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Food Environmental Quality and Health

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“A Developmental Guidance Approach to Health, Nutrition and General Wellness for the 5th, 6th, 7th and 8th Grade Students of Fair Haven Middle”

INTRODUCTION

Fair Haven Middle School consists of approximately nine hundred and fifty students made up of fifth, sixth, seventh, and eighth grade students. This population is approximately 90% minority, with 70% of that group being Hispanic. Many of these students are currently at high risk for diet related illnesses such as, heart disease, diabetes and obesity. Therefore, there is great need for a school wide program that addresses health and prevention issues.

New Haven does not currently have a health curriculum for its K-12 students; hence, reaching these students regarding the areas of health, nutrition and general wellness is strongly needed. Our school based health center, physical education teachers, school nurse, guidance department and cafeteria staff have formed a coordinated school health committee to begin to focus on ways of addressing these areas of concern. As a guidance counselor and active member of this committee, creating a curriculum unit around our school needs would serve as an effective tool for me to reach our students.

The entire school environment influences student’s eating behaviors and physical activity, therefore, a preliminary survey to discover the health interests and needs of our school was administered. The results of this survey determined that the needs to be targeted are: physical activity, nutrition and parent and community involvement. This unit encompasses these identified issues through a developmentally appropriate guidance perspective. I intend to utilize the seminar’s information, while also addressing proper decision-making and problem solving skills to enable these students to deal with the current risks facing their overall wellness.

There is a need for teaching in these focus areas, however, without a designed curriculum these topics are often overlooked. As a guidance counselor, I can address these issues in an academic or specialty classroom to ensure that every student receives the information. For the purpose of this curriculum, I intend to divide the grade levels into fifth and sixth grade topics and seventh and eighth grade topics. The basic concepts and

issues will be discussed similarly, however the content areas will be addressed differently in that they will be developmentally appropriate for each group. These lessons will be adapted and changed yearly so as to ensure that the same student is not receiving the same information twice. The lesson plans will be designed to reach students in an effective manner for their interest and ability in relation to the topic of health and wellness.

Since Fair Haven is a school environment, our overall objective is to promote individual production in the area of academic achievement and success for our students. My pedagogical perspective in implementing this curriculum will be to teach these issues in a manner that is practical, age appropriate and hands on. I believe that a student learns best by doing. The lessons to be learned in this unit lend easily to allowing the students the freedom to apply the information in a personal and practical manner. The only way to have this information relayed to the student body population, as a whole is to do so in a multi-disciplinary approach, this broad content area is a school wide concern and should be addressed accordingly. I will work collaboratively with the teachers in addressing these various topics, as well as teaching lessons and facilitating small groups. As each of the topics is discussed in their appropriate classrooms the final outcome of the lessons will be evaluated accordingly. As a follow up exercise to each of these lessons the students will write an article for the school newsletter summarizing the content learned. This newsletter will not only be an essential tool for school wide awareness, but this will be sent home to parents so they can also gain new knowledge and become aware of the teachings at Fair Haven. A resource such as this one, not only provides the culmination of new knowledge gained, sharing of knowledge to others less informed, but ultimately it serves as a collaborative measure between the school and it's Fair Haven families.

OBJECTIVES

Healthy Choices

I plan to start this curriculum by providing general knowledge about healthy choices and how the decisions we make about food affect our bodies and mind. The more physically and mentally healthy we are the better we perform academically. Helping students to understand that a successful student is a healthy one will be my major concentration. A student cannot learn if they are pre-occupied by hunger, fatigue or some emotional barrier. Therefore, this curriculum needs to be focused around helping the students and school population as a whole gain a true understanding of this concept if they wish to witness true student success. Not only will we be educating the student's on proper nutrition we will be helping to break down the barriers that may be blocking their potential success rates.

Nutritional Decision Making

The first step in addressing this issue will be to start evaluating what choices our students make regarding nutrition. We will also assess how our school and our society influence the overall wellness of our children. Looking into both of these influences will allow for a truer understanding of where the student is in regards to risk and health.

