DEVELOPMENT OF CLASSROOM-BASED CATCH NUTRITION AND PHYSICAL ACTIVITY LESSONS FOR LAUSD TITLE I ELEMENTARY SCHOOLS: A COMPONENT OF THE CANOGA PARK HEALTH IMPROVEMENT ZONE PROJECT

A graduate project submitted in partial fulfillment of the requirements
For the degree of Master of Science in
Family and Consumer Sciences

by
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DEDICATION

This graduate project is dedicated to:

My mother and father, Rolanda and Robert Crump, for their unconditional support and confidence in me throughout my graduate career.
ACKNOWLEDGEMENT

To Dr. Barrack, thank you for dedicating your time and expertise in helping me with my project. Without your friendly, in depth advice, and extensive knowledge, I could not have sufficiently completed this process. I am truly thankful.

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# TABLE OF CONTENTS

Signature Page  ii  
Dedication  iii  
Acknowledgement  iv  
Abstract  vii  

## CHAPTER I – INTRODUCTION

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Statement of the Problem</td>
<td>3</td>
</tr>
<tr>
<td>Purpose</td>
<td>5</td>
</tr>
<tr>
<td>Definitions</td>
<td>6</td>
</tr>
<tr>
<td>Assumptions</td>
<td>9</td>
</tr>
<tr>
<td>Limitations</td>
<td>10</td>
</tr>
</tbody>
</table>

## CHAPTER II – REVIEW OF LITERATURE

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Childhood Obesity and the Populations Affected</td>
<td>11</td>
</tr>
<tr>
<td>Childhood Obesity Prevention</td>
<td>12</td>
</tr>
<tr>
<td>School-based Interventions</td>
<td>16</td>
</tr>
<tr>
<td>Physical Education Programs</td>
<td>24</td>
</tr>
</tbody>
</table>

## CHAPTER III – METHODOLOGY

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Curriculum Development</td>
<td>33</td>
</tr>
<tr>
<td>Curriculum Delivery</td>
<td>33</td>
</tr>
<tr>
<td>Data Collection</td>
<td>37</td>
</tr>
<tr>
<td>Participants</td>
<td>39</td>
</tr>
<tr>
<td>Formative Evaluation</td>
<td>39</td>
</tr>
<tr>
<td>Expert Evaluations</td>
<td>40</td>
</tr>
</tbody>
</table>

## CHAPTER IV – RESULTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expert Characteristics</td>
<td>41</td>
</tr>
<tr>
<td>Results from the Expert Review</td>
<td>42</td>
</tr>
</tbody>
</table>

## CHAPTER V – DISCUSSION

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Summary of the problem and purpose</td>
<td>44</td>
</tr>
<tr>
<td>Recommendations for Further Research</td>
<td>45</td>
</tr>
<tr>
<td>Limitations</td>
<td>46</td>
</tr>
<tr>
<td>Implications</td>
<td>47</td>
</tr>
<tr>
<td>Conclusion</td>
<td>47</td>
</tr>
</tbody>
</table>

## REFERENCES

<table>
<thead>
<tr>
<th>Reference</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appendix A: CATCH Go For Health Series: Lesson 1 (1st - 5th grade)</td>
<td>57</td>
</tr>
<tr>
<td>Appendix B: CATCH Go For Health Series: Lesson 2 (1st - 5th grade)</td>
<td>90</td>
</tr>
</tbody>
</table>
ABSTRACT

DEVELOPMENT OF CLASSROOM-BASED CATCH NUTRITION AND PHYSICAL ACTIVITY LESSONS FOR LAUSD TITLE I ELEMENTARY SCHOOLS: A COMPONENT OF THE CANOGA PARK HEALTH IMPROVEMENT ZONE PROJECT

by

Candice Crump

Master of Science in

Family and Consumer Sciences

The purpose of this project was to design and evaluate nutrition and physical education classroom-based lessons for students in Title I schools within the Los Angeles Unified School District (LAUSD). Childhood obesity is a growing concern in the United States and in California public schools, particularly within LAUSD. The LAUSD is comprised of mostly low-income, minority populations who typically have higher rates of childhood obesity and other health-related disparities (Samuels et al., 2011). The lessons for this project were created for 1st through 5th grade students attending Hart Street Elementary and Canoga Park Elementary schools within LAUSD and focused on educating students about nutrition and being physically active indoors. The Coordinated Approach to Child Health (CATCH) indoor curriculum included lessons 1 and 2, which were components of the CATCH program to help maintain physical activity when poor weather prevented students from participating in CATCH physical education (CATCH
PE) outdoors. An Expert Panel with experience in nutrition education, physical education, food service, human development, and childhood obesity issues completed a formative evaluation of the lessons within this project.
CHAPTER I

INTRODUCTION

Childhood obesity has become a serious health concern nationwide. The Centers for Disease Control (CDC) reports that the rate of childhood obesity has doubled for children 6-to-11 years of age and more than tripled for adolescents (i.e. 12-to-19 years old) in the past three decades (Woodward-Lopez et al., 2010). This has led to a growing number of children at risk for or suffering from asthma, hypertension, type II diabetes, and ultimately cardiovascular disease (CVD) (Prelip, Slusser, Thai, Kinsler, & Erausquin, 2011; Slusser, Cumberland, Browdy, Winham, & Neumann, 2004). This has resulted in many organizations, schools, communities, and policy makers to take actions to help reduce the risks of chronic illnesses in children.

