HEALTH AND NUTRITION IN MIDDLE SCHOOL:
A 12-WEEK COURSE IN HEALTH AND NUTRITION FOR SEVENTH AND EIGHTH GRADE

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PROJECT

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HEALTH AND NUTRITION IN MIDDLE SCHOOL: A 12-WEEK COURSE IN HEALTH AND NUTRITION FOR SEVENTH AND EIGHTH GRADE

A Project

by

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Dr. Robert Pritchard  
Graduate Coordinator  July 14, 2009
Department of Teacher Education
Abstract

of

HEALTH AND NUTRITION IN MIDDLE SCHOOL:
A 12-WEEK COURSE IN HEALTH AND NUTRITION FOR SEVENTH AND EIGHTH GRADE

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DeAnna Mino

Patricia Solda

Statement of Collaboration

DeAnna Mino and Patricia Solda are teachers at McCaffrey Middle School in Galt, California. Mrs. Mino is a seventh grade science teacher and Ms. Solda teaches eighth grade math. They decided to collaborate on this project because both have taught health and nutrition in middle school in the past and they saw an urgent need for developing a curriculum they could use in their current positions. They feel that comprehensive courses in health and nutrition should be taught at low income middle schools such as McCaffrey as they are essential to providing all students with the tools they need to grow into healthy, productive adults.
Statement of the Problem

Many students eligible for free and reduced lunch are receiving their primary source of nutrition from meals they are served at school, it is vital that they are given the tools they need in order to make wise choices when it comes to their nutritional intake.

Students at the middle school are becoming increasingly obese. Enabling them to design and implement a daily physical activity routine would be a step to reducing the number of obese students.

This project is a 12-week standards based curriculum designed to address the above issues in a user-friendly manner that incorporates projects and activities that are of high student interest.

Sources of Data

Information was obtained from educational, nutritional, and health journals and publications; government agencies including the Center for Disease Control, Sacramento County Office of Education, and the California Department of Education; and the authors’ own experience in developing age and subject appropriate lessons and activities.

Conclusions Reached

This project was founded on the belief that it is imperative that educators provide students every opportunity to improve their lives. It is our goal to do everything in our power to assist them in becoming healthy, happy, productive adults.
Providing students with the tools to nourish and care for their own bodies is the first step in achieving that goal. Strategies to ensure success will include activities that hold high interest for middle school students, include technology in the curriculum, and provide students with the ability to make healthy choices on their own.

Dr. Jana Noel

Committee Chair

July 14, 2009

Date
DEDICATION

To my husband, Greg, and my wonderful boys, Garrett & Spencer, thank you for giving me your unconditional support throughout this whole process and for your willingness to ignore the messy house and lack of clean clothes. Your patience and kindness made me proud and kept me moving forward. Go Team Mino!

Thank you to my professors at Sacramento State University for their invaluable guidance and for sharing their knowledge and wisdom. With their help, I have already become a better person and educator.

Finally, a big thank you is owed to Pat Solda for putting so much effort and energy into this project and for forcing me to keep going when I wanted to quit. I could not have made it without her.

DeAnna Mino

To my mom and dad who always encouraged and inspired me, especially my dad to whom education was paramount. Thank you to my mom who had to put up with my whining and urged me to go on.

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To my project partner, DeAnna Mino, you are the best partner ever. This project is truly great because of you. Thank you for your support, ideas, for listening and for being encouraging when things were not so great.

Patricia Solda

viii
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DeAnna Mino and Patricia Solda
TABLE OF CONTENTS

Dedication........................................................................................................................................ viii

Acknowledgments ................................................................................................................................... ix

List of Tables .......................................................................................................................................... xii

Chapter

1. INTRODUCTION ................................................................................................................................. 1

   Purpose ................................................................................................................................................ 1

   Statement of the Problem ..................................................................................................................... 2

   Goals .................................................................................................................................................. 3

   Significance of the Project .................................................................................................................... 3

   Methodology ...................................................................................................................................... 4

   Limitations ........................................................................................................................................ 5

   Statement of Collaboration .................................................................................................................. 5

   Definition of Terms .............................................................................................................................. 6

   Organization of the Project .................................................................................................................... 8

2. LITERATURE REVIEW ......................................................................................................................... 9

   Purpose ................................................................................................................................................ 9

   School Lunch ...................................................................................................................................... 10

   History of Free and Reduced Lunch ....................................................................................................... 10
LIST OF TABLES

1. Prevalence of Overweight Among Children and Adolescents ages 6-19 Years, for Selected years 1963-65 Through 199-2002............................... 15
Chapter 1

INTRODUCTION

Purpose

The majority of the students at our school qualify for the free and reduced breakfast and lunch program. For many of these students these are the only regular meals they have during the day. It is our intent to create a curriculum encompassing science and math standards that will teach them to make and healthy choices when it comes to food in order to promote their overall good health. Nutrition teaches students about their body and how it works and therefore students need to know what nutrients are important for the body to work properly. Students need to be taught how to make good food choices that would promote their overall good health; mainly because in this country not only is childhood obesity is on the rise, but also record numbers of young people are being diagnosed with diabetes and high blood pressure (Ogden, Flegal, Carroll, & Johnson, 2002). Young people who are overweight and obese do not develop socially with their peers. They often feel left out and are often shunned because others do not find them “attractive” or socially acceptable. Overweight children often do not participate in sports and activities because they feel they are able to compete which make them feel even more isolated (Leavitt, 2007). Also, they are extremely body conscious which could lead to more severe food issues such as anorexia and bulimia (Gibbons, Wertheim, Paxton, Petrovich, & Szmukler, 1995).

Nutrition is a subject that often gets left out the daily curriculum. As a result of high stakes testing in the areas of Math and Language Arts, classes like nutrition are
often cut to make room for intervention courses, especially at the middle school level. It would seem that Nutrition would fall naturally into the middle school science curriculum, however it does not. Sixth Grade Science Standards deal with the Study of the Earth and Eighth Grade Science Standards cover Physical Science. Seventh Grade Science Standards do cover life science, however, nutrition is not included. Based on the obesity and poor nutrition statistics and lack of physical exercise of today’s youth we feel there is a vital need to educate our students in the fundamentals of health, nutrition, and disease prevention. To that end we will develop a curriculum that teaches students the elements of proper health and nutrition, about making good food choices, improving body image, and promoting a healthy relationship to food. Students will use their math and science skills in a curriculum such as this will benefit the students and will reinforce concepts taught in other subjects, making information more meaningful, and resulting in cognitive abilities and improved test scores.

Statement of the Problem

Since many students eligible for free and reduced lunch are receiving their primary source of nutrition from meals they are served at school, it is vital that they are given the tools they need in order to make wise choices when it comes to their nutritional intake.

Students at the middle school are becoming increasingly obese. Enabling them to design and implement a daily physical activity routine would be a step to reducing the number of obese students.
This project is a 12-week standards based curriculum designed to address the above issues in a user-friendly manner that incorporates projects and activities that are of high student interest.

Goals

Our project is specifically designed to enrich the lives of our socio-economically disadvantaged students giving them the tools they need to promote a healthy lifestyle. We intend to make a proposal to our school board making this health and nutrition course a requirement for all seventh and eighth grade students in the district. In many cases the meals our students are provided at school are their only nutritious meals of the day. We further intend to do what we can to change the way our district provides those meals within the guidelines of the state nutritional requirements. Other schools in our area are providing healthy alternatives for both the breakfast and lunch programs, and we would like to follow their lead and make sure the best alternatives are provided for our students. We plan to make sure our students will have the ability to make wise decisions when it comes to taking responsibility for their health and nutritional preferences. Providing them with that knowledge will give them the tools they need to maintain their weight, promote healthy concepts of body image, and get the necessary daily nutrients, which is especially important at this time of growth.

Significance of the Project

The opportunity to research our topic in depth has provided us with a new insight into the problems relating to teenage health and body image. We have
developed many new ideas with reference to how to attempt to solve the dilemma of providing a health curriculum to middle school students that will be useful to teachers. Our main task is to develop a curriculum that is beneficial to both students and teachers. Students will learn how to maintain their health and teachers’ will be justified in using a curriculum that is both interesting and cross-curricular.

It is our intent to create a curriculum encompassing science and math standards that will teach middle school students to make wise and healthy choices when it comes to food in order to promote their overall good health. Students need to be taught how to make good food choice because they will lead more healthful lives. Nutrition is a subject that often gets left out the daily curriculum. Students will use their math and science skills helping to reinforce concepts/standards taught in other subjects.

Methodology

The project will consist of a 12-week curriculum encompassing activities designed to promote and raise health consciousness and develop students’ skills in making wise choices when it comes to nutritional options. The resources we will use are several nutrition teacher resource guides, myfoodpyramid.com, Center for Disease Control reports, and nutritional and health journals specifically pertaining to middle school age children.

The main questions we intend to address are:

1. What nutritional guidelines should be included in a comprehensive health and nutrition curriculum?
2. How does the National School Lunch Program factor in to decisions district make regarding health and nutrition curriculum?

3. What health topics do we include in order to justify a comprehensive nutrition curriculum?

4. Can a unit designed to show students what a proper nutrition and exercise program should look like affect students' decisions about their health?

The information will be disseminated through the publication of our project, through in-service staff meetings, and through presentations at educational conferences. Finally, and most importantly, through teaching it as an elective class at McCaffrey Middle School in Galt California.

Limitations

The limitations of the project are it is specifically designed with our school's population in mind, implementation may be problematic due to financial shortfalls currently being experienced by our district, and it is intended only for use in middle school. Finally not all students will be able to participate due to the fact that some students are required to take Language Arts and Math support classes.

Statement of Collaboration

DeAnna Mino is a seventh grade science teacher at Robert L. McCaffrey Middle School in Galt, CA. She has been teaching science for 12 years and initiated a one-trimester health course that she has developed over the past four years. Mrs. Mino
did her undergraduate studies at California State University, Sacramento and earned Bachelor of Arts degrees in both Geology and Philosophy.

Patricia Solda has been teaching mathematics in the Galt Elementary School District at Robert L. McCaffrey Middle School for five years and previously taught health and science at another district. She completed her Bachelor of Arts Degree in Liberal Studies for Teachers at California State University, Sacramento in 1990 and completed the Governor’s Mathematics initiative course work in 1999-2000.

Definition of Terms

**Adolescent** - a young person in the process of developing from a child into an adult.

**Curriculum** - the subjects comprising a course of study.

**Diet** - the kinds of food that a person, animal, or community habitually eats.

**Disease** - a disorder of structure or function in a human, animal, or plant, especially one that produces specific signs or symptoms or that affects a specific location and is not simply a direct result of physical injury.

**Emotions** - a natural instinctive state of mind deriving from one's circumstances, mood, or relationships with others. Any of the particular feelings that characterize such a state of mind, such as joy, anger, love, hate, horror, etc., an instinctive or intuitive feeling as distinguished from reasoning or knowledge.

**Exercise** - activity requiring physical effort carried out especially to sustain or improve health and fitness.
**Food-Health Promotion** – activity that supports or provides active encouragement for the furtherance of a cause, venture, or aim, specifically with regard to food and health.

**Health** - the state of being free from illness or injury, a person's mental or physical condition.

**Mental Health** – A state of emotional and psychological well-being in which an individual is able to use his or her cognitive and emotional capabilities, function in society, and meet the ordinary demands of everyday life.

**Middle School** - schools intermediate between an elementary school and a high school, typically for children in the sixth, seventh, and eighth grades.

**Minerals** - a solid inorganic substance of natural occurrence, an inorganic substance needed by the human body for good health.

**Nutrients** - a substance that provides nourishment essential for growth and the maintenance of life.

**Nutrition** - the process of providing or obtaining the food necessary for health and growth, the branch of science that deals with nutrients and nutrition, particularly in humans.

**Obesity** - a medical condition in which excess body fat has accumulated to the extent that it may have an adverse effect on health, leading to reduced life expectancy. Body mass index (BMI), which compares weight and height, is used to define a person as overweight (pre-obese) when their BMI is between 25 kg/m² and 30 kg/m² and obese when it is greater than 30 kg/m².
Physical Activity - any bodily movement produced by skeletal muscles that requires energy expenditure.

Vitamins - any of a group of organic compounds that are essential for normal growth and nutrition and are required in small quantities in the diet because they cannot be synthesized by the body.

Organization of the Project

We begin in Chapter 1 with the introduction to the project, which includes the reason for the project, terms, problems, and a collaborative statement. The second chapter is our literature review that justifies the need for such a curriculum. The third lays out the methods we used in gathering resources and information about our subject. Our conclusions are reached in the fourth chapter, and finally our curriculum is presented in the Appendices.
Chapter 2

LITERATURE REVIEW

Purpose

The topics we chose to include in this section were selected to justify the need for a required course in nutrition and health at our middle school. Our school is a Title I school which is determined by the percentage of students who receive a free or reduced price lunch, hence the need for a brief history of the Free and Reduced Lunch Program (FRLP). The FRLP was started to combat malnutrition in impoverished children, today children are not malnourished due to lack of food but due to lack of good nutritional food. Diseases such as obesity, diabetes, heart disease, high cholesterol, and high blood pressure are linked to poor nutrition and lack of exercise. Teens in particular also suffer from poor body image, low self-esteem, and depression and therefore practice unhealthy eating habits which lead to eating disorders. New studies indicate that students who are physically fit and maintain good eating practices do better academically, and in this age of high-stakes testing, this information reinforces argument for a health and nutrition class at our school. Finally the federal government took a step in the right direction when they instituted the Wellness Mandate which requires school districts to set goals for providing a comprehensive curriculum encompassing nutrition and physical education. The curriculum developed in this project addresses those needs.
School Lunch

In 1946 Harry S. Truman established The National School Lunch Program with the intent of providing children with at least one hot meal per day. During the period after World War II many families financially struggled and many children suffered from poor nutrition. Today nutritional concerns have shifted; we are no longer worried about children being undernourished but being over-nourished (Tonn, 2006).

In the article “There is Such a Thing as a Free (and Reduced) Lunch,” Jessica Tonn (2006) points out that our nation’s leaders need to make the changes necessary in our school lunch programs in order to help students develop better health by learning about and adopting healthy eating habits. If this change is going to happen then school lunch programs need to change. Many school menus serve students high fat content food such as hamburgers, French fries, and pizza. An example of a change that has taken place in some school lunch programs is the switch from the traditional “white bread” to whole wheat or multi-grain bread. It is a start that needs to continue with the addition of fresh fruit and vegetables, zero trans-fat foods, and foods that are rich in Omega-3 fatty acids.

History of Free and Reduced Lunch

According to Gordon W. Gunderson (2008), the Free and Reduced Lunch Program got its start in 1946 with the passage of the National School Lunch Act. This new legislation required schools to upgrade or build facilities that could provide school lunch to the nations impoverished children. Congress felt that legislation was
the only way that such an expensive undertaking could be enforced. Its purpose was to “safeguard the well-being of the Nation’s children and to encourage the domestic consumption of nutritious agricultural commodities and other food” (Gunderson, 2008). Congress set out to accomplish this mission by assisting states in the acquiring of facilities necessary for providing lunches to school children. The plan also included assistance with staffing as well as the acquisition of affordable but nutritious food, either through federal monies, federal food commodities (Gunderson, 2008) and/or federal grants. These programs were to be not for profit.