Home Economics and Values and Choices are two classes offered at Fair Haven that would lend themselves easily to the topic of the decision making process we go through in regards to food choice. Home Economics is a course, which provides knowledge to students around food preparation and nutritional balance. Values and Choice is a social development course, which encompasses topics such as body image, knowing oneself and making proper decisions.

The purpose of educating students around these topics is to have the students discover for themselves what is in the foods they consume daily and evaluate its nutrients and healthiness. Having the students discover if what they eat is beneficial to their overall well being will help them in understanding what is best for their bodies. The approach will be to have the students keep daily journals to track their diet and physical activity during a weeks time which they will evaluate bi-weekly. This will allow the students to gain an individual perspective on their eating and assess it in a personal and private manner.

We will question who influences what they eat and why? Taking a good look at decision-making and influences both negative and positive in regard to food consumption will help the students to consider the choices they make more critically. Students will begin to look at their bodies as individual and unique; they will analyze how what may be good for them may not be for someone else. Having the students understand individual difference will be viewed as a personal and positive perspective on knowing oneself and how differences make us special.

Students will evaluate who in their lives provides their meals, and do they have a choice or control in what is around them to eat. We will further assess how these decisions and influences affect them and their diet. We will look into when they eat and the patterns of their food intake. Evaluating the times, the foods and the people around them will help them determine what it is about their eating that is effective to them and also what may not be. What types of foods do they consume around certain people, at certain times and specific places will be looked into. Food preferences and choices depend on many factors; hunger, mood, taste and other sensory factors all play a role in what we choose to eat. The basis of having students understand this concept will be to relay that the more we learn about the choices we make and how we come to those decisions the more likely we are to make better ones for ourselves.

Food And Its Relationship To The Body

Once the students have assessed their eating patterns we will begin to learn more about nutrition and food as an energy source. Metabolism and body types will be explored and how we break down the food we consume. To help students understand how the body gets its energy the importance of eating breakfast to start the body's metabolism and looking at food, as energy throughout the day will be discussed. We will look at what happens to the body when we do not eat and how that affects our learning and motivation. Analyzing both the physical and emotional results of food intake will be explored. Students will be able to complete self-assessments by logging their physical feelings based on individual eating habits and food consumption. How does the body feel when one has not eaten or after a large meal has been consumed, will be some of the questions students will be answering. They will determine which foods make them feel more satisfied and which foods affect them negatively. We will discuss the importance of getting nutrients from food in order to get maximum production from our bodies. Exploring how specific food groups affect the body system overall will help students as they analyze the personal affects it has on them.

We will explore why we eat certain types of foods. Sensory factors play a role in food consumption, sound, feel, taste and appearance, all have influence (Tamborlane, 1998). Knowing this will help students gain insight into why certain foods may appeal to them.

Looking into eating for convenience and boredom, rather than nutritional value and hunger will also be explored. Evaluating the popularity of fast food and what that says about our society in regards to what is faster vs. what is wiser. Using Schlosser's, "Fast Food Nation" as a guide, we will look into the artificial flavoring and coloring industry and how chemicals make up what we taste and see. We will begin to dissect food labels looking for words like "natural" or "artificial flavor". According to Schlosser, "the similarity between these two broad categories of flavor are far more significant than their differences. Both are man-made additives that give most processed food its taste" (Schlosser, 2000). This is a significant issue since "90 percent of the money that Americans spend on food is used to buy processed food"(Schlosser, 2000). Though fast food chains are embedded in our culture and taste buds, few people can name the companies that manufacture the fast food's taste (Schlosser, 2000). Handouts in regards to the nutritional value of some popular fast food restaurants will also be distributed to students and the break down of what that means in regards to nutrition. Having the students analyze these topics will allow them to become more informed and start making choices accordingly.