Evidence suggests these serious health problems are associated with physical inactivity and an increased consumption of high fat, calorie dense foods (Wu, 2008). Prior studies also conclude that Hispanics and African American children with low socioeconomic status are at increased risk for inadequate physical activity and poor nutrient intake (Samuel et al., 2011). Research conducted for the Task Force on Youth and Workplace Wellness (Wellness Task Force) found there was a 50% higher risk of obesity in minority children and if this rate continues, one in two Hispanic and African American children will develop type II diabetes during their lifetimes (Woodward-Lopez et al., 2010). The research also discussed the lack of physical activity as being the prominent reason for the increase of these illnesses among minorities. The time spent in physical activity in schools has been limited due to the academic requirements enforced by Title I schools in order to receive funding (Woodward-Lopez et al., 2010). Title I is a
program funded by the U.S. Department of Education in which funds are allocated to schools with predominantly low-income students to help students K-12 meet required standards of academic performance (U.S. Department of Education, 2014; Los Angeles Unified District, n.d.). Lower income schools with limited funding may choose to cut physical education in order to improve other academic programs required to maintain Title I funding (Woodward-Lopez et al., 2010). The U.S. Department of Education states that Title I funds are typically used to support supplemental learning in reading and math (U.S. Department of Education, 2014). Schools within the LAUSD that are considered Title I schools, may require the assistance of additional programs to implement physical activity into their schools.

Local and national government policies led by the Let’s Move Campaign allowed other organizations such as The California Endowment, Kaiser Permanente, the Surgeon General, and the California Department of Public Health, to set recommendations for the amount of physical activity required to produce healthy outcomes among children. The school setting may serve as an ideal setting to incorporate physical activity interventions and improve the eating habits of various children, some of whom would otherwise be unable to receive physical education (PE) or nutrition knowledge (Prelip et al., 2011). Minority children who live in economically disadvantaged households often have limited opportunities to be physically active in their neighborhoods (Samuels et al., 2011). The use of recreational parks is minimized by the safety and abundance of parks. Over 25% of low-income, Hispanic and African American adolescents in California do not have access to a safe park (Wu, 2008). Research by Cohen et al. (2007) also found the use of parks to be small due to inadequate location and number of parks. In 2008, the Wellness Task
Force was asked by the California Endowment and Kaiser Permanente to provide recommendations for grades K-12 in California schools (Woodward-Lopez et al., 2010). This research discovered that the previous interventions of the CATCH program were successful in meeting the recommendations of moderate to vigorous physical activity in low-income, predominantly Hispanic schools (Woodward-Lopez et al., 2010). The CATCH program is a multi-component program designed to incorporate the school environment, staff, and surrounding communities to improve physical activity and nutrition awareness within schools (Woodward-Lopez et al., 2010). The CATCH curriculum focuses on enjoyable, yet easy implementation with the intention of sustaining the intervention through teacher trainings.

**Statement of the Problem**

The growing rate of obesity in children is believed to be a result of several factors including consumption of high calorie foods, low socioeconomic status, physical inactivity, and lack of nutrition knowledge. Students in grades 1st through 5th have shown the highest prevalence of obesity and are therefore the focus of most school-based intervention programs (Prelip et al., 2011). Recent findings also indicate that 36% of the children in the United States are either overweight or obese, and that physical activity decreases as children get older (Donnelly & Lambourne, 2011; Pyle et al., 2006). In addition to reduced physical activity, the increased amount of calories consumed may be associated with larger portion sizes, the abundant locations of fast food restaurants, increased consumption of sweetened beverages, and the high caloric content of most readily available foods in schools (Wu, 2008). Promoting increased consumption of fruit and vegetable (FV) intake has been found to help reduce the risks of asthma and
respiratory diseases in children by decreasing the amount of high-fat, energy dense foods eaten daily (Prelip et al., 2011).