According to the United States Department of Agriculture (USDA) the National School Lunch Program (NSLP) students whose families who are eligible for a free lunch must be at or below 130% of the poverty level. Children whose families are between 130-185% are eligible for a reduced priced lunch (USDA, 2008). Also, any family earning at income over 185% of the poverty level is not eligible for either free or reduce lunch. The school lunch program has gone through many improvements over the years (Gunderson, 2008). In 1952 apportionment formulas were changed and areas such as Puerto Rico, Guam, and the Virgin Island were receiving assistance for implementation of the NSLP. Subsequent amendments were made in order to ensure that states that had a greater population of students eligible and thus participating in the program were allocated more monies than states that had fewer students who qualified for the program. These changes were brought on gradually to allow school districts make adjustments for their school lunch budgets. The amendments included an amendment to the Food and Agriculture Act allowed the Secretary of Agriculture to
purchase Dairy Products at market prices when there was a low supply in the Commodity Credit Corporation.

The National School Lunch Program was a start in providing nutrition to impoverished students but would eventually do little to help students receive optimal health benefits from the food that was provided. The NSLP assumes that school children are learning proper nutrition and that families are indirectly benefiting from the Program. However, the NSLP did little to educate people on health requirements and overall nutrition. Is the National School Lunch Program still benefiting the Nation’s children? The Program provided the states nutritional requirements to follow when developing their school lunch plan, however, it did not stipulate the types of foods that should be served or how they should be prepared (USDA, 2008). The purpose of the NSLP was to provide nutrition to students to those students who lived in especially impoverished areas of the United States such as Appalachia or the urban ghetto, who were malnourished especially in poorer areas of the country. Students are no longer in danger of being malnourished but are in danger developing diabetes, heart disease, high blood pressure and other conditions that are a result of their diet, which includes school breakfasts and lunches.

The National School Lunch Program costs the federal government 8.7 billion dollars in 2007. Can it justify spending this kind of monies when students are no longer starving (USDA, 2008)? In 1995, the Republicans, led by Newt Gingrich, tried to merge five school food programs into a single block grant while actually increasing the overall program by 4% and it was defeated. Democrats portrayed this attempt to
change school food program funding as “stealing food from children” and “imperiling mothers and babies” (Haskins, 2005). School districts that are increasingly worried about funding programs are fairly happy to have a program that seems to take care of itself (Haskins, p. 14). Is the school lunch program meeting the needs of the nation’s children? When the program started its purpose was to combat malnutrition and now we need it combat disease that results from obesity. How is government trying to solve the problem? The combination of the lack of physical activity and the increase in calories from the wrong kind of food is the main reason for the obesity epidemic in schools. The CDC reported that fewer than 10% of the nation’s elementary, junior high and senior high school students participate in daily physical education (Haskins, 2005). The government requires school lunch programs to provide 33% and school breakfast programs to provide 25% of the RDAs of calories for the day which leaves 42% to be consumed outside of school (Haskins, p. 16). The U.S. Department of Agriculture funded two studies, one of which reported that schools fail to meet accepted guidelines for fat and saturated fats. The result was that the republicans and democrats debated the subject and decided to control access to vending machines and increase the nutritional value of school lunches. Thus the Wellness Mandate was established. The Wellness Mandate brought together parents, students, teachers, food service professionals, and administrators to establish guidelines for physical activity and the types and amounts of food available to students.

There was a concern that changes made to school lunch guidelines would decrease school revenues. A study conducted by Christopher Wharton, Michael Long,
and Marlene B. Schwartz (2008) concluded these changes had little or no effect on revenue. The fear that revenues would decrease with the implementation of less junk and more healthy foods was unfounded, in fact, just the opposite occurred (Wharton, Long, & Schwartz, 2008). The schools in the survey actually reported an increase in participation of the NSLP that may have compensated for the initial loss in revenues (Wharton et al., p. 249). However, the higher cost of the lunches as opposed to the vending machine snacks may not mean a profit. Their conclusion was that any future studies should take a closer look at the financial aspect given that the healthy food program is relatively new and no long-term studies have been completed as of this time.

Heart Disease/High Cholesterol/Obesity

In his article “The Importance of Physical Activity and Good Nutrition,” Michael Leavitt (2007) from the Centers for Disease Control, (CDC) reported staggering statistics of obesity in children. Obesity rates for all age groups of persons living in the U.S. have risen significantly. In 1976-1980, obesity rates for children ages 2-5 was 5%. By 2003-2004, the obesity rate for that age group rose to 13.9%. In 1976-1980, obesity rates for children ages 6-11 was 6.5%; in 2003-2004 the obesity rate rose to 18.8%. In 1976-1980, obesity rates for children ages 12-19 was 5% which by 2003-2004 rose to 17.4%. In 1976-1980, the obesity rate for adults ages 20 and up was 6.5% by 2003-2004 the rate rose to 32.9%. The CDC also reported that preventable chronic disease caused five out of six deaths in 2002(2). Leavitt goes on to report that most of these deaths can be prevented with exercise and proper nutrition
(2). This data demonstrates a need for health education in the classroom as mandated by the Federal government.

Table 1

**Prevalence of Overweight Among Children and Adolescents ages 6-19 Years, for Selected Years 1963-65 Through 1999-2002**

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2Data for 1963-65 are for children 6-11 years of age; data for 1966-70 are for adolescents 12-17 years of age, not 12-19 years.

Health Risks and Rise of Disease

Obesity, both adult and adolescent, is on the rise. More than ever Americans are consuming a large number of calories in the form of fats and carbohydrates (Rafiroiu, Sargent, Parra-Medina, Drane, & Valois, 2003). Compounding this problem is the sedentary American lifestyle. Out of this problem of obesity comes a whole new set of concerns as many teenagers are turning to diets to fix the problems. One National study claims that as many as two thirds of girls and one quarter of teenagers are taking measures to control their weight often, with negative side affects. As a result of dieting many teens are not getting important vitamins and minerals that are especially important during their growing years. Many health officials speculate that
this will have negatives on their health well into adulthood. Not getting the proper nutrients puts them as risk for osteoporosis and degenerative nervous diseases. Though most teenagers’ diets are moderate whiles other dieting practices are extreme. Some teens reported purging, binging and purging, and fasting. This extreme behavior puts these teens at a greater risk of disease and cancer.

Given the health crisis of the state of our students, it is more imperative ever our students learn how to create diets that would prevent early onset of preventable diseases. We cannot afford to ignore this problem.

Self-Esteem and Body Image/Teen-Age Health Issues (Mental)

In the article Adolescent Athleticism, Exercise, Body Image, and Dietary Practices, Rainey, McKeown, Sargent, and Valois (1998) studied the dietary patterns of young girls and boys from 3rd to the 12th grades. Being obese has negative impact on teenagers and therefore many of them do not develop healthy nutritional practices. Rainey et al. wrote about a study by Grant & Fodor (1986) who found that “the self-esteem of U.S. high school females was linked to their perception of their body as attractive, whereas the self-esteem of males was linked to their perception of their body’s as effective.” It seemed that girls who considered themselves as less attractive were more likely to develop an eating disorders (Grant & Fodor, 1986). According to another study (Gibbons, et al., 1995), female adolescents who viewed themselves as overweight reported that they did not participate in strenuous activity in physical education class. It also showed that the culture of placing extreme emphasis on diet and workout had a negative impact on these girls. The fact that many overweight
students do not get much physical activity contributes to their negative body image as they continue on the road to obesity.

State of Teen Health

According to the USDA Food and Nutrition Service, students’ diets are lacking in many vitamins and minerals. This study reports students’ intakes of niacin, riboflavin, vitamin B-12, thiamin, vitamin B-6, iron, folate (folic acid), and zinc are sufficient. However teens are not getting enough fiber, vitamins A, C, and E, magnesium, phosphorus, and potassium (Cole & Fox, 2008). Lower income students were not getting enough of the above mentions nutrients, but were also consuming too much sodium. Overall, about 18% of children are considered obese and 15% are in danger of becoming obese. In general students are lacking an adequate intake of fruits, vegetables, and whole grains and their intake of sodium, saturated fats, alcoholic beverages, and added sugars is on the rise.

Where we are heading as a society, is early to the grave. Health care experts now predict that the parents of overweight teens will outlive their children. It is imperative that schools help deal with obesity issue as overweight teens more often than not become overweight adults.

Nutrition and Academic Achievement

Does good nutrition truly equal good health? Does eating healthy enable students to do better in school? According to Howard Taras 2005) it doesn’t hurt. Taras looked at 18 different studies regarding nutrition and academic achievement. He found that the studies testing the use of nutritional supplements alone did little or
nothing to improve academic achievement. The studies that looked at improved nutrition and breakfast programs did however have a positive result for improved academic achievement. His conclusion was that students who participated in breakfast programs not only had better attendance and were tardy less often but they had increased academic performance and better cognitive abilities (Taras, 2005).

In 2003 Michelle Florence, Mark Asbridge, and Paul Veuglers surveyed 5200 fifth grade students and their parents as part of the Children’s Lifestyle and School-performance Study in Nova Scotia, Canada (Florence et al., 2008). The information gathered included dietary intake, height and weight, and socio-demographic variables and how they might be linked to a regional literacy assessment. They found that the students with poor dietary habits were most likely to perform poorly on the assessment. They found that students from socioeconomically advantaged families and girls in general did better than boys or students from low socioeconomic families, which wasn’t surprising because students from advantaged families typically have healthier diets. They concluded that there was a positive correlation between good nutrition and academic performance, in as much as standardized tests can measure academic performance (Florence et al., p. 214). They recommended implementation and investment in effective school nutrition programs as these programs might improve not only the students academic performance but also contribute to their diet quality and their overall long-term good health (Florence, Asbridge, & Veugelers, 2008).
“Healthy and Ready to Learn” by David Satcher (2005) recalls the days when children came home after school and played outside until dinnertime instead of sitting in front of the television or a computer. He states that only 2% of school age children in the United Stated consume the recommended daily number of servings from all five food groups (Satcher, 2005). In the last couple of decades schools have cut back on physical education classes while increasing the amount of junk food they supply to students on a daily basis. Over 9 million school age children are overweight, which is triple the number in the 1980s, this is primarily due to their sedentary lifestyle and their lack of good nutrition(Ogden, Flegal, Carroll, & Johnson, 2002). Satcher cites several studies that found positive correlations not only between good nutrition and academic achievement but also between physical activity and improved performance on state standardized tests. One particular study done by the California Department of Education (CDE) found a definite link between performance on state physical fitness tests given in fifth, seventh, and ninth grades and those students performance on their standardized tests. The relationship was greatest in mathematics (Satcher, 2005).

Across the country programs like the Action for Healthy Kids initiative working with educators, parents, health professionals, students and community leaders to make changes in schools by developing plans to implement policy changes in order to improve health education. They are helping to change vending and non-cafeteria food sales policies and are creating school health councils (Satcher, 2005).
With the advent of high stakes testing, one way to ensure that schools develop healthier nutrition standards for their students is to show a link between good nutrition and higher test scores. The studies cited above show that link.

Recommended Daily Allowance (RDA)

The article Breakfasts of Champions talks about RDA (Bhattacharya, Currie, & Haider, 2006). The reasoning behind the creation of the RDA (Recommended Daily Allowance) by the Committee on Food and Nutrition in 1941 was to provide guidelines for feeding the United States Armed Forces. Since 1941 the guidelines have been updated and will continue to be updated as new information about nutrition is discovered. Today the RDA was used to create health policies for the general population of the United States. The RDA was also was used to provide nutritional guidelines for students, and especially students who lived in impoverished areas of the United States. These areas included Appalachia, urban ghettos, and other communities that contain large numbers of children living below the poverty line and malnourished. For further discussion it is important to note that the RDA are merely guidelines that meet the needs of most of the populations and not meant to be used as health regulations.

About 18 years ago new guidelines were created to incorporate new health concerns of the US population. It became clear that our Policies on Nutrition should be used to prevent nutrient deficiencies, degenerative diseases, and other diseases related to lack of essential vitamins and minerals so, new guidelines were written. These guidelines were called “The Dietary Guidelines for Americans” and were written by
the U.S. Department of Agriculture in 1990. The adherence to these new Dietary
Guidelines for Americans became problematic when one considers the differing needs
of the various cultures living in the United States as well as the varying needs of all
age groups living in the United States. The new Guidelines must also address the
affects of food on various medications. People need to be educated about what times
of foods will enhance or contradicts the affects of certain medication. There is a need
to consider the needs of different cultures as well as the maximum and minimum of a
certain nutrient and what about the interaction of nutrients with medication. This
makes nutritional education and food labeling an important component in health
education curriculum. Such considers will allow persons to make these best decisions
that would enhance their overall wellbeing.

The article “Breakfasts of Champions” talks about RDA(Bhattacharya, et al.,
2006) state that children who cannot afford school lunch often do not eat breakfast
either. Ninety-eight percent of the nation’s schools provide free and reduced lunches
to their students. Also, about 78% of the nation’s schools provide breakfast to
schoolchildren. Poor kids who in general have less healthy diets than children who
come from higher income earning families mostly eat school breakfasts. The School
Breakfast Program (SBP) gives students the option of eating a healthy breakfast as
opposed to none at all. It was stated in the article that children who eat breakfast tend
to eat less calories from fat sources while increasing their consumption of fiber and
other important vitamins and minerals. However, the success of school breakfast
programs and school lunches hinges on the quality of the nutrition provided. The
authors of this article state that participants in the SBP lead to healthier overall diet, which didn’t increase the number of calories, consumed in a day while increasing their nutritional intake of essential nutrients.

Participation in such programs also encourages children to eat more nutritious breakfasts in the summer. This policy is a very good step in the right directions by directly and indirectly encouraging/training kids to eat a more nutritious diet. The sooner we can teach kids good nutritional practices the more likely they will develop healthier food choices while bringing their new found knowledge and educated taste buds to the family.

There is a need for mandatory health curriculum. Health curriculum needs to consider the whole child and not just math and language test scores. This cannot be solved by the government but needs to become a priority in school health education programs, breakfasts and lunches served as well as school-wide adherence to the Wellness Policy. The bottom line, schools need to ask themselves what kinds of foods do we want children to get in the habit of eating?

Wellness

The Wellness Mandate adopted by schools in 2006 is a step in the right direction in promoting student/school-wide health. In order to address the growing health concerns of our Nation’s youth, congress passed a Wellness Mandate that requires school districts to recognize the national health crisis facing our children today. The Wellness Mandate requires school districts to “set goals for nutrition education, physical activity, and school based activities” (Buchanan, 2005). The
mandate also requires school districts to provide ways of accessing the
effectiveness/success of the goals. Another problem is that the main concern of many
school districts is their results on standardized tests, which unfortunately do not cover
health and nutrition, so they are out of compliance on this issue. It is important to
point out that the Heath Education does not necessarily have to be taught
independently of core curriculum. It can be easily taught though the math and science
curriculum.

Making Changes

It is possible to create effective change in the way schools view their lunch
programs. Change has actually occurred in our own high school district. Several years
ago Galt High School implemented a new lunch program that currently includes fresh
fruit and vegetables, stir-fry, and a daily pasta dish. Major changes have been
implemented in other communities as well, at Martin Luther King, Jr. middle school in
Berkeley under the supervision of Chef Alice Waters not only are the students
provided with healthy food choices, they are taught to manage a garden and to prepare
and cook their own food (Furger, 2004).