We will look into what foods are sold around the school how that plays a role in the choices we make and what message that sends on how our school environment values proper nutrition. Answering these questions will begin to open the students mind to issues of control, choice and limits in regards to nutrition in school and in their daily lives.

We will also touch on the issue of exercise and how that affects our body physically and emotionally. We will explore food intake and calorie burning in a technical sense and then explore how that plays true in our daily lives. A handout will be distributed on daily activities and how many calories each activity burns. "Most children eat the right amount of food to meet their energy needs for growth and normal activity. Children who eat more food than their bodies need for growth and activity store the extra energy in their body as fat. Conversely, if children are not eating enough food, then all the calories are used to maintain the body's usual functions and there is not enough energy left over for normal growth" (Tamborlane, 1998). With this tool student's can begin to assess their calorie intake vs. output individually and properly assess their need and understanding of what works for them.

Along with this, student's should also be looking into how certain foods are affecting their mood, energy level and comfort level. As time progresses students will begin to see food as an energy source and something that affects their emotions, physical appearance and overall health. We will discuss how calorie intake and exercise affect weight. This will be done impersonally as to the sensitivity of the subject. Teaching about what one consumes through food is either used as energy or stored will help students realize whether they are making the right choices for their bodies optimal potential. Emphasizing the need for food for proper function of the body will be reinforced throughout these discussions.

We will also discuss the enjoyment of food and the positives that surround eating and food consumption. Eating is a very social and rewarding part of our lives and should not be viewed as a negative. Helping students to realize though knowledge of what one is consuming is important in deciding what to eat, food in general is not only a need, but also an enjoyment.

Taking Control Over Food Choice

After this is accomplished, students will then have to evaluate what choices they have control over during their day and which they do not. The cafeteria breakfast and lunch food is provided daily without options, since this is a component of their day students will have to critically analyze and evaluate how this affects them. We will start this process by having the students break down the nutritional value of their meals. Giving

the students the balanced diet pyramid will help them in this process. We will use the New Haven Board of Education monthly menu as a resource for evaluation. Providing them with this knowledge and resources will help them determine how appropriate the meals provided for them daily are and begin to assess what is best for them and our school as a whole. After this process is complete students will take it upon themselves to decide whether they view their meals as nutritionally worthy. Throughout this critique we will explore what alternative options students have and their practicality.

Contamination

A major concern for our food and water in society today is contamination. “Food and water deliver a complex mixture of natural and synthetic chemicals to human body at every meal” (Wargo, 1998). In 1984 the estimation of government permitted food additives was approximately 8,627 with an additional 1,800 pesticides to remain as residues (Wargo, 1998). According to John Wargo’s book, *Our Children’s Toxic Legacy*, he states, “Pesticide residues in food touch nearly every human on earth on every day, often as a complex mixture of contaminants” (Wargo, 1998). Looking at what that means for our students would require looking at what foods they consume regularly. Children consume different foods than adults, which means that the government averages on food intake are not accurate in that they did not take into account the food-by-food differences along with population consumption differences (Wargo, 1998). In general the middle school student’s diet consists mainly of wheat flour, beef and potatoes (Wargo, 1998). We as a school must evaluate what the student’s at Fair Haven consume daily to accurately assess their risks.

Having the students learn about these risks and discussing the importance of knowing what we are eating will help to motivate them in discovering what they consume daily and how they can effect change. We will encourage the students to discover what affects our food and water supply and eventually affects our overall health. Students should be aware of how these contaminants make their way into our food and water and what steps should be taken to prevent this. Providing informational materials on contamination and pesticide usage to the Science departments will be necessary, since this topic will be best addressed in this content area. The issues to be discussed and critiqued in regards to protecting oneself should include, poor nutrition, disease and the dangers of having full faith in what is in our foods and water supply as a nation.

Once students have discovered the different ways contamination makes its way into our water and food supply and research ways for protection. Learning about the immediate or slow coming dangers contaminants have on the body will enforce the practicality of this knowledge for them. The students will explore the various ways contaminants make their way to New Haven, but for the purpose of practicality, the focus of study will be around the Fair Haven neighborhood. In this way the students can truly assess what contaminants could possibly affects them directly and how they contribute to contamination directly or indirectly.