Engaging in regular physical activity also minimizes the risks of many health problems including obesity, hypertension, type II diabetes, and cardiovascular disease (Woodward-Lopez et al., 2010). Obesity has become the focus of health-related issues because it often leads to chronic diseases among children and adolescents (Woodward-Lopez et al., 2010). Cardiovascular disease (CVD), type II diabetes, and hypertension are some of the chronic diseases associated with obesity. CVD is the number one cause of death in the United States and is directly correlated to a sedentary lifestyle with increased consumption of foods that are high in saturated fat and sodium (Luepker, R. et al., 1996). Although these diseases were previously only seen among in the elderly, more cases are being found in younger populations (Slusser et al., 2004). The rates of obesity are higher for minorities in particular Hispanics (29.9%) and African Americans (24.8%) (Sharma, Chuang, & Hedburg, 2011), which leads to the likelihood of these populations developing these chronic conditions. Additionally, research has found obesity to be directly related to poverty or a low-socioeconomic status (Slusser et al., 2004).

Socioeconomic status also plays a role in physical activity. Lower income schools tend to spend less physical education class time engaged in moderate to vigorous physical activity (MVPA), and score lower on physical activity tests (Woodward-Lopez et al., 2010). Minorities are also affected by this since the lower income schools are typically predominantly Hispanic and African American (Samuels et al., 2011). Due to the lack of sufficient physical activity and nutrition education in lower income schools, children in
these schools have a greater than 50% higher risk of obesity and health related issues (Woodward-Lopez et al., 2010).

Los Angeles is one area of California with the highest rates of overweight and physically inactive students (Woodward-Lopez et al., 2010). The Los Angeles Unified School District (LAUSD) consists of 670,000 K-12th grade students; 86.4% of these students belong to racial or ethnic minorities, including over 70% Hispanic students, and 74% low-income, or qualifying for free or reduced-price meals (California Department of Education, 2010; Samuels et al., 2011; Slusser et al., 2004). Obesity rates in this district were also found to be considerably higher when compared to districts nationwide (Samuels et al., 2011). Due to the research on the critical issues of fitness and nutritional health in among the children in the United States, California law now requires public schools to provide elementary students with at least 20 minutes of physical activity per day, while middle school and high schools students are advised to receive about 40 minutes. However, of the 188 schools that were assessed, only half of them were enforcing the physical activity law (Samuels et al., 2011). Many schools have found it difficult to spend the recommended amount of time in physical education for a number of different factors such as time constraints, academic priority, and an inability to provide nutrition or physical education resources and training.

**Purpose**

The purpose of the current project was to develop grade-specific lessons that could be implemented indoors for the CATCH program component of the Canoga Park Health Improvement Zone Project (CPHIZP), funded by the UniHealth Foundation administered among 1,200 children at two Title I elementary schools in the Canoga Park
region of San Fernando Valley, Los Angeles. The CATCH program component of the CPHIZP provides weekly, 45-minute physical activity lessons, administered by CSUN student instructors, to the elementary school children using a format aimed for eventual use by elementary school teachers, thus promoting potential sustainability after completion of the CPHIZP. The indoor lessons, integrating both physical activity and nutrition education, adapted from the CATCH “Go For Health” series curriculum, would allow for consistency of lesson administration on days that lessons could not be offered outside, due to poor weather or other limitations or unfavorable environmental conditions, and also promote sustainability and use by elementary school teachers in the future. Previous evidence from CATCH trials supports the benefits of the multi-component program in culturally diverse, low-income populations (Coleman et al., 2005). With the participation and support from the schools, teachers, community members, and families, the improvement of physical activity and nutrition education in LAUSD schools can be more achievable.

**Definitions**

- **Adolescent:** Defined by WHO as the period in human growth and development that occurs after childhood but before adulthood from the ages of 10-to-19 years (World Health Organization, n.d.).
- **Asthma:** A chronic lung disease that causes airways to become inflamed and narrow followed by wheezing, chest tightness, shortness of breath, and coughing (U.S. Department of Health and Human Services, 2014).
- **Cancer:** A term used to describe the uncontrollable abnormal cell division that allows cells to attack other tissues (National Cancer Institute, n.d.).
• Cardiovascular Disease (CVD): Caused by disorders of the heart and blood vessels. Major causes of this disease are the use of tobacco, physical inactivity, an unhealthy diet and harmful use of alcohol (World Health Organization, n.d.).

• Centers for Disease Control (CDC): An operating component of the Department of Health and Human Services to protect Americans from health, safety and security threats that are either foreign or within the United States (Centers for Disease Control and Prevention, 2014).

• Chronic disease: A condition or illness that lasts one year or longer and requires continuous medical attention and limited activities of daily living (Centers for Disease Control and Prevention, 2014).

• Coordinated Approach to Child Health (CATCH): Previously known as the Child and Adolescent Trial for Cardiovascular Health, is a multi-component, evidence-based approach formed in 1991 to implement a cafeteria nutrition program, a physical activity and healthy eating classroom curriculum, a physical education program, and a family education and involvement program for K-5 grade students (Wu, 2008).