In England, Chef Jamie Oliver challenged all public schools to bring about a
change in the way they feed their students. He “waged war on the miserable grub
served up in British schools” (McGuiness, 2005). He single-handedly forced the
government to move on an issue that was largely ignored for decades. Prime Minister
Tony Blair lent his support with the statement, “We’ll soon announce details of the
new School Food Trust, including substantial funding to enable it to assist schools
nationwide. It will draw on the remarkable work of Jamie Oliver in schools" (McGuiness). Schools across England began serving dishes that included healthier choices such as vegetarian quiche, lentil burgers, and mushroom tagliatelle. Of course, in 2007 the *Daily Telegraph* reported that 17% of secondary school students dropped school lunch (AP, 2007). It was always expected that a certain number of students would opt out. Those who choose to opt out are required to either pack their own lunch or buy it elsewhere. Oliver urging parents and the government to stay committed to the program said, “We have to know and do what’s best for our kids.” He believes that the negative will turn to positive in the next five years. At this time one in six British children is obese and it is feared that number could rise to 50% by the year 2050 (AP). All it takes is the commitment and willingness to adapt in order to provide our children with a healthy disease free future.

**Summary**

In conclusion, the Federal School Lunch Program was intended to provide nourishment to children who were not getting enough nutrients during war times. Over the years the school lunch program as well as the nutrition needs of our society has undergone many changes. Children are no longer malnourished due to lack of food, but are malnourished due to the fact they are not eating enough essential vitamins, fiber, and other nutrients. Our society, including teens, are facing health problems such as heart disease, high cholesterol, obesity, high blood pressure, and other chronic diseases. It is clear these health problems are not going away but rather are increasing in severity and frequency. As teens become more obese they suffer with poor self-
esteem, negative body image, and depression. As a result, teens are more likely to participate in harmful dieting practices such as anorexia, bulimia, and fad diets.

Emerging research show a link between healthy diet practices and higher academic achievement in school. Teens who maintain proper nutrition and a healthy weight will have a better chance at being happier and being high achievers, which will increase their chances of becoming happy and healthy adults. In order to achieve this healthy lifestyle, it is imperative that teens get the proper education. The federal government took a step in the right direction by creating the Wellness Mandate, however, schools still need to take the proper steps toward creating and maintaining health education for its students. The need for a health curriculum that suits the needs of its teen population is the reason for the development of the thesis and its curriculum.
Chapter 3

METHODOLOGY

The purpose of this project is to enable our students to make wise choices in order to maintain a healthy lifestyle. The unit was designed to show students what a proper nutrition and exercise program should look like. We created a survey to be administered at the beginning of the year to our seventh and eighth grade students. The survey consists of a set of questions showed us their current eating and physical activity habits. We decided to use an interactive notebook where students kept all their worksheets and wrote their journal reflections.

We began our next unit by introducing the structure and functions of various human body systems, such as the respiratory system, the circulatory system, the digestive system, and so forth. We found several activities from various entities to use to show our students the workings of the body systems we included in the unit.

We then brought in a lesson on the foods of the food pyramid and how many servings of each should be eaten daily. We created an activity in which students listed the foods they typically eat and try to match the foods with a section of the pyramid. A section on statistics on teen health followed the food pyramid lesson. We included a lesson about vitamins and minerals so students would understand the need for proper nutrition and this lesson relates to the later lessons on meal planning. A vitamin and mineral activity was included where students evaluated their nutrient intake.

Attaining proper nutrition is predicated on the knowledge of what is good nutrition and what is not; therefore we included a lesson on the evils of fad dieting.
Using articles from TeenHealth.org (2007, 2008, 2009a, 2009b) we created an activity in which students make up their own fad diet and then explain why it is unhealthy.

This curriculum would not have been complete if we had not included activities about the types and rewards of regular exercise, activities in which students created physical activity regimens that include types of cardio and non-cardio exercise in order to promote their good health. Students learned to design a workout program that is tailored to their individual needs. The more the exercise routine fits their schedule; the more likely they will be to follow it.

We decided early on that students needed to be able to create their own healthy menus. This part of the unit dealt with students’ ability to create balanced meal with the proper number of calories. The activity is based on them keeping track of what they ate in daily food journal. Students did this in order to calculate their daily caloric intake so that they could compare that intake with the amount of calories that they burn over the course of a day. They were able to enter this information into daily food and exercise calculator on the website, Mypyramid.gov, a service provided by the United States Department of Agriculture. This enabled them to design an appropriate menu taking into consideration the amount of food they actually need in order to sustain their level of activity. Students learned how to read food labels and compare nutritional components of similar foods in order to make wise and healthy food choices.

The next part of the curriculum addressed students’ personal hygiene, dental hygiene, stress management, and adequate daily sleep and how to maintain their
bodies properly. We thought this to be an essential component, as many students do not know how to take proper care of their hygiene. Students who do not care for themselves are more apt to be ridiculed and have greater chances of suffering low self-esteem and depression. Along with this we thought it important that students learn strategies on how to create a positive self-image. We felt the culmination of the curriculum should allow the students to present their completed a portfolio where they reflected on their learning from the entire unit in order to demonstrate the knowledge they had attained.

Our intended goal is to teach students not only what foods are healthy for them, but also how to prepare their food in order to get them maximum benefit from their caloric intake.

Student Learning Outcomes

Teaching teens current nutritional statistics and trend and how to avoid going down the path toward obesity. A comprehensive health curriculum for middle school children is a necessity. As stated obesity, diabetes, high blood pressure, and BMI’s are on the rise. In addition many teens are lacking in important nutrients and minerals, which will have ill effects on the health well into adulthood. Our comprehensive health curriculum includes:

1. Instruction for calculating their BMI.
2. Students will learn how to maintain a healthy BMI/weight.
3. Students will learn the functions of all essential nutrients, including: vitamins, minerals, water, fiber, and lipids.
4. Students will learn how to incorporated adequate daily intake of nutrients.

5. Students will learn how nutrients benefit the body.

6. Students will learn how to read food labels.

7. Students will learn how to evaluate the nutritional values of food—counting calories, fats, vitamins, minerals, carbohydrates, and sugars, etc...
Chapter 4

CONCLUSION

Given the socio-economic level of the students at our school and the fact that level is not going to change any time soon, it is imperative that we as educators provide our students every opportunity to improve their lives. We are not, contrary to popular belief, only responsible for bestowing upon them a basic education in the core subjects of reading, writing, and arithmetic. It is our goal to do everything in our power to assist them in becoming healthy, happy, productive adults. We feel that providing our students with the tools to nourish and care for their own bodies is the first step in achieving that goal. Our project is specifically designed to enrich the lives of our socio-economically disadvantaged students giving them the tools they need to promote a healthy lifestyle.

Final Recommendations

We plan to make sure our students will have the ability to make wise decisions when it comes to taking responsibility for their health and nutritional preferences. Providing them with that knowledge will give them the tools they need to maintain their weight, promote healthy concepts of body image, and get the necessary daily nutrients, which is especially important at this time of growth.

Finally, it is our ultimate intent to submit a proposal to the school board that would make this nutrition class part of the mandatory curriculum. We feel that students should be required to participate in the class for at least one trimester to occur sometime between their arrival at our school in seventh grade and their departure after...
eighth grade. To that end we intend to do what we can to change the way our district provides those meals within the guidelines of the state nutritional requirements. Other schools in our area are providing healthy alternatives for both the breakfast and lunch programs, we would like to follow their lead and make sure the best alternatives are provided for our students.

It is also our intent to promote school wide change, and ultimately district wide change, with regard to the way we feed our students. As previously mentioned the high school district that our school feeds into made significant changes in their food service operation. Not only do they provide a healthy lunch with a variety of choices they instituted a closed campus policy in order to keep the students from walking across the street a plethora of fast food restaurants. As an expansion of this project we intend to interview the director of food services at Galt High School District to find out how the changes they made were instituted with the idea that we could make similar changes in our district in the future.
APPENDIX A

California Content Standards for Health Education Grades Seven and Eight
California Content Standards for Health Education Grades Seven and Eight

Nutrition and Physical Activity

Standard 1: Essential Concepts

1.1.N Describe the short- and long-term impact of nutritional choices on health.
1.2.N Identify nutrients and their relationships to health.
1.3.N Examine the health risks caused by food contaminants.
1.4.N Describe how to keep food safe through proper food purchasing, preparation, and storage practices.
1.5.N Differentiate between diets that are health-promoting and diets linked to disease.
1.6.N Analyze the caloric and nutritional value of foods and beverages.
1.7.N Describe the benefits of eating a variety of foods high in iron, calcium, and fiber.
1.8.N Identify ways to prepare food that are consistent with current research-based guidelines for a nutritionally balanced diet.
1.9.N Analyze the harmful effects of engaging in unscientific diet practices to lose or gain weight.
1.10.N Identify the impact of nutrition on chronic disease.
1.11.N Analyze the cognitive and physical benefits of eating breakfast daily.
1.12.N Examine the role of lifelong fitness activities in maintaining personal fitness, blood pressure, weight, and percentage of body fat.
1.13.N Explain how to use a Body Mass Index (BMI) score as a tool for measuring general health.
1.14.N Identify ways to increase daily physical activity.
1.15.N Explain that incorporating daily moderate or vigorous physical activity into one’s life does not require a structured exercise plan or special equipment.
1.16.N Differentiate between physical activity and exercise and health-related and skill-related fitness.

Standard 2: Analyzing Influences

2.1.N Describe the influence of culture and media on body image.
2.2.N Evaluate internal and external influences on food choices.
2.3.N Analyze the impact of nutritional choices on future reproductive and prenatal health.
2.4.N Analyze the influence of technology and media on physical activity.
Standard 3: Accessing Valid Information

3.1.N Distinguish between valid and invalid sources of nutrition information.
3.2.N Evaluate the accuracy of claims about dietary supplements and popular diets.
3.3.N Describe how to access nutrition information about foods offered in restaurants in one’s community.
3.4.N Identify places where youths and families can be physically active.
3.5.N Identify trusted adults in one’s family, school, and community for advice and counseling regarding healthy eating and physical activity.

Standard 4: Interpersonal Communication

4.1.N Demonstrate the ability to use effective skills to model healthy decision making and prevent overconsumption of foods and beverages.
4.2.N Practice effective communication skills with parents, guardians, or trusted adults regarding healthy nutrition and physical activity choices.

Standard 5: Decision Making

5.1.N Use a decision-making process to evaluate daily food intake for nutritional requirements.
5.2.N Identify recreational activities that increase physical activity.
5.3.N Contrast healthy and risky approaches to weight management.
5.4.N Analyze the physical, mental, and social benefits of physical activity.

Standard 6: Goal Setting

6.1.N Make a personal plan for improving one’s nutrition and incorporating physical activity into daily routines.
6.2.N Set a goal to increase daily physical activity.

Standard 7: Practicing Health-Enhancing Behaviors

7.1.N Make healthy food choices in a variety of settings.
7.2.N Explain proper food handling safety when preparing meals and snacks.
7.3.N Assess personal physical activity levels.
7.4.N Examine ways to be physically active throughout a lifetime.

Standard 8: Health Promotion

8.2.N Support increased opportunities for physical activity at school and in the community.
8.3.N Encourage peers to eat healthy foods and to be physically active.
Growth, Development, and Sexual Health

Standard 1: Essential Concepts

1.1.G Explain physical, social, and emotional changes associated with adolescence.
1.2.G Summarize the human reproduction cycle.
1.3.G Explain the effectiveness of abstinence in preventing HIV, other STDs, and unintended pregnancy.
1.4.G Explain how conception occurs, the stages of pregnancy, and the responsibilities associated with parenting.
1.5.G Explain the effectiveness of FDA-approved condoms and other contraceptives in preventing HIV, other STDs, and unintended pregnancy.
1.6.G Identify the short- and long-term effects of HIV, AIDS, and other STDs.
1.7.G Identify ways to prevent or reduce the risk of contracting HIV, AIDS, and other STDs.
1.8.G Recognize that there are individual differences in growth and development, physical appearance, gender roles, and sexual orientation.
1.9.G Explain why individuals have the right to refuse sexual contact.
1.10.G Describe the emotional, psychological, and physical consequences of rape and sexual assault.
1.11.G Explain why rape and sexual assault should be reported to authorities and trusted adults.
1.12.G Describe responsible prenatal and child care, including California’s Safely Surrendered Baby Law.
1.13.G Evaluate the benefits to mother, father, and child when teenagers wait until adulthood to become parents.

Standard 2: Analyzing Influences

2.1.G Analyze how internal and external influences affect growth and development, relationships, and sexual behavior.
2.2.G Evaluate how culture, media, and other people influence our perceptions of body image, gender roles, sexuality, attractiveness, relationships, and sexual orientation.
2.3.G Analyze the influence of alcohol and other drugs on sexual behaviors.
2.4.G Describe situations that could lead to pressure for sexual activity and to the risk of contracting HIV and other STDs.
2.5.G Recognize that there are individual, family, and cultural differences in relationships.
2.6.G Explain how sexual exploitation can occur through the Internet.
Standard 3: Accessing Valid Information

3.1.G Identify trusted adults in one’s family, school, and community for advice and counseling regarding reproductive and sexual health.
3.2.G Locate medically and scientifically accurate sources of information on reproductive health.
3.3.G Identify health care providers for reproductive and sexual health services.

Standard 4: Interpersonal Communication

4.1.G Practice effective communication skills with parents, guardians, health care providers, or other trusted adults by discussing issues related to reproductive and sexual health.
4.2.G Use effective verbal and nonverbal communication skills to prevent sexual involvement, HIV, other STDs, and unintended pregnancy.
4.3.G Use healthy and respectful ways to express friendship, attraction, and affection.
4.4.G Analyze the benefits of respecting individual differences in growth and development, physical appearance, gender roles, and sexual orientation.
4.5.G Demonstrate how to ask for help from parents, other trusted adults, or friends when pressured to participate in sexual behavior.

Standard 5: Decision Making

5.1.G Analyze why abstinence is the most effective method for the prevention of HIV, STDs, and pregnancy.
5.2.G Use a decision-making process to examine the characteristics of healthy relationships.
5.3.G Use a decision-making process to evaluate individual differences in growth and development, physical appearance, gender roles, and sexual orientation.
5.4.G Analyze the responsibilities and privileges of becoming a young adult.
5.5.G Identify how good health practices in adolescence affect lifelong health and the health of future children.
5.6.G Explain the immediate physical, social, and emotional risks and consequences associated with sexual activity.
5.7.G Use a decision-making process to evaluate the value of using FDA-approved condoms for pregnancy and STD prevention.

Standard 6: Goal Setting

6.1.G Develop a plan to avoid HIV, AIDS, other STDs, and pregnancy.
6.2.G Describe how HIV, AIDS, other STDs, or pregnancy could impact life goals.
Standard 7: Practicing Health-Enhancing Behaviors

7.2.G Demonstrate the ability to anticipate and minimize exposure to situations that pose a risk to sexual health.
7.3.G Describe personal actions that can protect reproductive and sexual health.

Standard 8: Health Promotion

8.1.G Support and encourage safe, respectful, and responsible relationships.
8.2.G Promote respect for and dignity of persons living with HIV or AIDS.