Evaluating The Fair Haven Community

Students will look into New Haven’s water supply. They will explore Long Island Sound and what resources and dangers it faces. Students will tour the waters and explore the risks first hand.

A tour of the Public Works water supply will be given so that students can gain first hand knowledge of where their water comes from and the process it goes through before it makes it into their homes and

neighborhoods. With the knowledge the students have gained they will be able to make informed questions as to how New Haven goes about protecting its water supply. Ultimately students will learn the route of water and how the ground, runoff and human contamination through accidents or lack of knowledge all play a role in water protection.

Students will take their knowledge gained and write essays based on their discoveries, this will involve the English departments assistance and input. The student who writes the most comprehensive and well thought out essay will have it published in the school newsletter to be sent home.

Once students have discovered how the water supply operates they will then take steps in discovering ways that contaminants make it into our water that are beyond the control of the precautions already taken by our protective agencies. They will accompany the teacher on neighborhood walks, looking at local body shops, stores and playgrounds. Students will discover the ways they may contribute or protect our neighborhoods and connect this to the affects they have on our water, food and ultimately our body.

As they progress through these lessons students will chart and graph with the math teacher how likely the water of Fair Haven is to be contaminated and what the major contributors are. Once this is done students can begin to determine the protective steps that can be taken for improvement. The art teacher will work with the students on making posters and flyers to be posted around the school and the community as a focus of awareness. The English teacher will work with these students on an article for the newsletter that contains information about contamination and ways to protect our food, water and bodies. The guidance and health support staff will collaborate on healthy living sessions where students can gain information about the importance of proper cleaning and hygiene when dealing with food.

Students will then receive their final lesson in cooking class to further enforce this issue. For the purpose of truly understanding food we will prepare a meal from scratch, breaking down the foods origin, likelihood for contamination and nutritional value. During this lesson we will compare food items purchased in a local grocery store, local farm and organically grown food markets and evaluate and publish the results discovered in the newsletter.

Lastly, students will visit and tour a local organic farm. During this visit the farmers will take the students through the step-by-step process of how they work to protect the food they grow. Students can gain experience in how these farms differ from others and how the food grown locally and organically differs from store purchased items. The culmination of all the material provided and the information absorbed will allow the students to make an analysis of what value our society places on protecting its foods and its overall population.

The issue of how a student's daily decisions regarding their diet choices affect their lives and lifestyle will be a key focus in each of these lessons. Understanding the concept of how the more informed we are on what and when we eat can help us to make better choices for our bodies. Based on this premise students should be able to improve their decision-making abilities in regards to diet. They will be able to evaluate who and what influences their diet choices and why that is. Providing this opportunity for information acquisition and self-assessment will allow students to individually improve their diet and health problems and decision-making on their terms and with their specific objectives.

Body Image and Self Esteem

My second objective will be to address the student in regards to at risk health problems, poor body image, and low self-esteem. This area will be approached in a small group setting and its members will be determined through the process of shared teaching and learning through a group process. The targeted “at risk students” will be referred by staff, students, and through the knowledge I gain from the students in the classrooms as they progress through the curriculum. The students of this group should include those whom are at risk for diet related illnesses, obesity, poor hygiene, acne and issues in regards to a poor body outlook.

The group topics will be sensitive and personal and therefore I will separate the students by sex and age range. The more focused areas of concern for these groups will be how to reduce risk of illness, proper diet, caring for self and determining how each of these issues relate to how we feel and perform in our daily lives. Depending on the topic for discussion the nurse practitioner or school nurse may be utilized as a resource or guest speaker. Having the students become aware of the risks that face their negative situations will help them to be more informed. We will then move toward discovering why each of these issues develop and explore personally how they may have developed within ourselves. This environment will be a protective one where students will feel free to share what they feel comfortable with and respected when they choose to do so. These issues should not be taken lightly and this group should run as long as the facilitator and members feel it is needed. Improvement should be expected to be slow and students should feel supported in knowing that there will be set backs and the process of healing is ongoing.