• Hypertension: Also referred to as high blood pressure, is when the pressure of the blood within your blood vessels is abnormally high (Centers for Disease Control and Prevention, 2014).

• Moderate to vigorous physical activity (MVPA): The CDC defined MVPA as an activity that requires the body to use 3-6 METs (Wu, 2008).

• Obesity: BMI at or above the 95th percentile for children who are of the same age and gender (Centers for Disease Control and Prevention, 2012).

• Overweight Child: BMI at or above the 85th percentile and lower than the 95th percentile for children who are the same age and gender (Centers for Disease Control and Prevention, 2012).

• Socioeconomic status: Defined as the social standing or class of an individual or group measured by their education level, income, and/or occupation (American Psychological Association, n.d.).

• Sustainability: To create and maintain the conditions under which populations and their environments can exist together while fulfilling social, economic requirements of present and future generations (United States Environmental Protection Agency, n.d.).

• The California Endowment: A private, statewide health foundation with a goal to improve the availability of affordable, health care for underserved individuals and communities while promoting the health status of Californians ("The California Endowment: Overview", 2014).

• The Surgeon General: Also referred to as the Nation’s Doctor, provides Americans with the most accurate information regarding how to improve their health and minimize risks of illnesses or injuries (U.S. Department of Health and Human Services, n.d.).
• The Task Force on Youth and Workplace Wellness (Wellness Task Force): Launched by the state Legislature in 2002, addresses the issues of physical activity and nutrition concerns within California schools and workplaces by collaborating with educators, health advocates, health providers, athletes and legislators. The goal of the Wellness Task Force is to develop and promote policies that decrease child obesity rates in schools (Woodward-Lopez et al., 2010).

• Type II Diabetes Mellitus: The most common form of diabetes in which the body does not adequately utilize insulin (American Diabetes Association, 2014).

Assumptions

This program was developed based upon the following assumptions:

• Participants will be 1st through 5th grade students from Hart Street and Canoga Park Elementary schools within the Los Angeles San Fernando Valley area.

• The participating students will be able to understand English along with basic nutrition concepts presented in the nutrition lessons.

• Participants will receive indoor nutrition and physical activity lessons when they are unable to participate in CATCH PE outdoor lessons due to poor weather.

• Lessons will be taught by California State University, Northridge nutrition, dietetics, and kinesiology undergraduate and graduate students, in addition to elementary school teachers.

• Parents will be able to read and understand Spanish and/or English presented in classroom curriculum take-home handouts.
• The physical education intervention will improve the endurance and physical activity of 1st through 5th grade students.

• Participants will attend at least ¾ of the CATCH PE lessons and/or the indoor nutrition and physical activity lessons.

• Participants will engage in a FITNESSGRAM 20-Meter PACER Test bi-annually.

• The teachers will participate in the indoor nutrition and physical activity lessons.

• The schools will provide class time and an activity space for indoor nutrition and physical activity lessons to be held.

**Limitations**

This program has the following limitations:

• This program is only designed for students at Hart Street and Canoga Park Elementary schools.

• The curriculum focuses primarily on physical activity and therefore nutrition education is limited.

• Students were not given pre- and post-tests to assess the program implementation.

• The Expert Review Panel consisted of members with similar nutrition backgrounds and work experiences.

• The generalizability theory was not used to determine reliable measurements.
CHAPTER II
REVIEW OF LITERATURE

The purpose of this chapter is to provide a review of the existing research about the issues associated with school-based interventions and how to overcome them. This literature review will support the evidence on the benefits of the CATCH Program as well as what measures can be taken to ease the success of the intervention. Topics discussed will include the recommendations and benefits for physical activity, school based interventions and the theories surrounding them, what is being done by LAUSD, and prominent nutrition and physical education interventions.

**Childhood Obesity and the Populations Affected**

In the past 30 years, rates of obesity in children have doubled and more than tripled in 1st through 5th grade students (Prelip et al., 2011). Evidence has shown these rates to also be correlated to the rise in chronic diseases such as hypertension, type II diabetes, and CVD. More children throughout the United States are being diagnosed with these chronic diseases as the amount of physical activity and nutrition education decreases in schools (Woodward-Lopez et al., 2010). The CDC reported that two of the six main health risk behaviors (including tobacco use, alcohol and other drug use, etc.) that children and adolescents engage in are unhealthy dietary behaviors and inadequate physical activity. According to national data, only 20% of teenagers are consuming the recommended amounts of fruit and vegetables servings per day (Pyle et al., 2006). In 1999-2002, 31% of youth ages 6 to 19 years were overweight or at risk of becoming overweight; the populations most affected were minorities with a low socioeconomic status (Pyle et al., 2006). Current research has found children of different ethnicities have
a greater than 50% higher risk of obesity (Woodward-Lopez et al., 2010), with about 43% of Mexican American males and 40% of African American females at risk for being overweight or obese (Wu, 2008). Research also shows schools that have the least amount of physical education (PE) are in low-income areas, with a population of predominantly minorities (Samuels et al., 2011). Hispanic and African American students had lower physical fitness scores than Caucasian and Asian students in 5th, 7th and 9th grade. Also lower income schools spent less class time engaged in physical education, including moderate to vigorous physical activity, in addition to consequently scoring lower on physical activity tests (Woodward-Lopez et al., 2010). The potential health benefits of moderate physical activity include lower death rates, lower risk for cardiovascular disease, diabetes, osteoarthritis, osteoporosis, and obesity (Pyle et al., 2006).

