves as having the power to take responsibility for their own food choices then to be role models, educators, and disseminators of information in conveying to other students healthy choices. They will accomplish this goal by educating their peers, younger students, staff and/or parents through creating a Service Learning Project focused on sharing their new knowledge and insights gained, through their study. Using the KWLT chart and their journals from the Food Science study, the students will first select the topic of their project. The topic should be one they feel passionate about and want to share with others. Students will work individually, or in groups of two or three to create their projects. The projects will be self selected. I believe the students will come up with an abundance of good ideas through the KWLTchart (especially the "tell others" section.) The projects can range from posters, songs, bulletinboards, plays, books (authored and illustrated by fourth grade students then read to younger students), commercials for our closed circuit daily broadcast, orbrochures. Some students might want tomake a healthy snack cookbook for kids, create a nutrition game, make a power point presentation, form a group to meet with the cafeteria manager to create a lunch, demonstrate an experiment or design a flyer on nutrition. My goal is that my fourth grade students will grasp what has been important to them to learn, find a creative way to share their knowledge, create a service learning project, then share their Service Learning project with others so that they can help others to discoverhealthy choices.

The Music, Art, P.E., Technology, Talent and Development (TD), ESL teachers and Media Specialist have agreed to collaborate and focus their lesson on supporting the student's projects. Home room teachers and parents will also be asked to support their student's endeavors to show leadership skills through helping fellow students understand the importance of making healthy choices.These staff members or other interested adults will be asked to act as advisers for the Service Learning Projects.

Elements of Service Learning

The following strategies will be used while teaching this unit:

Preparation: The preparation phase of our service-learning project involves students making thoughtful decisions about the topic they feel is significant and want to base their project on. Students may need to learn

a skill (i.e. learn to make a power point or use a camera). Students may need to gain additional knowledge in the area of their selected topic. Students will also decide the form the project will take and the audience they seek to target. In this strategy they will also select and ask an adult if they would serve as their project advisor. The students will make decisions about the materials they need and if they need to learn new skills in order to prepare and present their projects. They will also need to create a timeline of activities. I have created a Nutritional Service Learning Project Contract (See Figure 2) that will need to be completed the first week.

Collaboration

Due to the authentic nature of service-learning activities, collaboration among students will naturally occur. Whether it is student to student, student to advisor or student to audience, collaboration is an integral phenomenon that will occur during the entire process.

Collaborating students scaffold and support each other as they stretch their thinking skills, take more risks, and think divergently. Cooperative learning also leads these future leaders to improve their interpersonal relations.

Service

The fourth grade leaders will present their projects to their class either in the science lab or in their classroom. Their peers will have an opportunity to make positive comments and one wish as feedback for each project. After the project has been shared, the fourth grade students will share their project with the intended audience.

Reflection

Students will use their Food Service Journal to reflect on their progress, procedures and feelings. According to McPherson (1989) (3), reflection aids in cognitive development in several ways. By examining experiences, students learn how to handle real life problems more effectively and with a higher transfer of learning. An increased sense of personal power emerges as students analyze their goals and ways to achieve them. By reflecting and sharing reflections, "the big picture" of healthy choices and discovering connections between projects students will reinforce or gain knowledge learned through the Food Science Study. Finally, by analyzing their service projects, students can come up with possible alternative ways to inform others about healthy choices. This will lead the fourth grade students to see a connection between what they value about their choices and their peers and audiences reactions.

Celebration

Celebration of the students' hard work is an important strategy in Service Learning Projects. It is an important way of saying "Thank you" for your hard work and "A job well done." I will ask the audiences with whom the students have shared their projects with to write notes to the fourth grade students thanking them and commenting on what they have learned from the projects (authentic writing). These notes will be shared at the celebration. Volunteer advisors will also be asked to the celebrations where the fourth grade students will give the advisors a thank you note.

Evaluation

Students will write a reflection essay on what they have learned, what changes they would make if they could

do it over again, and what procedures they went through to make their projects.

Classroom Activities

The week before the Food Science study begins students will be asked to keep a daily log of food that they eat. During the fifth week of our study students will be assigned once again to keep a daily log of food they consume. Students will compare and discuss their two food logs to see how their daily eating habits have changed due to our study. Students should understand that they have control over what they choose to eat and that the food they eat greatly affects them. They will this knowledge and the information gained through our study so far to develop their Service Learning project.