Injury Prevention and Safety

Standard 1: Essential Concepts

1.1.S Describe the differences between physical, verbal, and sexual violence.
1.2.S Explain how witnesses and bystanders can help prevent violence by reporting dangerous situations.
1.3.S Describe how the presence of weapons increases the risk of serious violent injuries.
1.4.S Discuss the importance of reporting weapon possession.
1.5.S Explain how violence, aggression, bullying, and harassment affect health and safety.
1.6.S Identify trusted adults to whom school or community violence should be reported.
1.7.S Describe possible legal consequences of sexual harassment and violence.
1.8.S Describe types of sexual harassment and ways to report them.
1.9.S Describe the behavioral and environmental factors associated with major causes of death in the United States.
1.10.S Identify basic safety guidelines for emergencies and natural disasters.
1.11.S Identify ways to prevent climate-related physical conditions such as exhaustion, sunburn, heat stroke, and hypothermia.
1.12.S Explain safety hazards associated with Internet usage.
1.13.S Explain ways to prevent fires and reduce the risk of fire-related injuries.
1.14.S Explain ways to reduce the risk of injuries in and around water.
1.15.S Explain ways to reduce the risk of injuries (including oral injuries) that can occur during sports and recreational activities.
Standard 2: Analyzing Influences

2.1.S Analyze how the media portray fire and explosives.
2.2.S Evaluate individual, group, and societal influences that promote cooperation and respectful behaviors and those that promote violence and disrespectful behaviors.

Standard 3: Accessing Valid Information

3.1.S Analyze sources of information regarding injury and violence prevention.
3.2.S Demonstrate the ability to access accurate sources of information about abuse, violence, and bullying.

Standard 4: Interpersonal Communication

4.1.S Report to a trusted adult situations that could lead to injury or harm.
4.2.S Use communication and refusal skills to avoid violence, gang involvement, and risky situations.
4.3.S Describe ways to manage interpersonal conflicts nonviolently.
4.4.S Demonstrate ways to ask a parent or other trusted adult for help with a threatening situation.
4.5.S Describe characteristics of effective communication.
4.6.S Differentiate between passive, aggressive, and assertive communication.
4.7.S Locate resources in school, in the community, and on the Internet for first aid information and training, and assess the validity of the resources.

Standard 5: Decision Making

5.1.S Use a decision-making process to examine risky social and dating situations.
5.2.S Apply a decision-making process to avoid potentially dangerous situations, such as gang activities, violence in dating, and other social situations.
5.3.S Use a decision-making process to analyze the consequences of gang involvement.
5.4.S Evaluate why some students are bullies.
5.5.S Apply decision-making or problem-solving steps to hypothetical situations involving assault and intimidation, including sexual harassment.

Standard 6: Goal Setting

6.1.S Make a personal commitment to avoid persons, places, or activities that encourage violence or delinquency.
6.2.S Create a personal-safety plan.
Standard 7: Practicing Health-Enhancing Behaviors

7.1.S Practice first aid and emergency procedures.
7.2.S Practice ways to resolve conflicts nonviolently.
7.3.S Practice the safe use of technology.

Standard 8: Health Promotion

8.1.S Support changes to promote safety in the home, at school, and in the community.
8.2.S Design a campaign for preventing violence, aggression, bullying, and harassment.
8.3.S Demonstrate the ability to influence others' safety behaviors (e.g., wearing bicycle helmets and seat belts).

Alcohol, Tobacco, and Other Drugs

Standard 1: Essential Concepts

1.1.A Describe the harmful short- and long-term effects of alcohol, tobacco, and other drugs, including steroids, performance-enhancing drugs and inhalants.
1.2.A Describe the relationship between using alcohol, tobacco, and other drugs and engaging in other risky behaviors.
1.3.A Explain the dangers of drug dependence and addiction.
1.4.A Describe the consequences of using alcohol, tobacco, and other drugs during pregnancy, including fetal alcohol spectrum disorders.
1.5.A Analyze the harmful effects of using diet pills without physician supervision.
1.6.A Explain the short- and long-term consequences of using alcohol and other drugs to cope with problems.
1.7.A Explain why most youths do not use alcohol, tobacco, or other drugs.
1.8.A Explain school policies and community laws related to the use, possession, and sale of alcohol, tobacco, and illegal drugs.

Standard 2: Analyzing Influences

2.1.A Analyze internal influences that affect the use and abuse of alcohol, tobacco, and other drugs.
2.2.A Evaluate the influence of marketing and advertising techniques and how they affect alcohol, tobacco, and other drug use and abuse.
2.3.A Analyze family and peer pressure as influences on the use of alcohol, tobacco, and other drugs.
Standard 3: Accessing Valid Information

3.1.A Analyze the validity of information, products, and services related to the use of alcohol, tobacco, and other drugs.

Standard 4: Interpersonal Communication

4.1.A Use effective refusal and negotiation skills to avoid risky situations, especially where alcohol, tobacco, and other drugs are being used.

Standard 5: Decision Making

5.1.A Use a decision-making process to avoid using alcohol, tobacco, and other drugs in a variety of situations.

Standard 6: Goal Setting

6.1.A Develop short- and long-term goals to remain drug-free.

Standard 7: Practicing Health-Enhancing Behaviors

7.1.A Use a variety of effective coping strategies when there is alcohol, tobacco, or other drug use in group situations.
7.2.A Practice positive alternatives to the use of alcohol, tobacco, and other drugs.

Standard 8: Health Promotion

8.1.A Participate in school and community efforts to promote a drug-free lifestyle.

Mental, Emotional, and Social Health

Standard 1: Essential Concepts

1.1.M Explain positive social behaviors (e.g., helping others, being respectful to others, cooperation, consideration).
1.2.M Identify a variety of nonviolent ways to respond when angry or upset.
1.3.M Identify qualities that contribute to a positive self-image.
1.4.M Describe how emotions change during adolescence.
1.5.M Recognize diversity among people, including disability, gender, race, sexual orientation, and body size.
1.6.M Describe the changing roles and responsibilities of adolescents as members of a family and community.
1.7.M Describe the benefits of having positive relationships with trusted adults.
1.8.M Analyze the harmful effects of using diet pills without physician supervision.
1.9.M Identify the signs of various eating disorders.
1.10.M Describe signs of depression, potential suicide, and other self-destructive behaviors.
1.11.M Describe common mental health conditions and why seeking professional help for these conditions is important.

Standard 2: Analyzing Influences

2.1.M Analyze internal and external influences on mental, emotional, and social health.
2.2.M Analyze techniques that are used to pressure someone to engage in or be a target of violent behavior.
2.3.M Analyze the influence of culture on family values and practices.

Standard 3: Accessing Valid Information

3.1.M Access accurate sources of information and services about mental, emotional, and social health.
3.2.M Describe situations for which adult help is needed, including intimidating and dangerous situations, and how to access help for oneself and others.
3.3.M Identify trusted adults to report to if people are in danger of hurting themselves or others.
3.4.M Analyze situations to determine whether they call for acts of caring among friends or require getting the help of trusted adults.

Standard 4: Interpersonal Communication

4.1.M Seek help from trusted adults for oneself or a friend with an emotional or social health problem.

Standard 5: Decision Making

5.1.M Apply decision-making processes to a variety of situations that impact mental, emotional, and social health.
5.2.M Monitor personal stressors and assess techniques for managing them.
5.3.M Describe healthy ways to express caring, friendship, affection, and love.
5.4.M Describe situations for which someone would seek help with stress, loss, an unrealistic body image, or depression.
5.5.M Analyze the importance of setting personal boundaries for privacy, safety, and expressions of emotions and opinions.
Standard 6: Goal Setting

6.1.M Develop achievable goals for handling stressors in healthy ways.

Standard 7: Practicing Health-Enhancing Behaviors

7.2.M Practice respect for individual differences and diverse backgrounds.
7.3.M Participate in clubs, organizations, and activities in the school and community that offer opportunities for student and family involvement.
7.4.M Practice personal boundaries in a variety of situations.
7.5.M Demonstrate skills to avoid or escape from potentially violent situations, including dating.

Standard 8: Health Promotion

8.1.M Promote a positive and respectful school environment.
8.2.M Object appropriately to teasing of peers and community members that is based on perceived personal characteristics or sexual orientation.

Personal and Community Health

Standard 1: Essential Concepts

1.1.P Describe the importance of health-management strategies (e.g., those involving adequate sleep, ergonomics, sun safety, hearing protection, and self-examination).
1.2.P Identify the importance of age-appropriate medical services.
1.3.P Identify Standard (Universal) Precautions and why they are important.
1.4.P Examine the causes and symptoms of communicable and non-communicable diseases.
1.5.P Discuss the importance of effective personal and dental hygiene practices for preventing illness.
1.6.P Identify effective brushing and flossing techniques for oral care.
1.7.P Identify effective protection for teeth, eyes, head, and neck during sports and recreational activities.
1.8.P Identify ways to prevent vision or hearing damage.
1.9.P Identify ways that environmental factors, including air quality, affect our health.
1.10.P Identify human activities that contribute to environmental challenges (e.g., air, water, and noise pollution).
1.11.P Describe global influences on personal and community health.
1.12.P Identify ways to reduce exposure to the sun.

Standard 2: Analyzing Influences

2.1.P Analyze a variety of influences that affect personal health practices.
2.2.P Analyze how environmental pollutants, including noise pollution, affect health.
2.3.P Analyze the relationship between the health of a community and the global environment.
2.4.P Analyze the influence of culture, media, and technology on health decisions.
2.5.P Analyze the social influences that encourage or discourage sun-safety practices.

Standard 3: Accessing Valid Information

3.1.P Demonstrate the ability to access information about personal health products (e.g., deodorant, shampoo, sunscreen, and dental care products), and evaluate the information's validity.
3.2.P Access valid information about preventing common communicable diseases.
3.3.P Locate resources in school, in the community, and on the Internet for first aid information and training, and assess the validity of the resources.
3.4.P Demonstrate how to access school and community health services.

Standard 4: Interpersonal Communication

4.1.P Practice how to make a health-related consumer complaint.
4.2.P Use assertive communication skills to avoid situations that increase risk of communicable disease or illness.

Standard 5: Decision Making

5.1.P Apply a decision-making process to determine safe and healthy strategies for dealing with personal health problems.
5.2.P Apply a decision-making process when selecting health care products.
5.3.P Analyze the characteristics of informed health choices.

Standard 6: Goal Setting

6.1.P Establish goals for improving personal and community health.
6.2.P Design a plan to minimize environmental pollutants, including noise at home and in the community.
6.3.P Create a plan to incorporate adequate rest and sleep into daily routines.
Standard 7: Practicing Health-Enhancing Behaviors

7.1.P Practice and take responsibility for personal and dental hygiene practices.
7.2.P Describe situations where Standard (Universal) Precautions are appropriate.

Standard 8: Health Promotion

8.1.P Promote the importance of regular screenings and medical examinations.
8.2.P Demonstrate the ability to be a positive peer role model in the school and community.
8.3.P Demonstrate ways to accept responsibility for conserving natural resources.

(Education, 2009)
APPENDIX B

Outline of 12-Week Course
Outline of 12-week Course

I. NUTRITIONAL STATISTICS:
   a. Survey
   b. State of the health of the united states
   c. Articles on current health issues including obesity, cardiovascular disease, diabetes, high blood pressure
   d. Dr. Oz video

II. BODY SYSTEMS OVERVIEW
    a. Digestive system
    b. Lymphatic system
    c. Cardiovascular system
    d. Nervous system
    e. Excretory system

III. THE FOOD PYRAMID
    a. The new food pyramid – see website http://health.learninginfo.org/food-pyramid.htm (Lewis)
    b. Experiment with the taste

IV. RDA FOR TEENS
    a. Statistics on teen health
    b. RNA for food groups, vitamins, minerals and what they do for the body systems

V. ANALYZE HARMFUL DIETING PRACTICES/FAD DIETS

VI. EXERCISE
    a. Rewards and benefits
    b. Aerobic exercise
    c. Strength training (weights)
    d. Flexibility training (yoga, Pilates™)
    e. Effects of too much exercise

VII. MEAL-PLANNING (Two weeks)
    a. Researching healthy meals, magazines, on-line research
    b. Reading food labels and counting calories
    c. Planning a balanced meal for a week with the proper number of
    d. Calculate calories needed according to age and fitness level
    e. WebQuest™
VIII. TEEN HEALTH ISSUES
   a. Personal hygiene, oral hygiene, managing stress, sleep

IX. SELF-ESTEEM AND BODY ISSUES
   a. External influences such as media and culture on body image
   b. External and internal influences on food choices
   c. Creating a positive self-image

X. MINI-REPORT ON ANY HEALTH TOPIC
   a. Students can do power point presentation, video, or other project

XI. WRAP UP/ PORTFOLIO
   a. Write reflections on learning
   b. Present reflections and mini-report to the class
Week 1

Topic: Nutritional Statistics

Standards: 1.1.N Describe the short- and long-term impact of nutritional choices on health

1.10.N Identify the impact of nutrition’s on chronic disease

1.13.N Explain how to use a Body Mass Index (BMI) score as a tool for measuring general health.

Objective: 1. Use current nutritional statistics for the US population to show how food choices impact health and how can prevent chronic disease and create longevity.

2. To calculate body mass and explain how it indicates overall health.

Introduction: Vocabulary: homeostasis, heart disease, diabetes, high blood pressure, and BMI. Show images of food to illustrate healthy v. non-healthy. Show effects of chronic disease.

Procedure/Tasks: Review Syllabus, Create a reflection journal/interactive notebook, students take health survey, study health statistics of the US population, students will calculate their own BMI, create a collage of healthy lifestyle, watch Dr. Oz Video and take notes.

Materials Needed: Syllabus, health articles, notebooks, scale, measuring tape, computer, white construction paper, Dr. Oz video(Oz, 2007).

Additional comments: Issue students each a notebook for handouts and journaling.
Week 2

Topic: Body Systems

Standards: 1.10.N Identify the impact of nutrition on chronic disease

1.2.N Identify nutrients and their relationships to health

Objective: 1. To identify the impact nutrition has on various systems of the human body.

Introduction: Vocabulary: organs, organ systems, cardiovascular system, digestive system, nervous system, lymphatic system, urinary system, muscular system and endocrine system. Students will complete handout on the functions of each body system and health habits that will keep each system healthy.

Procedure/Tasks: Students will watch a video on the Body Systems. Students will complete video notes handouts on all body systems.

Materials Needed: Body Systems video, computers, website innerbody.com, subscription to enchanted learning.com, worksheet on body systems

Additional comments: Students will add worksheets to their notebook.
Week 3

Topic: The Food Pyramid

Standards: 5.1.N Use a decision-making process to evaluate daily food intake for nutritional requirements.

Objective: 1. To identify the impact nutrition has on various systems of the human body.

Introduction: Vocabulary: calories, grains, vegetables, fruits, dairy, protein, sugars, carbohydrates, fats and oils. Students will complete on-line scavenger hunt on the food pyramid. Show examples of foods from each of the food categories and complete an experiment on taste.

Procedure/Tasks: Students will complete health vocabulary worksheets, health scavenger hunt on the food pyramid. Students will complete the food pyramid worksheet and reflect on these topics in their journal.

Materials Needed: Computers with on-line access, worksheets on the food pyramid and the scavenger hunt.

Additional comments: All student work will be added to their portfolio for final presentation.
Week 4

Topic: Recommended Daily Allowance (RDA) for Teens

Standards: 1.2.N Identify nutrients and their relationships to health.