Recommendations for the amount of moderate-to-vigorous activity (MVPA) that are beneficial to child’s health can help reduce the risk of childhood obesity.

**Childhood Obesity Prevention**

**Physical Activity Recommendations**

MVPA is defined by the CDC as an activity that requires the body to use 3-6 standard metabolic equivalents (METs). 1 MET of energy is spent when the one is sitting still, while 6 METs is used during an aerobic activity (Wu, 2008). The Healthy People 2010 suggests that 50% of physical education class time should be spent engaged in MVPA and that 75 minutes of MVPA be utilized for elementary schools (Pyle et al., 2006). Interestingly, research has found that children should engage in 60 minutes or more of moderate to vigorous physical activity (MVPA) that includes various activities and is suitable to their development, while also being enjoyable (Strong et al., 2005).
Health Benefits

The amount of physical activity per day can also have an effect on decreasing the risk of obesity in children. Researchers determined that moderately intense exercises of 30 to 60 minutes, for 3 to 7 days per week, decreases obesity in overweight children and adolescents (Strong et al., 2005). Evidence also suggests that greater amounts of MVPA were necessary to show any noticeable health benefits in children of normal weight. In order to increase HDL, decrease triglyceride levels, and in turn improve lipid and lipoprotein levels, according to the authors, there should be a minimum of 40 minutes of activity per day, 5 days a week for 4 months. Physical activity of at least 30 minutes, 3 times a week with a moderate to vigorous intensity to improve aerobic fitness was found to reduce blood pressure in youth suffering with mild hypertension. Evidence from previous studies showed the beneficial effects of physical activity on the cardiovascular health, adiposity, and blood pressure of children and adolescents (Strong et al., 2005). The recommended 60 minutes of physical activity per day can be accomplished within school or in after school programs without affecting the academic performance of students and perhaps enhance their academic performance (Strong et al., 2005).

Cognitive Benefits

Research suggests that physical activity can be beneficial for students by enhancing their memory, academic performance, ability to concentrate, and classroom behavior. A study by Rates and Hagerman (2008), demonstrated that physical activity stimulates parts of the brain and causes a release of factors including the brain derived neurotrophic factor (BDNF), which controls functions related to sharper thinking skills, enhanced memory, focus, and concentration. The Robert Wood Johnson Foundation
(2007) published a research brief that suggested a positive correlation between regular physical activity and enhanced academic performance. The California Department of Education (2005) also found that students who engage in physical activity score twice as well on academic tests than those who are physically inactive (Woodward-Lopez et al., 2010).

**School Recommendations and Noncompliance**

Many areas in California are not abiding by the required physical education after being ordered to do so (Samuels et al., 2011). The California Department of Education (CDE) set a minimum requirement for physical education which was mandated by the legislature. Children in the elementary grades within California schools are required to participate in about 100 minutes per week. This is lower than the recommendations set forth for by the National Association for Sports and Physical Education (NASPE), which suggests that students receive 150 minutes of physical education per week. Although California is permitted to have fewer minutes spent engaged in physical activity compared to other states, about 50% of the elementary schools in California still did not comply with these mandated requirements (Woodward-Lopez et al., 2010).

Lower-income schools with limited funding may choose to cut physical education as a means to use funding to improve other required academic programs. A report in 2000 found that adolescents were physically active for less than 50% of their PE class time. Another study in California discovered only 37% of PE class time was being utilized for moderate-to-vigorous activity while 32% participated in MVPA for at least half of their PE class time. A low amount of physical activity also seems to be more common in low-income communities that are predominantly minorities. About 40% of African American
students stated they received physical education less than once a week (Woodward-Lopez et al., 2010). Students in California schools that are considered to be higher income were found to spend 20% more time in physical education in MVPA than in low-income schools (Pyle et al., 2006).