Outside of the group the students will conduct further self-analysis in regards to their individual targeted concerns and risks in their journals. Based on their self-analysis and the informational group sessions, students can begin to develop an individual plan for improvement. Having the support network of a small group and knowledge of their individual need well help to ensure student improvement.

Involving Fair Haven Families

Lastly, I will attempt to involve our Fair Haven parents in the new health agenda. Having the parents involved in this collaborative curriculum will not only strengthen the concepts being delivered, it will strengthen our school environment as a whole. The more involved families are with the school the higher the success rate will be for our students. Developing programs, which promote involving and educating families in regards to healthy eating, physical activity and emotional wellness, will serve to enforce this campaign for wellness.

One of the main tools to relay this information to parents will be through the newsletter. This will not only reinforce the knowledge we our providing in school to the students, but will allow the knowledge to be expanded and utilized at home. Parents can feel connected to the school, informed of content and gain insight in the field of health.

Health Fair

A second way to connect our parents to this is through a Fair Haven Health Fair. This will be an all day event that will be run by the Fair Haven staff, students, and parents of Fair Haven Middle School. The Fair will be

offered to all families within the community of Fair Haven and will be both an educational and fun filled day. Health screenings and assessments will be offered as well as fun activities for kids. Relay races, games and group activities will be offered with donated prizes from local stores as rewards. Healthy food will be offered and informational handouts regarding healthy living. The Fair Haven newsletters and designed posters will be displayed in order for the visitors to become informed about Fair Haven's campaign for wellness. As an incentive for participation a local representative from a local athletic team, such as the Ravens, will speak on health as it relates to performance.

Fitness Activities

Lastly physical fitness activities after school will be offered to parents, staff and students as a final form of collaboration. Volleyball games, aerobics, basketball and weight lifting will be among some of the various fitness activities available. This will not only provide incentive for exercise to the school population, but it will also help to create connections between students and staff and staff and parents. I believe that activities such as this help to remove individuals from their viewed roles in the school and break down the barriers that often exist between the school and the home. These types of activities also promote positive relationships and new friendships. Having a fun activity where shared enjoyment can be accomplished in a non-threatening manner is important in creating a comfortable atmosphere.

CONCLUSION

Fair Haven Middle School is a large school with students having diverse needs. The community of Fair Haven is a close one and working together to promote positive outcomes is a common thread throughout our building. Collaboration is the only means for success in an environment such as this, where the population needs are so demanding. I further believe, that the more these topics are seen as a school and community wide concern the more likely there will be effective change for the students. The multidisciplinary approach designed in this curriculum is the beginning of that type of collaborative concern.

Along with necessity of value we must have practicality, whereupon the lessons designed for this purpose will focus on the issues that students face during middle childhood; more specifically the issues that are present within the students and families of Fair Haven. Providing the materials for students and families to make more informed healthy decisions and recognize the negative effects of poor nutrition will be the primary goal. I believe that the more physically and emotionally sound our students are the more likely they are to be academically successful. Designing a curriculum such as this, which helps to maintain a connection between the community, the families of our students and the school environment as a whole, will promote positive student achievement.