1.7.N Describe the benefits of eating a variety of foods high in iron, calcium, and fiber.

5.1.N Use a decision-making process to evaluate daily food intake for nutritional requirements.


Objective: 1. To learn statistics on teen health.

2. To learn the functions of vitamins and minerals in the human body.

3. Reflect on own diet and evaluate any types of foods that need to be added to the diet to ensure the consumption nutrient dense foods.

Introduction: Vocabulary: essential minerals, essential vitamins, RDA, fiber and water.

Procedure/Tasks: Students will complete health vocabulary worksheets; students will learn the functions of vitamins and minerals. Students will evaluate their vitamin and mineral intake in their notebook and will indentify minerals they are lacking and make healthy changes to their diets.

Additional comments: All student work will be added to their portfolio for final presentation.
Week 5

Topic: Fad Diets

Standards: 1.5.N Differentiate between diets that are health-promoting and diets linked to disease.

Objective: 1. To learn the elements of a proper diet.

2. To learn to identify a fad or unhealthy diet.

3. To identify health risks associated with certain fad diets

Introduction: Read the article “5 Ways to Spot a Fad Diet”. Discuss harmful effects of unhealthy diets.

Procedure/Tasks: 1. Students will research “fad” diets and design a “bad fad” diet of their own.

2. Students will be able to show why their “bad fad” diet is particularly unhealthy.

3. Students will find two articles related to the subject and write a short essay summarizing the articles.


Additional comments: All student work will be added to their portfolio for final presentation.
Week 6

Topic: Exercise

Standards: 1.12.N. Examine the role of lifelong fitness activities in maintaining person fitness, blood pressure, weight, and percentage of body fat.
1.14.N. Identify ways to increase daily physical activity
3.4.N. Identify where youths and families can be physically active.
5.2.N. Identify recreational activities that increase physical activity.
6.2.N. Set a goal to increase daily physical activity.

Objective: 1. Students will explore the health benefits of exercise.
2. Students will learn calories burned during various forms of exercise.
3. Students will participate in various forms of exercise.
4. Students will keep an exercise log and calculate the number of calories they burned.
5. Students will find ways to incorporate daily physical activity.

Introduction: Calculate resting heart rate and learn the importance of heart rate during exercise.

Procedure/Tasks: Teach students different types of exercise (cardio vs. non-cardio) and the benefits of each. Students will participate in different types of exercise. Students will keep track of their physical activity using an exercise chart. Students will keep track of calories burned during their exercise.

Additional comments: Students will keep their exercise charts in their notebook.
Week 7 and 8

Topic: Meal Planning

Standards: 1.1.N. Analyze the cognitive and physical benefits of eating breakfast daily
4.1.N. Demonstrate the ability to use effective skills to model healthy decision-making and prevent overconsumption of foods and beverages.
5.1.N. Use a decision-making process to evaluate daily food intake for nutritional requirements.
7.1.N. Make healthy food choices in a variety of settings.

Objective: 1. To learn and create a balanced meal.
2. Students will research a recipe to cook for the class.
3. Students will analyze the nutritional content of their meal and share with the class.
4. Students will keep trying of what they eat using a food log.
5. Students will learn how to eat healthy in a restaurant setting.
6. Students will complete all tasks relating to the WebQuest™ activity.

Introduction: Make a healthy balanced meal for the class to share and calculate the nutritional content.

Procedure/Tasks: Teach students how to calculate calories. Students will reach healthy recipes. Students will prepare a healthy meal for the class as well as calculate the nutritional content of the meal. Students will keep a log of their food intake and evaluate its nutritional content. Students will
study the calories counts of restaurant/fast food and learn to make a good food choice when eating out.

Materials Needed: food, cookbooks, Internet, hot plate, kitchen tools, staff room kitchen

Additional comments: All work will be placed in portfolio for an end of unit presentation.
Week 9

Topic: Teen Health Issues

Standards: 1.1.G. Explain physical, social, and emotional changes associated with adolescence.


1.1.P. Describe the importance of health-management strategies (e.g., those involving adequate sleep, ergonomics, sun safety, hearing protection, and self-examination).

1.5.P. Discuss the importance of effective personal and dental hygiene practices for preventing illness.

1.6.P. Identify effective brushing and flossing techniques for oral care.

1.8.P. Identify ways to prevent vision or hearing damage.

1.12.P. Identify ways to reduce exposure to the sun.

Objective: 1. Students will learn how to maintain personal and dental hygiene.

2. Students will learn how to manage stress.

3. Students will learn the importance of getting adequate sleep.

4. Students will learn how to protect themselves from the sun.

5. Students will learn how to maintain health hearing and vision.

Introduction: Invite a guest speaker to show students how to maintain oral hygiene.

Procedure/Tasks: Students will learn how body changes require them to care for the bodies. Student will learn how to manage their dental and oral hygiene.
Students will learn to recognize stressors and will learn methods for managing their stress. Students will learn how important sleep is especially during the teen years. Students will learn how to keep skin protected from the sun. Students will learn nutrients and habits that will maintain healthy vision and hearing. Students will record their learning in their notebook.

Materials Needed: Articles on teen health issues, guest speaker, power point on teen health issues

Additional comments: Students will keep their exercise charts in their notebook.
Week 10

Topic: Self-esteem and body issues

Standards: 1.1.G. Explain physical, social, and emotional changes associated with adolescence.
2.1.N. Describe the influence of culture and media on body image
1.3.M. Identify qualities that contribute to a positive self-image.
5.4.M. Describe situations for which someone would seek help with stress, loss, an unrealistic body image, or depression.

Objective: 1. Students will identify qualities about them that make them unique.
2. To explore normal changes which occur during adolescence.
3. To examine how media and culture influence body image and help students achieve a positive self-image.
4. For students to learn healthy ways of dealing with stress, loss, depression, or negative body image.

Introduction: Snowball activity—Students will write one thing about themselves and the rest of the class will try to guess who wrote it.

Procedure/Tasks: Students will explore and identify their best qualities, learn to change what is possible to change, and to learn to live which qualities they cannot change. Students will complete various worksheets and write their reflections in their notebook. Students will create a collage of their likes and dislikes and present it to the class.
Materials Needed: construction paper, magazines, makers, crayons, colored pencils, and their notebook

Additional Comments:
Week 11

Topic: Mini-Report on any health topic

Standards: 1.1.N. Describe the short-and long-term impact of nutritional choices on health.

3.1 Distinguish between valid and invalid sources of nutrition information.

Objective: 1. Student will select a health topic of their choice. Students will type a two page double-spaced paper on their topic. Students will present their findings to the class. Students will create a visual relating to their topic.

Introduction: Demonstrate how to write a report and show sample report to the class.

Procedure/Tasks: Brainstorm various health topics. Students will chose a topic, research the topic, create a visual related to their topic, and present their findings to the class.

Materials Needed: construction paper, magazines, markers, crayons, colored pencils, poster board, modeling clay, and their notebook, computers.

Additional comments:
Week 12

Topic:  Wrap-Up, portfolio, and portfolio presentation

Standards:  Culmination of all standards covered.

Objective:  1. Students will reflect on their learning over the past 11 weeks.
             2. Students will share their reflection with the class.

Introduction: In groups of three students will create a poster that illustrates learning
for the past 11 weeks and will present their posters to the class.

Procedure/Tasks: Students will break up in groups of three and create a poster of
topics covered over the previous 11 weeks. Students will use their
notebooks with their information. Students will present their poster to the
class. Students will then reflect on their learning including; topics,
covered, topics that interested them the most, topics that didn’t interest
them, favorite activities, concepts they were most surprised to learn.
Students will choose three assignments/topics to write about in more
detail. They will reflect on the concepts learned during that assignment
and write the reasons they choose the assignment. Students will record
their reflections in their notebook.

Materials Needed: white butcher paper, magazines, markers, crayons, colored pencils,
and student notebook

Additional comments:
APPENDIX D

Course Materials
Week 1 – Nutritional Statistics
INTERACTIVE NOTEBOOK

PURPOSE
The purpose on the Interactive Notebook is to help students learn and remember important scientific concepts.

DIFFERENCES BETWEEN TRADITIONAL JOURNALS AND INTERACTIVE NOTEBOOKS
The Interactive Notebook uses the right and left brain hemispheres to help students sort, categorize and be creative with the content they are learning.

SETTING UP THE INTERACTIVE NOTEBOOK
The first page is left blank. Starting on the second page, the student numbers all the pages on the left side with EVEN numbers. All the pages on the right side are ODD numbers. The student puts the date on the top line of each page.

DIFFERENCES BETWEEN THE TWO SIDES OF THE NOTEBOOK

<table>
<thead>
<tr>
<th>Left Page = Output (Even #)</th>
<th>Right Page = Input (Odd #)</th>
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</thead>
<tbody>
<tr>
<td>The left page shows understanding of information. Working with the information or input from the right side, the students process this information in their own, creative way. Use color on this side. The student may choose to process information through:</td>
<td>The right page is for writing down factual information.</td>
</tr>
<tr>
<td>Brainstorming</td>
<td>Worksheets stapled or glued in the notebook</td>
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<td>Biography posters</td>
<td>Vocabulary words</td>
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<tr>
<td>Mind mapping</td>
<td>Science concept information such as definitions or facts</td>
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<tr>
<td>Cartoons/doodles</td>
<td>Text book notes</td>
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<tr>
<td>Poetry and song lyrics</td>
<td>Film or video notes</td>
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<tr>
<td>Concept maps</td>
<td>Guest speaker notes/questions</td>
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<tr>
<td>Venn diagrams</td>
<td>Notebook prompt</td>
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<td>Sketches</td>
<td>Scientific method</td>
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<tr>
<td>Flow chart or timeline</td>
<td>Direct answers to questions from</td>
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<td>Answering prompts</td>
<td>the book</td>
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<tr>
<td>Diagramming</td>
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<td>Charts</td>
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QUESTIONS TO HELP YOUR STUDENTS UNDERSTAND WHAT SHOULD GO ON THE LEFT SIDE OF THE SPIRAL

1. What's my purpose for reading this?
2. What do I already know about the topic?
3. What's the big picture here?
4. What's the author going to say next?
5. What are the "expert questions"?
6. What questions does this information raise for me?
7. What information is important here?
8. How can I paraphrase and summarize this information?
9. How can I organize this information?
10. How can I picture this information?
11. What's my hook for remembering this information?
12. How does this information fit in with what I already know?
Survey

1. How many days per week do you eat breakfast?
   At home ______ At school ________

2. How many days per week do you eat lunch?
   At school ______ At home ________

3. Do you eat the school lunch or bring a lunch from home?

4. How many days per week do you eat dinner with your family at home?

5. How many days per week do you eat fast food? ________

6. How many days per week do you exercise? ________

7. How many minutes per day do you exercise? ________

8. What type of exercise do you do?

____________________________________________________________________

____________________________________________________________________
HEALTH VOCABULARY

1. **Nutrients**: the substances in food that provide the raw materials and energy the body needs to carry out all the essential processes. There are six kinds of nutrients necessary for human health—carbohydrates, fats, proteins, vitamins, minerals, and water. Your body converts the food you eat into nutrients.

2. **Carbohydrates**: are nutrients composed of carbon, oxygen, and hydrogen. These are all major sources of energy. One gram of carbohydrate provides your body with four Calories of energy.

3. **Caloric**: one calorie is the amount of energy needed to raise the temperature of one gram of water by one Celsius degree.

4. **Simple Carbohydrates**: are also known as sugars. One sugar called glucose is the major source of energy for your body’s cells.

5. **Complex Carbohydrates**: are made up of many sugar molecules linked together in a chain. Starch is a complex carbohydrate found in plant foods such as potatoes, rice, corn; and grain products such as pasta, cereals, and bread.

6. **Fiber**: is a complex carbohydrate found in plant foods. Fiber is not broken down in your body like sugar is; instead, it passes through the body and is eliminated. Your body cannot digest it. Fiber helps keep you regular.

7. **Fats**: Fats are high-energy nutrients that are composed of carbon, oxygen, and hydrogen. Fats contain more than twice as much energy as an equal amount of carbohydrates. Fats form fatty tissues which protect and support your internal organs and act as insulation to keep heat inside your body.

8. **Unsaturated fats**: are usually liquid at room temperature. Most oils, such as olive oil and canola oil, and the oil found in salmon, are unsaturated fats.

9. **Saturated fats**: are usually solid at room temperature. Animal products, such as meat, dairy products, and egg yolks, contain relatively large amount of saturated fats, as do palm oil and coconut oil.
10. **Cholesterol:** is a waxy fatlike substance found only in animal products. Like fats, cholesterol is an important part of your body’s cells. But your liver makes all of the cholesterol your body needs that is why it is not necessary in you diet.

11. **Proteins:** are nutrients that contain nitrogen as well as carbon, hydrogen, and oxygen. Proteins are needed for tissue growth and repair. They also provide some energy. Protein containing foods are: meat, poultry, fish, dairy, nuts, beans, and lentils. About 12% of your daily Calorie intake should come from proteins.

12. **Amino acids:** proteins are made up of small units called amino acids which are linked together chemically to form large protein molecules. Your body makes half the amino acids it needs the rest must come from your diet.

13. **Vitamins:** act as helper molecules in a variety of chemical reactions within the body. Vitamins are either fat-soluble or water-soluble. Fat-soluble are dissolved in fat and stored in fatty tissues in the body. Water-soluble vitamins dissolve in water and are not stored in the body. Vitamins A, D, E, and K are all fat-soluble vitamins. Water-soluble are C, and B.

14. **Minerals:** are nutrients that are not made by living things. They are present in soil and are absorbed by plants through their roots. Calcium is need for strong teeth and bones. Iron is needed for the proper function of red blood cells.

15. **Water:** Water is the most important nutrient because the body’s vital processes—including chemical reactions such as the breakdown of nutrients—take place in water.
## VOCABULARY

<table>
<thead>
<tr>
<th>Vocabulary Term</th>
<th>Importance</th>
<th>Example</th>
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HEALTH HORROR STORIES

Case #018  I have a niece and a nephew living in California both aged 22, in the lovely city of Santa Monica. They are fraternal twins, a phenomenon that occurs when two different eggs are fertilized at the same time by two different sperm cells; no zygote division ever happens. Zygote division results in identical twins- a good example are the lovely Barbi girls. Anyway, when you have identical twins, they must be of the same sex, and they look absolutely identical. But, fraternal twins are just like normal siblings (possible different sex, possible different eye color, possible different hair color, etc.) except for their simultaneous birth. Well, as David and Gina were growing up, they were almost exactly the same height, until they both reached the age of 12. At this age, my nephew was eating much more than my niece, taking in much more protein, calcium, and zinc. Guess who was taller at the age of 12? No, not David. Gina was the taller of the two at the age of 12, by at least three inches. Even though she ate less, puberty occurs much earlier in girls than in boys. David had caught up by the age of 14, however, and now is a full six inches taller.

Case #075  This case involved a young man about 17 years old. Dan had been a vegetarian since he was 10, he told me. Guess what? The young man had a terribly deficient iron, and thus was anemic. He was small, pale, easily fatigued, and he told me how it had impacted his life. Dan was rejected socially, and even his family was slightly embarrassed of his condition. When I told him it was because he had not eaten enough meat during his puberty, his attitude still did not change. He spoke of "equality for the animals" and was still opposed to eating meat. What I have suggested for him is iron supplements. Still, it would be preferable to have him eat some meat. His concern for our fellow animals is very noble, but at what cost? He was literally wasting his muscle tissue away. He could only bench-press thirty pounds, and could do no pull-ups, even with his weight of ninety pounds.