In 2007, after determining that physical activity recommendations were not being followed, a group of teachers, parents, community activists, health advocates, attorneys and schools officials decided to form a campaign to help plan and implement physical education in schools. To assess the perspective of the physical education campaign in LAUSD schools, researchers interviewed 18 individuals including LAUSD principals, teachers, parents, superintendents, district officials, a school board president, a district physical education instructor, representatives of the California Endowment, and key stakeholders. A random sample of 34 elementary, middle, and high schools were monitored and data on the class size, length of class time and content being taught in the classes was collected (Samuels et al., 2011). One out of every four of the schools interviewed stated they changed their physical education program after being informed of the implementation plan. The changes they made included smaller class sizes, more physical education instructors, and checking the recommended standards for physical education. In order to help increase awareness about the campaign, it was important to get the community involved through the use of flyers, news articles, speakers, and social media marketing (Samuels et al., 2011). By providing the public with facts about the health disparities and physical education needed in schools to combat these issues, the campaign was able to successfully implement physical activity programs in participating schools. This physical education campaign in the LAUSD can be used as a model for
how California communities can help implement physical education within their schools and in turn improve the health of their children within the district (Samuels et al., 2011).

**School-based Interventions**

**Benefits of a School Environment**

The time and attention spent within schools make schools an ideal place to promote health awareness. Most nutrition programs focus on educating students about proper nutrition and physical activities. Disseminating this information to a large, diverse group of students is more effective in a school environment. Since most of a child’s day is spent in school, school-based interventions can easily gain the attention of children in an economically efficient manner (Pyle et al., 2006).

Through education, teachers are important role models for children in school. One method of nutrition education used by teachers is the *hybrid approach*. Rather than a strictly adhered to curriculum, this approach focuses on an idea that individual schools and teachers have more flexibility in designing how, where, and when to use the school-based intervention program within their district (Prelip et al., 2011). The hybrid approach can be effective for delivering nutrition education. In this study, the researchers measured its effects on the attitudes, beliefs, and behaviors related to FV consumption in a public school setting. The intervention group received positive knowledge about FV consumption from their teachers who were shown to have a strong influence on the students’ attitudes and behaviors towards FV consumption. Results showed a small increase in FV consumption for intervention participants (Prelip et al., 2011). If teachers can utilize and convey the curriculum in a way that is meaningful to students, then the
purpose and importance of physical education will be clearly understood by students (France, Moosbrugger, & Brockmeyer, 2013).

Teachers were again at the forefront of implementing a physical activity program through the Physical Activity Across the Curriculum (PAAC) project. This was a 3-year intervention project, which was funded by the National Institutes of Health (NIH) to improve the effects of \textit{physically active academic lessons} on body mass index (BMI) and academic achievement. The teachers incorporated physical activity into current academic lessons such as math, geography, history, spelling, science, and health. This project was easy to implement because additional teacher preparation time and additional costs were not required since the existing academic lessons were used to deliver physical activity to the students. Evidence suggested that these classroom breaks helped improve student behavior and that student BMIs decreased from year 1 to year 3 (Donnelly & Lambourne, 2011). Children in PAAC schools also had a 27\% higher level of moderate to vigorous physical activity (3-6 METS) compared to children without PAAC. PAAC was not only easy to implement but it was sustainable in that it was still being used in schools after the intervention study concluded. These findings indicate another benefit to giving teachers the opportunity to teach nutrition and physical education to their students (Donnelly & Lambourne, 2011).

\textbf{Implementation of Interventions}

Children engage in running, skipping, and jumping because they find these activities fun to do. Therefore a physical education intervention that is simple and enjoyable is fundamental in maintaining a program (Locke & Graber, 2008). One study, funded by the Centers for Disease Control (CDC), tested whether any or all of the 15
steps developed from the Nutrition Friendly Schools and Communities (NFSC) model could be implemented in LAUSD elementary schools. This was a participatory, multi-component intervention that enlisted community members to promote changes in schools through the Coordinated School Health Program (CSHP) (Vecchiarelli, Prelip, Slusser, Weightman, & Neumann, 2013). The NFSC model consists of the eight environmental components of the Coordinated School Health Model which include nutrition education, physical education, health services, food services, school policy, staff wellness, psychosocial services, and family/community involvement. The results of this study found that although all of the schools developed plans in which they would implement the 15 step model to help prevent the development of childhood obesity, only some of the steps were fully utilized and maintained within the schools (Prelip, Slusser, Lange, Vecchiarelli, & Neumann, 2010). Evidence from this research demonstrates that schools are likely to choose to use certain aspects of an intervention based on the schools’ needs and ability to enforce.

In order for schools to be able to successfully implement physical education programs, they have to be willing to set goals that can be measured, access the current situation or needs of the school, take action, and routinely evaluate the progress made towards the goals. When choosing the best programs, schools should be mindful of which program would be compatible with the lifestyle and environment of the school and participants, along with whether the program is feasible to implement (Pyle et al., 2006). Program sustainability requires the program to have support from school administration, physical education instructors, and staff training (Woodward-Lopez et al., 2010). Also
programs that offered more components and involved parents and the community, were found to be sustainable over the long-term (Luepker, R. et al., 1996).