Students will first decide if their project will be individual or a group project (groups of two or three will be highly suggested), what topic they will address, who they will ask to be their advisor, what form their project will take, who their audience is, how they will inform others and what materials or technology help they may need.They will also form their mission statement for the service learning project they are creating. The teams will decide if they will present their projects to their class in the Science Lab or in their class and sign up for a time for their presentation. They will contact (if applicable) their intended audience and set a time to present. They will place all of this information on the Service Learning Project Contract. When the contract is completed (due at the beginning of the second class) they will turn the form into me and I will make copies and distribute them to their homeroom teacher, advisor and guardian in order to keep all interested parties informed.

The rubric (see figure 3) for the service learning projects will also be introduced. We will go over each of the eight categories, discussing the meaning of each item. I will explain to my students that the rubric will be used both as a self- evaluation instrument and as an assessment tool. A time of questions and answers will follow then the students will have time to plan and start to work on their projects.

During the second meeting with the students my role changes to a facilitator, technical advisor, encourager, and solution creator. Students will be working on their individual projects and needed supplies will be available. I will be working on skill development with those students who need to obtain new skills. If students require further information they will have access to both the media center and the computer lab. Weekly meetings with their advisor will be encouraged. I will rotate into each of the small groups to check on their progress, answer any questions, give the group time to verbalize what they are doing and support them in what ever way they need.

The third meeting will be a working meeting with groups having time to work on their projects. I will serve in the same role as the second meeting, checking on progress and helping students to overcome any barriers they may have encountered during the week. Groups who have completed their projects will have a time at the end of the session to present to their peers. Due to the time factor not all students will be able to present to their class in the science lab, so I have made arrangements with the classroom teachers to have some groups present to the class during regular school time. The teachers will use the rubric to score the presentations. Peers will give feedback in the form of "Two things I liked about your project and a wish." This practice presentation will help the students prepare to deliver their Service Learning project to their intended audience.

The first part of our last meeting will be spent learning from the students who have not had an opportunity to share their presentations to their peers. Hopefully this will only be one or two groups. By this time the majority of the students will have presented their projects to the intended audience. They will have time to reflect on what they have learned by writing in their journals important knowledge, feelings, and/or actions, and share their journals reflections with at least one other person.

The last half of the meeting will be a celebration with a taste testing party! I will arrange for parents to send in healthy snack for students to eat. I will bring in a whole pineapple and a coconut to cut open and share with the students. Students can make Ants on a Log snacks (celery, peanut butter and raisins) and squeeze fresh lemons to make lemonade.

Assessment

Students will be assessed using the Rubric for Nutritionals Service Learning Projects. The students will use the rubric to self-assess. The student will select one adult who has seen the presentation (their classroom teacher, advisor, teacher of intended audience or myself) to fill in a second rubric. Both completed rubrics will be given to me, shared with the student and then given to their homeroom teacher to help in determining the science grade for the quarter.

Notes

1. Ogden Cl et al. Journal of the American Medical Association, 2002. 288:1728-1732.
2. Ogden Cl et al. Journal of the American Medical Association, 2006. 295(13):1549-1555.
3. McPherson, K. "Service-learning Concept." 1989

Appendix

Figure 1- North Carolina Standard Course of Study

Science — Grade 4

Goal 4

The learner will conduct investigations and use appropriate technology to build an understanding of how food provides energy and materials for growth and repair of the body.

Objective 4.01

Explain why organisms require energy to live and grow.

Objective 4.02

Show how calories can be used to compare the chemical energy of different foods.

Objective 4.03

Discuss how foods provide both energy and nutrients for living organisms.

Objective 4.04

Identify starches and sugars as carbohydrates.

Objective 4.05

Determine that foods are made up of a variety of components.

Figure 2 : Nutritional Service Learning Project Contract

Please fill out this contract and return it to Mrs. Woolery by our next class meeting. Mrs. Woolery will make copies and give them to your teacher and your advisor.