Case #118  The second case centered on a thirty-seven year old woman, Marlene. She had severe osteoporosis, a condition in which the bones became riddled with tiny holes, thus becoming fragile and brittle. Marlene was bedridden in the hospital, and unfortunately, she has passed away. Her bones had decomposed almost completely. Usually, this debilitating condition is associated with much, much older women, such as women nearing menopause, but this thirty-seven year old had a major outstanding fact. She had not drunk one drop of milk since she was seven years old. The recommended daily allowance of calcium of 1200
milligrams is necessary for puberty. The bones depend heavily on this vital element. Marlene told me that peer pressure caused her to avoid drinking milk. "It was fattening," she said, and as a young adolescent female teen, anything fattening was poison. It's just that Marlene carried this abstinence to a level that was unheard of. She said that her mind associated any dairy product or meat product as a magic fattening agent. She said that she had dreams about drinking a quart of milk and then immediately puffing up like a balloon. Even after she had fully developed, this psychological demon remained. All through college, she did not drink any milk; eat any cheese or meat, etc. This just goes to show how important each nutrient is for becoming a normal, healthy adult. Marlene could have avoided her early death. She could have drunk some milk as she was maturing.

Case #211

Jason Vert was a superb athlete during his childhood. He played tennis everyday since he was six years old and became a star. At the age of eleven, he was ranked #3 in his age bracket in the Mid-Atlantic Region. Observers labeled him as a "human chocolate fudge sundae," smooth, fast in a compact package. His coach James Michaels said, "Jason is a very fast player. He is only 5 feet 6 inches tall, but his speed counterbalances his lack of power." But this observed "lack of power" led to his downfall. Jason soon became fourteen, and made the high school tennis team, but as he grew, his speed registered a marked decrease. Still way less than six feet tall and weighing only 100 pounds, Jason's serve was one of the weakest on the team. His friends told him that he could increase his strength by ingesting incredible amounts of protein. Jason fell to the increasing peer pressure and ate ten Big Macs a day. He drank five raw eggs in the morning for breakfast. Also, without telling anybody, he bought large quantities of "Mass Master", a protein supplement from General Nutrition Center. He took triple the daily-recommended dosage. At that time, he could bench press a mere 75 pounds. He expected that to increase. It did, but with some unexpected side effects. He came to me as a severe case of obesity, weighing 474 pounds. He was sixteen years old. He came into my office crying and screaming, and told me his story. "I thought I'd be real buff real fast. Protein's supposed to make you pop muscles, ain't it, doc?" I sighed. "Protein does aid in muscle development, but excess protein is added to your fat supply just like any other excess nutrient." He told me the elements of his monster diet, and I asked him why he couldn't stop after he had gained a few pounds. "I don't know!" he said, tears streaming down his crimson face, "I thought the fatness was temporary. I thought I would buff up soon, but it didn't happen. My friends all said it'd work." We had to hospitalize Jason because he
could barely move his extremities. He died later that week. His potbelly had become so heavy that it crushed his diaphragm and prevented him from breathing. I wonder how many more young athletes will ruin their lives with the misconception that "the more protein, the more muscle." On the contrary, more protein only made Jason into a victim.

Case #341 Many people believe that a certain topical treatment for the skin is a very effective weapon against acne. A derivative of vitamin A (retinoic acid), commonly called "Retinae" in medicine form, is often prescribed for use in cases of severe acne. Donovan was one of those cases. He had had acne since he was 11 years old. His face was cratered like the moon, with large landmarks, and new, fresh gashes. Before I met him, he popped all of his pimples and left horrible scars. When I saw him, I knew he must get help soon. I prescribed Retinae for him, and it seemed to be working a little bit, but he still had many pimples left. One day, he came to ask a few questions of me. He asked me how ingestion of vitamins differs from the topical treatment. It did not occur to me what he meant at that time. I answered the question honestly. I told him that the pimples are part of his bloodstream, and the vitamin A would reach the pimples regardless of how it was put into the system. The topical treatment is, however, absorbed more rapidly. He thanked me, changed the subject and left. I thought nothing of his questions and went on with my life. A couple weeks later, I received the alarming report that Donovan was being taken to the hospital because of toxins in his blood. I learned that Donovan bought vitamin A supplements over the counter and ate them in unbelievable amounts. He went through one jar in a couple of days, I was told. Donovan eventually recovered, but he did stay in critical care for over a week. Ingesting that much Vitamin A is very hazardous to your health.

Iron Iron requirements increase in adolescence because of the greater muscle mass and blood volume associated with the growth spurt. In addition, females require even greater iron because of the onset of menstruation. Iron is found in foods such as red meats, grains, and vegetables. Adolescents may have trouble reaching the iron requirement if their caloric intake is low, because iron in foods is not absorbed well by the body. They may require an iron supplement.
Week 2 – Body Systems Overview
THE CIRCULATORY SYSTEM

It is the year 2500. The Plant Earth has discovered many new planets that contain life. Some life forms are almost human-like aside from a few features. Your star-ship has just landed on an undiscovered planet. Unfortunately when the star-ship entered the planet's atmosphere a grand ion charge zapped your star-ship's power supply. To repair your starship, you need to find the mineral reggeti. You decide you will lead your crew in a search for the substance. In a short time you meet a human-like alien colony calling themselves Xyphoids. Your crew is excited to meet this population because you hope they know how to located reggeti. In brief time you discover the alien population can speak your language so you inquire about reggeti. To your surprise the leader knows where the mineral can be found, but he will only you show on one condition. The Xyphoids, ever since their known existence, have hearts that fail at a very young age. For years they have tried to invent an artificial heart without success. The alien population knows your technology is more advance than theirs. They will lead you to the reggeti source if you can successfully make an artificial heart for their population.

Xyphoid anatomy:

- 3 chambers in their heart
- 2 heart valves
- 1 lung
- 3 major vena cava entering the heart
- 2 pulmonary arteries
- 3 pulmonary veins
- 2 arteries leaving the heart to supply the body with blood
Assignment:

1. Use the PlayDoh and other materials to make a CROSS SECTION (cross section means to leave an area of the heart open so the teacher can observe your internal design) of the heart which corresponds to the Xyphoid anatomy. The heart must work mechanically (meaning the your creation must be able to pump blood to the one lung and bring it back to the heart. Further your valves must be placed in logical positions). (REMEMBER don't mix the PlayDoh!!)

2. Draw your heart creation in the space below or on the back of this page (color is encouraged)

3. Label your valves, veins, arteries, chambers and other structures (use original terminology)

4. Describe (use your unique heart labels) how your heart will work mechanically. Describe how it will move the blood to the one lung and out the rest of the body.

(Dodds, 2008)
The Excretory System

Materials:

- 3 Kidney Beans (Represents the Kidneys)
- 3 Spaghetti pieces (Represents the Ureters)
- 2 Marshmallows (Represents the Bladder)
- 2 Straw pieces (Represents the Urethra)
- 2 pieces of Red Yarn (Represents the Arteries)
- 2 pieces of Blue Yarn (Represents the Veins)

One of each item will be used for the key at the top of the tag board.

Making the Model:

- Glue on the kidney beans.

- The yarn will be approx. 3 inches long. The student will have to separate the yarn into two pieces about 1/2 way up so that the arteries and the veins can go down each leg. Glue on the arteries and the veins.

- Insert the approximately 1-inch long spaghetti lengths into the mini-marshmallow at an angle. This represents the ureters draining down into the bladder.

- Insert the approx. 1 centimeter long piece of straw into the bottom of the marshmallow. This represents the urethra. Place glue on the marshmallow only. The spaghetti should be just high enough to go over the top of the yarn.

- The students now have a wonderful model so that they can describe to a partner just exactly what happens in the Excretory System.

(Hartley-Pinard, 2008)
Getting Up the Nerve

On Tuesday, August 16, 2005, scientists at the University of Edinburgh's Institute for Stem Cell Research and the University of Milan announced that they created the world's first pure nerve stem cells from human embryonic stem cells. The scientists were able to do this using a new technique to grow pure brain stem cells. The hope is that this method can be used to model diseases of the nervous system—like Alzheimer's and Parkinson's—and develop new drugs to treat these debilitating diseases.

The nervous system is vital to everyday life, because it's your body's primary control system. It's what we depend upon for controlling our muscles, smelling aromas, noticing if something is too hot to touch, remembering to feed our pets, and so forth. That's why people who have developed diseases that affect the normal functioning of the nervous system have trouble controlling their movements, for example, often making their limbs and heads shake. Such diseases also often affect a person's ability to remember things.

To get a better understanding of how the nervous system works, this week you'll discover how the brain, spinal cord, and network of nerves interact and respond to stimuli, allowing humans and other animals to move around, make decisions, eat and digest our food, etc.

Nervous System Basics

The Nervous System is essentially composed of three parts: the brain, the spinal cord, and your network of peripheral nerves.

It's the nerve cells that are integrated into things like your organs and muscles. So to begin, let's Probe the Brain (http://www.pbs.org/wgbh/aso/tryit/brain/) at PBS to look at how the brain is linked to muscle movement. Using your Shockwave Player, go directly to the Probe the Brain activity. Click on any point of the tan-colored strip in the brain. When the label pops up, click the place where the line points and watch that particular body part flinch. Also, note how each side of the control point is linked to the opposite side of the body.

To dig a little deeper, let's take a Virtual Body Tour (http://www.mercksource.com/pp/us/cns/cns_interactivetools_vap_index.jsp) at MerckSource. Open the Interactive Body Guide, click to begin the module, then explore the Nervous system.

Read the Introduction, and then continue through the CNS: neurons, brain, spinal cord, the PNS: somatic and autonomic nervous systems, and the Sense organs. What are the primary functions of the nervous system? What does "electrochemical" mean? What's the difference between the CNS and PNS? What roles do dendrites and axons play? What about sensory receptors, sensory neurons, and motor neurons? How would you describe the role of the somatic nervous system? How does that compare to the autonomic?
In the Lab

So, how do scientists, like those working with the nerve stem cells, learn about how nerve cells and the nervous system work?

Well, much is done through experimentation in a laboratory with chemistry and animal test subjects. This type of science that explores the Nervous System is called neuroscience.

With the basics now under your belt (or tucked under your lab coat), you're ready to step into the Neuroscience Virtual Lab (http://www.hhmi.org/biointeractive/neuroscience/vlab.html) at the Howard Hughes Medical Institute. Here, you'll conduct some of your own experiments, to see how one animal, the leech, reacts to varying stimuli.

Click to enter the lab, then read the Objective and browse through the backgrounds about the Leech, the Nervous System, and the Electrical Equipment. Make sure to review the concept of Resting Potential and Action Potential in the Nervous System background section.

What characteristics make the leech a good test subject? What is the difference between the resting potential and action potential?

What exactly will the equipment measure during the experiment? How does that relate to the resting and action potentials? How exactly does an oscilloscope work, and what does it tell you?

Why would you want to place the dissected tissue in a bath of salt water? What kind of control reference do you use for the experiment, and why is doing that an important step?

Before starting the experiment, make sure to review your virtual tools, using the tabs along the top - Notebook, Atlas, Glossary, and Equipment.

Begin the lab, starting with the Overview of equipment used in the lab. Continue through the procedure by following the on-screen instructions.

You'll anesthetize and dissect the leech, then remove the leech innards and observe the ganglion. Cut out the ganglion window, isolate one ganglion, cut the ganglion sinus, then probe and identify the ganglion sensory cells.

Choose a cell, then treat it with each of the different tools: forceps, probe, and feather. After stimulating with each tool, click Dye Injection and then UV Switch to look inside the cell to see what kind of pathway the electrical charge took. After testing one cell, use the Atlas to help you identify the cell type.

Test Another Cell and repeat the procedure several more times.

Why exactly did you cut open the leech's sinus? How do the different stimuli affect the different nerve cells? What do you think might happen to an organism if individual nerve cells or points along neurological pathways were impaired?

What kinds of resources do you think are needed to conduct these types of experiments? Who do you think performs neuroscience research and for what purpose? (Enquirer, 2005)
Stress and the Immune System

In our modern times, the day after Thanksgiving has been dubbed an important day in its own right, as "The Busiest Shopping Day of the Year." Holiday bargain hunters flock to the malls and outlets for extreme deals to load up for the formal gift-giving season.

With its high expectations for joy, moments of sharing, and perfectly elaborate meals and parties, this season is also known as "The Most Stressful Time of Year." For teens, this comes on top of stress from school, friends, family and additional activities, such as sports, concerts, plays, volunteering, and paid work.

Often in the health news around this time of year, articles address holiday stress and how it can affect us. Not only can stress leave us feeling depressed, sleepless and anxious, it can also undermine our immune system as well as our overall well-being. This can lead to worse or more frequent illness, including colds, flu and prolonged infections.

Just in time for the holidays, you'll get a tour of the human immune system to understand how it works and how it can be compromised. Plus, you'll learn how to identify and manage your own stress to avoid its unhealthy pitfalls.

Defending Ourselves

The immune system is an amazing thing, and without it humans would never have survived and thrived for so long.

The immune system is also very complicated. Fortunately, though, the National Cancer Institute provides an in-depth but easy to follow tour for Understanding the Immune System.

Start with the Introduction to get an overview of this system's importance, and then click next at the top left of the page to move through the site.

You'll uncover the basics of The Immune System, like what the "proper targets" of its attacks and defenses are, and the Markers of Self and Non-Self. How do you think these markers might work, chemically and mechanically?

Next, you'll take a look at The Organs of the Immune System and the Lymphatic System. What exactly are lymphocytes? How do the lymphoid organs and the lymphatic system work together?

Meet the key players in the immune system's battles, including the Lymph Node and the large cast of Cells of the Immune System. What role do lymph nodes play? Where do immune cells originate?

Now you're going to jump around the site's contents a bit. Afterward, you can browse through the rest of the contents, if you have time.

Meet two of the most important immune cells, the B Cells and T Cells. What exactly do they do that's so special? How does an Antibody work?

Make sure to also check out Mounting the Response to get the big picture of how the
body defends itself against a health threat, and The Immune System and the Nervous System to understand how the systems are linked. What evidence have scientists discovered that shows how closely the immune and nervous systems are connected? How could your stress level influence the efficiency of your immune system?

Chill Out

Now let's get a little more specific and think about you. Teens and Stress go hand in hand, and this ThinkQuest site can help you to understand and manage it. Enter the site and read the introduction. Do any of the stresses listed ring true for you? Use the menu at the bottom of the page to check out the site's different sections. For example, find out What Is Stress?, and read about The Causes and The Results. Other than undermining your immune system, what are some other symptoms of unmanaged stress? Do you ever notice any of these symptoms when you feel stressed out? What do you think are your strongest or most common triggers of stress? Next learn about some of the Physical aspects of stress. How does the chemistry of your nervous system act in response to stress? How do these chemical reactions literally make you feel? What kinds of chemicals can a person consume that seems to help boost the "happy" messengers? How do their side effects end up making a person feel worse? Do you know anyone who experiences this kind of roller coaster on occasion or frequently? Understanding why stress makes you feel bad is good, but it's even better to know How to Prevent It. Along with regular exercise and a clean diet, there are at least 101 Ways to Prevent Stress. Print out the list and post it somewhere handy as a reminder, or share it with friends and family as an appropriate holiday gift!