**Theories in Implementing Interventions**

When implementing a school-based intervention, there are three types of theories that should be considered, including the Social Cognitive Theory, the Theory of Planned Behavior, and the Ecological Systems Theory. The Social Cognitive Theory focuses on the behavioral aspect of the individual and their environment to help strengthen self-efficacy and decision-making skills. The Theory of Planned Behavior observes the beliefs, attitudes and knowledge that affect nutrition behavior, while the Ecological Systems Theory studies the individual, family and community influence on nutrition practices. There are three approaches to utilize the Social Cognitive, Planned Behavior, and Ecological Systems theories. One approach is the *deductive approach*, which is that interventions are designed based on the use of theories as a guide to implement programs in various settings with different expected outcomes. The second approach is the *inductive approach*, where interventions are developed based on the specific needs of the classroom or school. Lastly, the third approach, or the *hybrid* model, is a more accurate school-based intervention program that allows the individual schools and teachers open opportunities of implementation (Prelip et al., 2011).

**Dissemination and Diffusion of Interventions**

The goals of evidence-based physical activity interventions are often hindered by the lack of dissemination and diffusion evaluation research and policy advocacy. Dissemination is the set of planned, systematic efforts created to allow a program to be more accessible. Developing dissemination processes includes making specific
populations and communities more aware of intervention by informing stakeholders about the program and showing them why they should become involved. Diffusion is the direct or indirect application of dissemination efforts. Diffusion can be achieved through three stages: adoption, implementation, and institutionalization (Owen, 2006). Adoption is to commit to a program, implementation means to carry out the program, and institutionalization is defined as the integration and long-term sustainability through policy and routine. The Diffusion of Innovations Theory, created by Everett Rogers, examines how easily a program can be adopted by utilizing five different characteristics. The characteristics include the benefits of the program compared to other programs, the compatibility with the participants’ values, needs, and experiences, whether the program can be easily used and understood, is the program cost-effective, and the accessibility of the results to others (Owen, 2006). The dissemination and diffusion of programs can often be evaluated by RE-AIM, also known as the reach, efficacy, adoption, implementation, and maintenance of a program. The goal of this framework is for a program to effectively reach a particular community, and be fully implemented and maintained in order to influence public health changes. There is no consensus on the best methods for implementing diffusion throughout various districts. Documentation on the dissemination and diffusion of evidence-based programs is limited. Policy strategies can be utilized to improve the application of evidence-based physical activity interventions and better understand the methods of dissemination and diffusion (Owen, 2006).

**Los Angeles Unified School District (LAUSD)**

One of the programs successfully diffused into the LAUSD curricula was the Network for a Healthy California program. Network for a Healthy California–LAUSD
was developed in 2000 to promote FV consumption and fitness among students by suggesting that classroom teachers teach students about nutrition and physical activity. The program allowed the district to conclude that nutrition programs would be more suitable and acceptable if included in the existing curriculum. The program provided flexible nutrition education content that the teachers could creatively incorporate into their daily lessons. The district provided the resources to help create the effects of a nutrition program that was unique and practical to their particular schools (Prelip et al., 2011).

The increased risk for overweight children in LAUSD has led many policy makers to develop projects to focus on improving nutrition related health issues. Some of the projects implemented include a salad bar lunch menu option, nutrition education programs, school-based garden projects, and physical education programs involving classroom teachers (Slusser et al., 2004).

In a recent Let’s Move! news article, a food service director at LAUSD stated that of the 650,000 students served in their schools daily, over 70% are Hispanic, 80% qualify for free or reduced meals and 14,000 are certified homeless with no permanent address. The director stated that the meal served in school is often the only meal available (Binkle, 2010; Slusser et al., 2004). There are approximately 28 million children who participate in the National School Lunch Program. Regulations for this program require schools to serve at least two fruits or vegetables daily during school lunch (Hoffman, Franko, Thompson, Power, & Stallings, 2009).

In 2002, the LAUSD Board of Education decided to restrict student access to sodas and in 2004 the snack choices were changed to healthier options. The “Cafeteria
Reform” and the “Obesity Prevention” movement adopted in 2005 restricted meal offerings to include no additives or preservatives, no artificial dyes, and increasing the amount of fruits and vegetables served. Food items such as flavored milk, chicken nuggets, tater tots, corn dogs, pizza and nachos are no longer served in schools and have been replaced with edamame, jicama sticks, teriyaki chicken bowls, and turkey or vegetarian burgers in addition to fresh fruits and vegetables. LAUSD affirms that the changes they implemented through the Let’s Move! Initiatives have been beneficial and prove that changes within schools can ultimately change what and how students eat (Binkle, 2014).