RESOURCES

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STUDENT RESOURCES TO BE USED

OUR SCHOOL CAFETERIA AND KITCHEN TO BE USED FOR RESEARCH AND COOKING

FAIR HAVEN'S CAFETERIA MENU

NEW HAVEN FOOD AND NUTRITION RESOURCE GUIDE

JOURNALS FOR SELF-ANALYSIS

THE LIFESKILLS LIBRARY ON STAYING HEALTHY

WORKSHEETS ON: FATS/PROTEIN/CARBOHYDRATE RATIOS

FAST FOOD CALORIE COUNTER

FOOD CALORIE COUNTER

FOOD GROUPS/FOOD PYRAMID

TASTEFUL TRIVIA

READING FOOD LABELS

TEACHER RESOURCES

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Sample Lesson Plan

HEALTHY CHOICES

Decision Making and Problem Solving

INTRODUCTION

Many of our students eat various foods because they are convenient or because they are not given the opportunity for choice. The majority of our student population consumes two meals a day at school, breakfast and lunch, and is given no alternative to the planned menu. Often the food items designed for these meals though fulfilling the balanced meal requirement are lacking in nutritional substance.

Goal: To Have students evaluate the school cafeteria lunch menu for nutritional substance

Objectives:

Students will gain knowledge on whether the school lunches are nutritional

Students will learn what a nutritionally balanced meal consists of

Students will critically analyze what choices or changes they have control over in evaluating the school meal plan

Students will gain insight into how research is conducted and what is done with data

Students will collaboratively develop a plan of action or reaction to their discoveries

Students will reflect on their thoughts and ideas in the school newsletter

Materials: School lunch menu, cafeteria staff and facilities

Setting: The lesson will be a school-wide collaboration with the Guidance department, Cafeteria staff, Math, English and Science departments

Procedures:

- 1.Students will discuss the issues of nutrition in their science class
- 2.Students will work in their math class on research and statistics
- 3.Students will work with the cafeteria menu and staff in gathering their data
- 4.Students will evaluate their findings with their math teacher
- 5.Students will work with their guidance department and English class in deciding what ways they wish to utilize their results in an effective manner

Sample lesson 2/Setting Science Lab

LESSON ADAPTED FROM OLIN LESSON <http://www.kcpt.org/olin/lesson2.html>

CLEANING DIRTY WATER EXPERIMENT

Objective:

Students will learn how the earth filters its water naturally by making a model water filtration system.

Introduction:

Water falls from the sky and on its way to the ground small particles of pollutants are carried along. The water makes its way to the ground in our community, where it picks up more tiny pollutants. Gradually, some of the water is absorbed into the ground, some makes its way into neighboring bodies of water or it evaporates into the air. How do we make this water clean again for our plants and animals?

Materials:

1 two liter plastic bottle

2 rubber bands

500 ml. of sand

100 ml. of soil

1 cotton ball

400 ml. of water

Food coloring

50 ml. of white vinegar

1 500 ml. graduated beaker

2 charcoal briquettes

A double paper bag for smashing charcoal

A piece of nylon netting (8-10 cm. square)

A balance to measure the mass of water

Plastic or plastic wrap to cover the top of the two liter bottle

Preparation:

Crush the charcoal prior to the class.

Procedure:

Cut the plastic bottle in half. Using rubber band, place the nylon screen material over the mouth

of the bottle's neck with a rubber band.

Push the cotton ball into the neck of the bottle from the inside and invert the bottle so the mouth is pointing down. Place it into the other half of the bottle so the bottom half acts as a catcher for the liquid as it runs through the filter. With the ground up charcoal and sand, alternate layers of approximately 1-1.5 cm in thickness over the cotton ball starting with the sand, then the charcoal, then more sand, etc.

In a 500 ml beaker, add the 100 ml of soil to the 400 ml of water and stir. Add a few drops of food coloring and the vinegar. Mix thoroughly and find the mass of the mixture on the balance and record.

After finding the mass, make sure the contents are mixed well and pour into the charcoal and sand filter. When all of the muddy mix has been emptied out, place some plastic wrap over the top of the filter and secure with a rubber band.

Let contents filter over night

Remove plastic wrap and the top half of the filter to remove the filtered water. Pour into 500 ml beaker and find the mass of the filtered mixture. Record mass observations.

Questions to help students with their observations:

What physical changes have taken place in the filtration? Consider color and clarity of the water
Has the smell of the water changed? What in the filter could have been responsible for this change?

If filtered again, what will happen to the water?

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