(Enquirer, 2003)
Week 3 – The Food Pyramid
Food Pyramid

1. Fill in all six categories of the food pyramid.
2. List all the foods as you can that would fit in each food category.

<table>
<thead>
<tr>
<th>Grains</th>
<th>Vegetables</th>
<th>Fruits</th>
<th>Fats and Oils</th>
<th>Dairy Products</th>
<th>Protein</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>
HEALTH SCAVENGER HUNT

1. Go to www.google.com and type in my food pyramid.
2. Choose: For Kids
3. Choose Related Links (in blue box on the left)
4. Scroll down to the three topics listed below and write 2 facts related to those topics

Physical Activity:
1. 

2. 

Coronary Heart Disease:
1. 

2. 

Obesity and maintaining a health weight:
1. 

2. 

Osteoporosis:
1. 

2. 

Diabetes:
1. 

2. 
Topic of Your Choice

1. 

2. 

Week 4 – RDA for Teens
VITAMIN ACTIVITY

<table>
<thead>
<tr>
<th>Questions</th>
<th>Illustrate</th>
</tr>
</thead>
<tbody>
<tr>
<td>List some functions of vitamins.</td>
<td></td>
</tr>
<tr>
<td>List 5 reasons it’s important to get all vitamins in your diet.</td>
<td></td>
</tr>
<tr>
<td>Circle the foods you eat on the chart on the next page. Are there any vitamins you are not getting in your diet? List them.</td>
<td></td>
</tr>
</tbody>
</table>
## ESSENTIAL VITAMINS

<table>
<thead>
<tr>
<th>VITAMIN</th>
<th>SOURCES</th>
<th>FUNCTION</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fat-Soluble</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>Dairy products; eggs; liver; yellow, orange, and dark green vegetables; fruits</td>
<td>Maintains healthy skin, bones, teeth, and hair; aids vision in dim light</td>
</tr>
<tr>
<td>D</td>
<td>Fortified dairy products; fish; eggs; liver; made by skin cells in the presence of sunlight</td>
<td>Maintains bones and teeth; helps in the use of calcium and phosphorus</td>
</tr>
<tr>
<td>E</td>
<td>Vegetable oils; margarine; green, leafy vegetables; whole-grain foods; seeds; nuts</td>
<td>Aids in maintenance of red blood cells</td>
</tr>
<tr>
<td>K</td>
<td>Green, leafy vegetables; milk; liver; made by bacteria in the intestines</td>
<td>Aids in blood clotting</td>
</tr>
<tr>
<td>B₁ thiamin</td>
<td>Pork; liver; whole-grain foods; legumes; nuts</td>
<td>Needed for breakdown of carbohydrates</td>
</tr>
<tr>
<td>B₂ riboflavin</td>
<td>Dairy products; eggs; leafy, green vegetables; whole-grain breads and cereals</td>
<td>Needed for normal growth</td>
</tr>
<tr>
<td>B₃ niacin</td>
<td>Many protein-rich foods; milk, eggs; meat; fish; whole-grain foods; nuts; peanut butter</td>
<td>Needed for release of energy</td>
</tr>
<tr>
<td>B₆ pyridoxine</td>
<td>Green and leafy vegetables; meats; fish; legumes; fruits; whole-grain foods</td>
<td>Helps in the breakdown of proteins, fats, and carbohydrates</td>
</tr>
<tr>
<td>B₁₂</td>
<td>Meats; fish; poultry; dairy products; eggs</td>
<td>Maintains healthy nervous system; needed for red blood cell formation</td>
</tr>
<tr>
<td>BIOTIN</td>
<td>Liver; meat; fish; eggs; legumes; bananas; melons</td>
<td>Aids in the release of energy</td>
</tr>
<tr>
<td>FOLIC ACID</td>
<td>Leafy, green vegetables; legumes; seeds; liver</td>
<td>Needed for red blood cell formation</td>
</tr>
<tr>
<td>PANTOTHENIC ACID</td>
<td>Liver; meats; fish; eggs; whole-grain foods</td>
<td>Needed for the release of energy</td>
</tr>
</tbody>
</table>
MINERAL ACTIVITY

<table>
<thead>
<tr>
<th>Questions</th>
<th>Illustrate</th>
</tr>
</thead>
<tbody>
<tr>
<td>List some functions of minerals.</td>
<td></td>
</tr>
<tr>
<td>List 5 reasons it's important to get all the essential minerals in your diet.</td>
<td></td>
</tr>
<tr>
<td>Circle the foods you eat on the chart on the next page. Are there any minerals you are not getting in your diet? List them.</td>
<td></td>
</tr>
</tbody>
</table>
### ESSENTIAL MINERALS

<table>
<thead>
<tr>
<th>MINERAL</th>
<th>SOURCES</th>
<th>FUNCTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium</td>
<td>Milk; cheese; dark green, leafy vegetables; tofu; legumes</td>
<td>Helps build bones and teeth; important for blood-clotting, nerve and muscle function</td>
</tr>
<tr>
<td>Chlorine</td>
<td>Table salt; soy sauce; processed foods</td>
<td>Helps maintain water balance; aids in digestion</td>
</tr>
<tr>
<td>Fluorine</td>
<td>Fluoridated drinking water; fish</td>
<td>Helps form bones and teeth</td>
</tr>
<tr>
<td>Iodine</td>
<td>Seafood; iodized salt</td>
<td>Makes up part of hormones that regulate the release of energy</td>
</tr>
<tr>
<td>Iron</td>
<td>Red meats; seafood; green, leafy vegetables; legumes; dried fruits</td>
<td>Forms an important part of red blood cells</td>
</tr>
<tr>
<td>Magnesium</td>
<td>Green, leafy vegetables; legumes; nuts; whole-grain foods</td>
<td>Needed for normal muscle and nerve function; helps in the release of energy</td>
</tr>
<tr>
<td>Phosphorus</td>
<td>Meat; poultry, eggs; fish; dairy products</td>
<td>Needed for healthy bones and teeth; helps in the release of energy</td>
</tr>
<tr>
<td>Potassium</td>
<td>Grains; fruits; vegetables; meat; fish</td>
<td>Helps maintain water balance; needed for normal muscle and nerve function</td>
</tr>
<tr>
<td>Sodium</td>
<td>Table salt; soy sauce; processed foods</td>
<td>Helps maintain water balance; needed for normal nerve function</td>
</tr>
</tbody>
</table>
Week 5 – Analyze Harmful Dieting Practices/Fad Diets
Reflect on your daily diet.

<table>
<thead>
<tr>
<th>List what you ate yesterday.</th>
<th>What was wrong with what you ate?</th>
<th>List what you think a healthy diet would look like.</th>
<th>Suggestions for changing your diet.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breakfast</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lunch</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dinner</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Snacks</td>
<td></td>
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</tr>
</tbody>
</table>
5 Ways to Spot a Fad Diet

Lots of today's popular diets take advantage of our desire to drop weight quickly. Unfortunately, though, "quick-fix" diets don't work. Here are 5 clues that a diet may be more about empty promises than real results:

1. The diet is based on drastically cutting back calories. Starvation-type diets that require the body to fast often promise quick results. But our bodies simply aren't designed to drop pounds quickly. In fact, doctors say it's nearly impossible for a healthy, normally active person to lose more than 2 to 3 pounds per week of actual fat, even on a starvation diet. Here's the trick that very low-calorie diets rely on: The body's natural reaction to near-starvation is to dump water. So most, if not all, of the weight lost on quick-weight-loss diets is not fat — it's just water. And the body sucks this lost water back up like a sponge once a person starts eating normally again.

2. The diet is based on taking special pills, powders, or herbs. These are usually just gimmicks — and the only thing they slim down is your wallet. Many diet pills contain laxatives or diuretics that force a person's body to eliminate more water. Just like restricted-calorie diets, the weight lost with these supplements is mostly water, not fat. Other supplements claim that their ingredients speed up metabolism; suppress appetite; or block the absorption of fat, sugars, or carbohydrates. For most diet supplements, there's no reliable scientific research to back up their claims. And doctors consider diet supplements risky for teens because not much is known about how the ingredients affect the growing body.

3. The diet tells you to eat only specific foods or foods in certain combinations. There's no reliable scientific proof that combining certain foods works. And limiting the foods you eat means you might not get all the nutrition you need.

4. The diet makes you completely cut out fat, sugar, or carbs. Depriving our bodies of needed food groups is a bad idea (especially when they're still growing). It's better to eat smaller portions in well-rounded meals (meals that contain servings of protein, grains, fruits, and veggies). When your body gets the right balance of nutrition, it's less likely to send you willpower-busting cravings! Eating smaller portions also helps you set good eating habits that will help you keep the weight off.

5. The diet requires you to skip meals or replace meals with special drinks or food bars. As with diets that ban certain food groups, skipping or substituting meals can mean you don't get the nutrition needed to support healthy development. Plus, you miss out on the enjoyment of sharing a satisfying meal with friends or family.

(Kids Health, 2007)
Week 6 – Exercise
**NUTRITIONAL SCIENCE**

Name: ___________________________ Date: ______________ Per: __________

Track your daily exercise in minutes / points

<table>
<thead>
<tr>
<th></th>
<th>Sun</th>
<th>Mon</th>
<th>Tue</th>
<th>Wed</th>
<th>Thu</th>
<th>Fri</th>
<th>Sat</th>
</tr>
</thead>
<tbody>
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<td></td>
</tr>
</tbody>
</table>
Week 7/8 – Meal Planning
NUTRITIONAL SCIENCE

Track your daily food intake / points

<table>
<thead>
<tr>
<th></th>
<th>Sun</th>
<th>Mon</th>
<th>Tue</th>
<th>Wed</th>
<th>Thu</th>
<th>Fri</th>
<th>Sat</th>
</tr>
</thead>
<tbody>
<tr>
<td>BREAKFAST</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>SNACK</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LUNCH</td>
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<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DINNER</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SNACKS</td>
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<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>
DAILY CALORIE REQUIREMENTS

Recommended Daily Calorie Requirements

<table>
<thead>
<tr>
<th>AGE</th>
<th>CALORIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-3</td>
<td>1250</td>
</tr>
<tr>
<td>4-6</td>
<td>1600</td>
</tr>
<tr>
<td>7-9</td>
<td>2000</td>
</tr>
<tr>
<td>10-12</td>
<td>2500</td>
</tr>
<tr>
<td>13-14</td>
<td>2300 (girls) 2500 (boys)</td>
</tr>
<tr>
<td>15-18</td>
<td>2400 (girls) 3000 (boys)</td>
</tr>
</tbody>
</table>

1. Examine the calorie chart above.

   a. A girl my age should eat ________ calories a day.
   b. A boy my age should eat ________ calories a day.

2. Using the “Energy in Food” Chart, plan a menu for one day based on the amount of calories you should be eating for one day.

   a. account for: breakfast
      lunch
      dinner
      snack
      exercise

3. Use the exercise chart and calculate the number of calories you burn for your total caloric intake. (Hint: you will be subtracting the calories you burn during exercise)
Rubric for WebQuest

<table>
<thead>
<tr>
<th>5 DAYS TO A HEALTHIER YOU</th>
<th>Name:</th>
<th>Date:</th>
<th>Per:</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Criteria</th>
<th>5-day Plan</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Lacks substantial detail. Only food listed. No nutritional content information.</td>
<td>Minimal detail listed. Meals or nutritional information incomplete.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Food label, RDA, Mineral, Vocabulary and Vitamin activities</th>
<th>All questions answered but answers are incomplete or incorrect.</th>
<th>All questions answered. Complete sentences. Good ideas. Some demonstration of understanding.</th>
<th>All questions answered. Complete sentences. Well thought out ideas. Demonstration of knowledge of topic.</th>
</tr>
</thead>
</table>


Total:  

Teacher Comments:
ENERGY IN FOOD

The amount of energy found in food is measured in calories. All food contains calories. Nutritious food contains calories and nutrients need by the body. Sweet and other "junk" food contains empty calories that provide energy and few nutrients.

This chart lists some common foods and the calories in each. Use the chart to complete your menu for the day on the daily calorie sheet. (tr means trace, a very small amount)

<table>
<thead>
<tr>
<th>Group</th>
<th>Food Description</th>
<th>Cal</th>
<th>Pro*</th>
<th>Fat*</th>
<th>Carb*</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dairy Group</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>cheese (American)</td>
<td>1 tbsp</td>
<td>100</td>
<td>tr</td>
<td>12</td>
<td>tr</td>
</tr>
<tr>
<td>egg, raw, boiled, or poached</td>
<td>1 cube</td>
<td>115</td>
<td>6</td>
<td>10</td>
<td>2</td>
</tr>
<tr>
<td>milk-fluid, skim or buttermilk</td>
<td>1 whole egg</td>
<td>80</td>
<td>6</td>
<td>6</td>
<td>tr</td>
</tr>
<tr>
<td>milk-fluid, whole cream, heavy whipped</td>
<td>3 fluid ounces</td>
<td>95</td>
<td>2</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>cheese, creamed or cottage yogurt, plain</td>
<td>1 cup</td>
<td>90</td>
<td>9</td>
<td>tr</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>1 cup, 3.5% fat</td>
<td>160</td>
<td>9</td>
<td>9</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>2 tbsp, whipped</td>
<td>55</td>
<td>tr</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>½ cup, skim milk</td>
<td>65</td>
<td>8</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>1 cup, part skim milk</td>
<td>125</td>
<td>8</td>
<td>4</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Meat and</strong></td>
<td>bacon, broiled or fried</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Protein Group</td>
<td>beef, hamburger</td>
<td>245</td>
<td>21</td>
<td>17</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>chicken, broiled</td>
<td>115</td>
<td>20</td>
<td>2</td>
<td>0</td>
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<tr>
<td></td>
<td>frankfurter, heated</td>
<td>170</td>
<td>7</td>
<td>15</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>ham, boiled</td>
<td>135</td>
<td>11</td>
<td>10</td>
<td>0</td>
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<td></td>
<td>peanut butter</td>
<td>190</td>
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<td>tr</td>
<td>23</td>
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<tr>
<td></td>
<td>sausage, bologna</td>
<td>173</td>
<td>7</td>
<td>16</td>
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<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td><strong>Fruit and</strong></td>
<td>apples, raw</td>
<td></td>
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<td>Vegetable Group</td>
<td>bananas, raw</td>
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<td>tr</td>
<td>26</td>
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<tr>
<td></td>
<td>beans</td>
<td>15</td>
<td>1</td>
<td>tr</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>broccoli, cooked</td>
<td>20</td>
<td>3</td>
<td>1</td>
<td>4</td>
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<tr>
<td></td>
<td>carrots, raw, whole, or sticks</td>
<td>20</td>
<td>1</td>
<td>tr</td>
<td>5</td>
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<td></td>
<td>oranges</td>
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<tr>
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<td>peas, green, cooked</td>
<td>58</td>
<td>5</td>
<td>1</td>
<td>10</td>
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<tr>
<td></td>
<td>potatoes, baked</td>
<td>95</td>
<td>2</td>
<td>4</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>potatoes, mashed</td>
<td>40</td>
<td>2</td>
<td>4</td>
<td>9</td>
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<tr>
<td></td>
<td>tomato, raw</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
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<tr>
<td><strong>Grain Group</strong></td>
<td>bread, white</td>
<td>70</td>
<td>tr</td>
<td>tr</td>
<td>30</td>
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<tr>
<td></td>
<td>bread, whole wheat</td>
<td>100</td>
<td>1</td>
<td>tr</td>
<td>26</td>
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<tr>
<td></td>
<td>pasta, noodles</td>
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<td>4</td>
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<tr>
<td></td>
<td>rice, cooked</td>
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<td>4</td>
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<td>spaghetti, cooked</td>
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<td>1</td>
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<td>16</td>
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<tr>
<td><strong>Other Foods</strong></td>
<td>cake, plain chocolate iced</td>
<td>130</td>
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<td>5</td>
<td>21</td>
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<tr>
<td></td>
<td>candy, chocolate</td>
<td>145</td>
<td>2</td>
<td>9</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>cola</td>
<td>96</td>
<td>0</td>
<td>0</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td>cookies, chocolate chip</td>
<td>60</td>
<td>1</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
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<td>doughnuts, cake type</td>
<td>125</td>
<td>1</td>
<td>6</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>tomato ketchup</td>
<td>15</td>
<td>tr</td>
<td>tr</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>diet soda</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>coffee and tea</td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