Your Name _____

Homeroom Teachers Name_____

Volunteer Advisors Name _____

Guardians Signature _____

Your mission statement of your Service Learning Project

_____

Your audience _____

Format your project will take _____

This project ties into our Food Science Studies by

_____

By creating this project I have an opportunity to learn

_____

I will need the following materials to make my project

_____

I will need to have help learning the following skills in order to complete my project

_____

I will present my Service Learning Project to my class or in the Science Lab (circle one) on the following date

_____

I will present my Service Learning Project to the intended audience by

_____

I will share my reflection with _____

Figure 3 - Rubric for Nutritional Service Learning Projects

CATEGORY	4	3	2	1
Contributions	Routinely provides useful ideas when participating in the group and in classroom discussion. A definite leader who contributes a lot of effort.	Usually provides useful ideas when participating in the group and in classroom discussion. A strong group member who tries hard!	Sometimes provides useful ideas when participating in the group and in classroom discussion. A group member who does what is required.	Rarely provides useful ideas when participating in the group and in classroom discussion. May refuse to participate.
Time-management	Routinely uses time well throughout the project to ensure things get done on time. Group does not have to adjust deadlines or work responsibilities because of this person's procrastination.	Usually uses time well throughout the project, but may have procrastinated once. Group does not have to adjust deadlines or work responsibilities because of this person's procrastination.	Tends to procrastinate, but always gets things done by the deadlines. Group does not have to adjust deadlines or work responsibilities because of this person's procrastination.	Rarely gets things done by the deadlines AND group has to adjust deadlines or work responsibilities because of this person's inadequate time management.
Working with Others	Almost always listens to, shares with, and supports the efforts of others. Tries to keep people working well together.	Usually listens to, shares, with, and supports the efforts of others. Does not cause "waves" in the group.	Often listens to, shares with, and supports the efforts of others, but sometimes is not a good team member.	Rarely listens to, shares with, and supports the efforts of others. Often is not a good team player.
Quality of Work	Provides work of the highest quality.	Provides high quality work.	Provides work that occasionally needs to be checked/redone by other group members to ensure quality.	Provides work that usually needs to be checked/redone by others to ensure quality
Attitude	Never is publicly critical of the project or the work of others. Always has a positive attitude about the task(s).	Rarely is publicly critical of the project or the work of others. Often has a positive attitude about the task(s).	Occasionally is publicly critical of the project or the work of other members of the group. Usually has a positive attitude about the task(s).	Often is publicly critical of the project or the work of other members of the group. Often has a negative attitude about the task(s).

Focus on the task	Consistently stays focused on the task and what needs to be done. Very self-directed.	Focuses on the task and what needs to be done most of the time. Other group members can count on this person.	Focuses on the task and what needs to be done some of the time. Other group members must sometimes nag, prod, and remind to keep this person on-task.	Rarely focuses on the task and what needs to be done. Lets others do the work.
Preparedness	Brings needed materials to rehearsal and is always ready to work.	Almost always brings needed materials to rehearsal and is ready to work.	Almost always brings needed materials but sometimes needs to settle down and get to work	Often forgets needed materials or is rarely ready to get to work
Pride	Work reflects this student's best efforts.	Work reflects a strong effort from this student.	Work reflects some effort from this student	Work reflects very little effort on the part of this student.

Bibliography

Student Books

Miller,Edward. *The Monster Health Book.* New York: Holiday House, 2006.

Will be a useful resource for my ELL students because they can relate to the cute illustrations and easily identify to the monsters. Students could use this book as a template to create their own project to use with younger students.

Patent,Dorthy H.. *Nutrition What's in the Food We Eat.* New York: Holiday House, 1992.

Dr. Patent gives a precise description of different types of food and the roles they play in our bodies. Easy to understand description of how food is digested and converted to energy.

Leedy,Loreen. *The Edible Pyramid Good Eating Every Day.* New York, New York: Holiday House, 2007.

This is a wonderful book to introduce the U.S. Department of Agriculture's newly redesigned food pyramid. This is a very easy read with fun illustrations.

Royston,Angela. *Under the Microscope-Digesting- How we fuel the body.* Danbury, CT: Groier Education, 1998.

Excellent pictures, easy to grasp explanations of how our digestion system works. A must have for everyone who is teaching a nutrition unit!

Shryer,Donna. *Body Fuel A Guide to Good Nutrition.* New York, New York: Benchmark Books, 2008.

Provides a basic, comprehensive introduction to human nutrition, including information on how nutrients fuel the body. Included in the book is a review of the food pyramid and how to read labels to make healthy food choices.

Smith,Alastair. *What Happens to Your Food?.* Tulsa, OK: Usborne , 1997.

Wonderful Flip/Flap paperback book that uses illustrations and words to answer questions that student's might ask such as "What is

food for?" and "What happens in your stomach?"

Ward,Brain R.. *Food and Digestion.* Franklin Watts Inc. , 1983.

Nice illustrations and simple explanations of how our digestive system works.

Teacher Readings

Demas,Antonia. *Food is Elementary A Hands-on Curriculum for Young Students.* Trumansburg, NY: Food Studies Institute, Inc., 2001.

A curriculum with great lesson plans that students can perform. An added bonus is that in the second semester lessons he looks at nutrition from around the world. A great way to integrate Social Studies and connect to students from around the world.

Evers,Connie L.. *How to Teach Nutrition to Kids an Integrated, Creative Approach to Nutrition Education.* Tigard, OR: 24 Carrot Press, 1996.

This book has great nutrition education activities and strategies that are kid-tested and teacher-endorsed. This book is an excellent resource for easy to use lessons, effectively integrates nutrition into the classroom and is divided by subject.

Pollan,Michael. *In Defense of Food: an Eater's Manifesto.* New York: The Penguin Press, 2008

Interesting background material for this unit, with the main idea of eat food, not too much, mostly plants. This book will help you find the passion and purpose of why nutrition is such a valuable subject to teach.

Willett,Walter C.. *Eat, Drink, and Be Healthy The Harvard Medical School Guide to Healthy Eating.* New York: Free Press, 2001.

Dr. Willett contention is that the USDA Food Pyramid should be critically looked at and has therefore created his own New Healthy Eating Pyramid. I agree that his Pyramid does seem healthier. I will be using the information from this book and the New Healthy Eating Pyramid in this unit.

Web Sources

Cyser Software, Inc., http://fitday.com/ (accessed June 2008).

http://fitday.com

Use the online account to enter your daily foods and exercise. FitDay analyzes all your information and shows you a read out of calories and exercise. Students will enjoy tracking themselves.

Family Health Network, www.calorieking.com/foods/ (accessed June, 2008).

www.calorieking.com/foods/

The CalorieKing.com Food Database holds the nutritional information for over 50,000 American generic and brand name foods (including over 260 fast-food chains). There is a wide range information available including calorie count charts, fat content, fiber content, protein content and much more. This site is useful to look up typical meals from fast food chains.

FDA/Center for Food Safety & Applied Nutrition, http://www.cfsan.fda.gov/~ear/hwm/hwmintro.html. (accessed June, 2008).

http://www.cfsan.fda.gov/~ear/hwm/hwmintro.html.

Great web site that explains in detail how to read food labels. Students will enjoy working and counting calories on this site.

Hartcourt School Publishers, http://www.harcourtschool.com/activity/digest/index.htm (accessed June 2008).

http://www.harcourtschool.com/activity/digest/index.htm

This is an interactive web site where students can place all of the digestive system parts together to complete the puzzle. Students love this site!

The Naked Scientists, http://www.thenakedscientists.com/HTML/content/kitchenscience/exp/white-bread-and-the-wonder-of-enzymes/ (accessed June 2008).

http://www.thenakedscientists.com/HTML/content/kitchenscience/exp/white-bread-and-the-wonder-of-enzymes/

Description of experiment using bread to taste how it changes to a sweet in your mouth.

Nemours Foundation, http://www.kidshealth.org (accessed June, 2008).

http://www.kidshealth.org

Kids Heath provides general health and nutrition with separate areas for kids.

United States Department of Agriculture, http://www.mypyramid.gov/ (accessed June, 2008).

http://www.mypyramid.gov

Learn about My Pyramid at this web site. Information about serving sizes and specific foods that fall into each category is readily available. Interactive game students will enjoy is also available.

USDA, http://www.mypyramid.gov/downloads/animation/Presentation_English.wmv (accessed June 2008).

http://www.mypyramid.gov/downloads/animation/Presentation_English.wmv

This is a 2 minute introduction to how and why the Pyramid was created by the USDA. Good introduction and background information to help students understand the importance of exercise along with a balanced meal.