*in grams

(Darby, 2000)
<table>
<thead>
<tr>
<th>Food</th>
<th>Calories</th>
<th>Food</th>
<th>Calories</th>
<th>Food</th>
<th>Calories</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apple, raw</td>
<td>70</td>
<td>Hamburger</td>
<td>260</td>
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<td></td>
</tr>
<tr>
<td>Banana, raw</td>
<td>85</td>
<td>Ice cream</td>
<td>160</td>
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</tr>
<tr>
<td>Bread, white, 1 slice</td>
<td>65</td>
<td>Malted milk, 1 cup</td>
<td>280</td>
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</tr>
<tr>
<td>Candy bar, chocolate</td>
<td>250</td>
<td>Milk, 1 cup</td>
<td>150</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carrot, raw</td>
<td>30</td>
<td>Peanuts, roasted, 1 cup</td>
<td>840</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cheese, American, 28g</td>
<td>115</td>
<td>Peas, cooked, 1 cup</td>
<td>110</td>
<td></td>
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</tr>
<tr>
<td>Chicken, broiled, 84g</td>
<td>115</td>
<td>Pizza, cheese, 2 slices</td>
<td>370</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cola</td>
<td>100</td>
<td>Pork chop, 84g</td>
<td>300</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corn, cooked, 1 ear</td>
<td>70</td>
<td>Potato chips, 10</td>
<td>100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Doughnut, cake</td>
<td>240</td>
<td>Taco</td>
<td>190</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Egg, whole</td>
<td>80</td>
<td>Tuna fish</td>
<td>135</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hot dog</td>
<td>145</td>
<td>Yogurt, 1 cup</td>
<td>225</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Study the chart above. Then answer the following questions.

1. Name two foods you could eat if you wanted a low-calorie snack.

2. Approximately how many calories would this meal have?
   a. hamburger  
   b. potato chips  
   c. malted milk  
   d. total calories  
   e. what substitutions could you make to reduce the number of calories in this meal?

3. Instead of the foods listed below, what item could you substitute in each food group if more calories were needed?
   a. meat group – tuna fish  
   b. dairy group – milk  
   c. vegetable group – carrots
4. Design a balanced meal for dinner and determine how many calories it contains.

Bread group

Meat group

Fruit group

Vegetable group

Milk group

(Ortleb, 1997)
CALORIES AND ACTIVITY

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>NUMBER OF CALORIES USED PER HOUR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seated – reading, writing, listening to a radio, watching television, eating</td>
<td>80 - 100</td>
</tr>
<tr>
<td>Slight – getting dressed or undressed, preparing meals, taking a shower, dusting furniture</td>
<td>110 - 160</td>
</tr>
<tr>
<td>Moderate – walking, doing carpentry work, working in the garden, making a bed, washing a car</td>
<td>170 - 240</td>
</tr>
<tr>
<td>Vigorous – walking fast, skating, bowling, scrubbing floors, playing softball</td>
<td>250 - 350</td>
</tr>
<tr>
<td>Strenuous – running, swimming, bicycling, aerobic dancing, playing tennis</td>
<td>350 or more</td>
</tr>
</tbody>
</table>

1. Record your activities for one day and the time it took to complete each of them. Use the table above to calculate the approximate number of calories you used in one day. Record your total. Total calories used: __________________________

2. Use a food calorie chart to determine the amount of calories you have taken in for one day. Record your total. Total calories taken in: __________________________

3. Did you take in more or fewer calories than you used? __________________________ What happens when you take in more calories than you use? __________________________

4. If you ate a meal with a total of 700 calories, approximately how long would you have to do each of the following activities to use those calories?
   a. playing softball __________________________
   b. reading __________________________
   c. moderate walking __________________________
   d. bicycling __________________________

(Ortleb, 1997)
Week 9 – Teen Health Issues
5 Ideas for Better Sleep

A recent study shows that about 1 in 4 teens has trouble sleeping. Lack of sleep can affect everything from our emotions to how well we focus on tasks like driving. It can affect sports performance, increase our chances of getting sick, and may be linked to weight gain in some people. How can we get the sleep we need? Here are some ideas:

1. **Be active during the day.** You've probably noticed how much running around little kids do — and how soundly they sleep. Take a tip from a toddler and get at least 60 minutes of exercise a day. Physical activity can decrease stress and help people feel more relaxed. Just don't work out too close to bedtime because exercise can wake you up before it slows you down.

2. **Avoid alcohol and drugs.** Lots of people think that alcohol or drugs will make them relaxed and drowsy, but that's not the case. Drugs and alcohol disrupt sleep, increasing a person's chance of waking up in the middle of the night.

3. **Say goodnight to electronics.** Experts recommend using the bedroom for sleep only. If you can't make your bedroom a tech-free zone, at least shut everything down an hour or more before lights out. Nothing says, "Wake up, something's going on!" like the buzz of a text or the ping of an IM.

4. **Keep a sleep routine.** Going to bed at the same time every night helps the body expect sleep. Creating a set bedtime routine can enhance this relaxation effect. So unwind every night by reading, listening to music, spending time with a pet, writing in a journal, playing Sudoku, or doing anything else that relaxes you.

5. **Expect a good night's sleep.** Stress can trigger insomnia, so the more you agonize about not sleeping, the greater the risk you'll lie awake staring at the ceiling. Instead of worrying that you won't sleep, remind yourself that you can. Say, "Tonight, I will sleep well" several times during the day. It can also help to practice breathing exercises or gentle yoga poses before bed. Everyone has a sleepless night once in a while. If you regularly have trouble sleeping and you think it's affecting your mood or performance, talk to your doctor.

(TeensHealth, 2009a)

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Sweat and Body Odor

Perspiration, or sweat, comes from sweat glands that you've always had in your body. But thanks to puberty, these glands not only become more active than before, they also begin to secrete different chemicals into the sweat that has a stronger smelling odor. You might notice this odor under your arms in your armpits. Your feet and genitals might also have new smells.

The best way to keep clean is to bathe or shower every day using a mild soap and warm water. This will help wash away any bacteria that contribute to the smells. Wearing clean clothes, socks, and underwear each day can also help you to feel clean. If you sweat a lot, you might find that shirts, T-shirts, socks, and underwear made from cotton or other natural materials will help absorb sweat more effectively.

If you're concerned about the way your underarms smell, you can try using a deodorant or deodorant with antiperspirant. Deodorants get rid of the odor of sweat by covering it up, and antiperspirants actually stop or dry up perspiration. They come in sticks, roll-ons, gels, sprays, and creams and are available at any drugstore or supermarket. All brands are similar (and ones that say they're made for a man or for a woman are similar, too, except for some perfumes that are added).

If you choose to use deodorant or antiperspirant, be sure to read the directions. Some work better if you use them at night, whereas others recommend that you put them on in the morning. But keep in mind that some teens don't need deodorants or antiperspirants. So why use them if you don't have to? Deodorant and antiperspirant commercials may try to convince you that you'll have no friends or dates if you don't use their product, but if you don't think you smell and you take daily baths or showers and wear clean clothes, you may be fine without them.

(TeensHealth, 2007)

What Causes Bad Breath

Bad breath, or halitosis, can be a major problem, especially when you're about to snuggle with your sweetie or whisper a joke to your friend. The good news is that bad breath can often be prevented with some simple steps.

Bad breath is caused by odor-producing bacteria that grow in the mouth. When you don't brush and floss regularly, bacteria accumulate on the bits of food left in your mouth and between your teeth. The sulfur compounds released by these bacteria make your breath smell.
Certain foods, especially ones like garlic and onions that contain pungent oils, can contribute to bad breath because the oils are carried to your lungs and out through your mouth. Smoking is also a major cause of bad breath.

There are lots of myths about taking care of bad breath. Here are three things you may have heard about bad breath that are not true:

**Myth #1:** Mouthwash will make bad breath go away.
Mouthwash only gets rid of bad breath temporarily. If you do use mouthwash, look for an antiseptic (kills the germs that cause bad breath) and plaque-reducing one with a seal from the American Dental Association (ADA). When you're deciding which dental products to toss into your shopping cart, it's always a good idea to look for those that are accepted by the ADA. Also, ask your dentist for recommendations.

**Myth #2:** As long as you brush your teeth, you shouldn't have bad breath.
The truth is that most people only brush their teeth for 30 to 45 seconds, which just doesn't cut it. To sufficiently clean all the surfaces of your teeth, you should brush for at least 2 minutes at least twice a day. Remember to brush your tongue, too — bacteria love to hang out there. It's equally important to floss because brushing alone won't remove harmful plaque and food particles that become stuck between your teeth and gums.

**Myth #3:** If you breathe into your hand, you'll know when you have bad breath.
Wrong! When you breathe, you don't use your throat the same way you do when you talk. When you talk, you tend to bring out the odors from the back of your mouth (where bad breath originates), which simply breathing doesn't do. Also, because we tend to get used to our own smells, it's hard for a person to tell if he or she has bad breath.
If you're concerned about bad breath, make sure you're taking care of your teeth and mouth properly. Some sugar-free gums and mints can temporarily mask odors, too. If you brush and floss properly and visit your dentist for regular cleanings, but your bad breath persists, you may have a medical problem like sinusitis or gum disease. Call your doctor or dentist if you suspect a problem. They can figure out if something else is behind your bad breath and help you take care of it.

(TrainsHealth, 2008)

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Week 10 – Self-Esteem and Body Issues
Body Image and Self-Esteem

I'm fat. I'm too skinny. I'd be happy if I were taller, shorter, had curly hair, straight hair, a smaller nose, bigger muscles, longer legs. Do any of these statements sound familiar? Are you used to putting yourself down? If so, you're not alone. As a teen, you're going through a ton of changes in your body. And as your body changes, so does your image of yourself. Lots of people have trouble adjusting, and this can affect their self-esteem.

Why Are Self-Esteem and Body Image Important?
Self-esteem is all about how much people value themselves. The pride they feel in themselves, and how worthwhile they feel. Self-esteem is important because feeling good about yourself can affect how you act. A person who has high self-esteem will make friends easily, is more in control of his or her behavior, and will enjoy life more. Body image is how someone feels about his or her own physical appearance. For many people, especially those in their early teens, body image can be closely linked to self-esteem. That's because as kids develop into teens, they care more about how others see them.

What Influences a Person's Self-Esteem?
Puberty
Some teens struggle with their self-esteem when they begin puberty because the body goes through many changes. These changes, combined with a natural desire to feel accepted, mean it can be tempting for people to compare themselves with others. They may compare themselves with the people around them or with actors and celebs they see on TV, in movies, or in magazines. But it's impossible to measure ourselves against others because the changes that come with puberty are different for everyone. Some people start developing early; others are late bloomers. Some get a temporary layer of fat to prepare for a growth spurt, others fill out permanently, and others feel like they stay skinny no matter how much they eat. It all depends on how our genes have programmed our bodies to act. The changes that come with puberty can affect how both girls and guys feel about themselves. Some girls may feel uncomfortable or embarrassed about their maturing bodies. Others may wish that they were developing faster. Girls may feel pressure to be thin but guys may feel like they don't look big or muscular enough.

Outside Influences
It's not just development that affects self-esteem, though. Lots of other factors (like media images of skinny girls and bulked-up guys) can affect a person's body image too. Family life can sometimes influence a person's self-esteem. Some parents spend more time criticizing their kids and the way they look than praising them. This criticism may reduce a person's ability to develop good self-esteem.
People may also experience negative comments and hurtful teasing about the way they look from classmates and peers. Sometimes racial and ethnic prejudice is the source of such comments. Although these often come from ignorance, sometimes they can affect another person's body image and self-esteem.

**Healthy Self-Esteem**

If you have a positive body image, you probably like and accept yourself the way you are. This healthy attitude allows you to explore other aspects of growing up, such as developing good friendships, growing more independent from your parents, and challenging yourself physically and mentally. Developing these parts of yourself can help boost your self-esteem.

A positive, optimistic attitude can help people develop strong self-esteem — for example, saying, "Hey, I'm human" instead of "Wow, I'm such a loser" when you've made a mistake, or not blaming others when things don't go as expected. Knowing what makes you happy and how to meet your goals can help you feel capable, strong, and in control of your life. A positive attitude and a healthy lifestyle (such as exercising and eating right) are a great combination for building good self-esteem.

**Tips for Improving Your Body Image**

Some people think they need to change how they look or act to feel good about themselves. But actually all you need to do is change the way you see your body and how you think about yourself.

The first thing to do is recognize that your body is your own, no matter what shape, size, or color it comes in. If you're very worried about your weight or size, check with your doctor to verify that things are OK. But it's no one's business but your own what your body is like — ultimately, you have to be happy with yourself.

Next, identify which aspects of your appearance you can realistically change and which you can't. Everyone (even the most perfect-seeming celeb) has things about themselves that they can't change and need to accept — like their height, for example, or their shoe size.

If there are things about yourself that you want to change and can (such as how fit you are), do this by making goals for yourself. For example, if you want to get fit, make a plan to exercise every day and eat nutritious foods. Then keep track of your progress until you reach your goal. Meeting a challenge you set for yourself is a great way to boost self-esteem!

When you hear negative comments coming from within yourself, tell yourself to stop. Try building your self-esteem by giving yourself three compliments every day. While you're at it, every evening list three things in your day that really gave you pleasure. It can be anything from the way the sun felt on your face, the sound of your favorite band, or the way someone laughed at your jokes. By focusing on the good things you do and the positive aspects of your life, you can change how you feel about yourself.
Where Can I Go if I Need Help?
Sometimes low self-esteem and body image problems are too much to handle alone. A few teens may become depressed, lose interest in activities or friends — and even hurt themselves or resort to alcohol or drug abuse.
If you're feeling this way, it can help to talk to a parent, coach, religious leader, guidance counselor, therapist, or an adult friend. A trusted adult — someone who supports you and doesn't bring you down — can help you put your body image in perspective and give you positive feedback about your body, your skills, and your abilities.
If you can't turn to anyone you know, call a teen crisis hotline (check the yellow pages under social services or search online). The most important thing is to get help if you feel like your body image and self-esteem are affecting your life.

(TeensHealth, 2009b)

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T_RelatedArticle#


Washington, DC: Author.