Nutrition Education

It is helpful to introduce students to the selection, preparation and tastes of healthy foods in addition to encouraging healthy eating at schools. Nutrition education programs typically focus on teaching students basic nutrition knowledge in terms of a healthy caloric intake, a balanced diet, and the health benefits of certain foods. More schools are willing to implement school-based programs because there is no longer a stigma that the programs are designed for children who are already overweight. It is the goal of current programs to educate a large variety of students, some of whom may be at risk for developing obesity. The lessons about nutrition and physical activity are helpful in that they promote a healthy lifestyle among all children and adolescents (Pyle et al., 2006).

Research by Wang et al. (2010) focused on a school district’s attempt at changing food service at their schools, incorporating cooking and gardening programs, and including nutrition lessons into the academic curriculum to increase vegetable consumption. The 4th through 6th grade students participating in the intervention
increased their consumption of fruits and vegetables by 0.2 cups while the control students had a decrease of 0.3 cups of FV. This study concludes that changes to the school food environment, along with garden and cooking-based education can improve FV consumption. Although other studies have shown a preference of fruits over vegetables, this study found a higher increase in vegetables as opposed to fruits. Further, the highest level of improvement was observed in schools with students who qualified for free or reduced-price school lunch. The students who participated in the intervention met 70% of the dietary recommendations while the students least exposed met 50% of the recommendations (Wang, 2010).

Another study found that children in the intervention group consumed more fruit and vegetables within the first year after the intervention, but by the end of the second year there was a higher preference for fruit. This program was based on Bandura’s social learning theory where influential role models such as cartoon characters, videos with peers, school principals, and coaches aided in informing students about FV consumption. The intervention included announcements about FV of the day and the 5-A-Day Adventures CD-ROM during computer classes. During lunch, FV of the day posters were displayed and students were given praise and approval when eating FV. Students were also given homework from a health cookbook to incorporate a family component (Hoffman et al., 2009). Additional evidence has shown that nutrition programs are not effective when used alone, and should be used with a physical education component (Pyle et al., 2006).
Physical Education Programs

SPARK versus CATCH

The most productive school-based intervention programs have shown to be SPARK (Sports, Play, and Active Recreation for Kids) and CATCH (Coordinated Approach to Child Health) (Hoelscher et al., 2010). SPARK and CATCH programs distribute their interventions by a pathway called “direct practice”. Direct practice is when a transferable package is circulated through public health organizations and later followed by a dissemination that can include training instructors to teach the programs with program materials or curriculum (Owen, 2006). CATCH and SPARK program packages are especially helpful to elementary schools where the teachers have little to no formal physical education training. These programs implement physical activity by keeping the lessons enjoyable for all students with different abilities (Woodward-Lopez et al., 2010). SPARK and CATCH are two school-based physical education programs that demonstrate the efficacy of dissemination and diffusion strategies (Owen, 2006).

SPARK focuses on increasing students’ physical activity in and out of school. The activities are provided for PE instructors and classroom teachers of students in kindergarten through 8th grade. SPARK is a less extensive program than CATCH in that it only includes a physical education curriculum, staff development, and on-site support. Moreover, the 30 minute physical education lessons provide health and fitness related activities within that time frame. By 2006, the SPARK program had been implemented in over 2,000 schools and recreational facilities. It is recommended that teachers attend a SPARK Workshop in addition to purchasing the curriculum. A SPARK teacher workshop can cost $2,699 for 1 full day or $4,699 for 2 full days and transportation costs are not
included. In addition to these expenses are the costs for the teachers to purchase the curriculum kits and manual, which can range anywhere from $27.00 to $150.00 depending on the grade level (Pyle et al., 2006).

SPARK PE was designed to increase physical activity in students during class time by providing them with enjoyable fitness skills. Each lesson includes health related fitness activities to help improve strength, endurance, flexibility, and locomotor skills while also incorporating skill-related activities to enhance the development of sport-related skills. A research trial studying the effects of SPARK on 4th and 5th grade students found that intervention students participating in the intervention were more physically active during PE classes and had increased fitness. Trained classroom teachers were still utilizing the SPARK program at the end of the trial and results from the study enabled the expansion of the SPARK program to include kindergarten through 6th grade, along with an after-school program (Owen, 2006).

CATCH is a multi-component coordinated program for kindergarten through 5th grade students; it includes a nutrition program for the cafeteria, a physical activity and healthy eating classroom curriculum, a physical education program, and a family education and involvement program, along with tobacco-control policies. CATCH was started in 1991 when the National Heart, Lung, and Blood Institute (NHLBI) of the National Institutes of Health funded a trial of CATCH that implemented the program into 56 schools chosen at random. The trial found that the intervention group participated in more physical activity outside of school and that it was sustainable for three years after the intervention. Currently more than 7,000 schools have adopted the CATCH program nationwide. In a five-year follow up study, it was discovered that training the staff had
the biggest impact on whether programs continued to utilize CATCH. The CATCH curriculum provides the school with a classroom curriculum, teacher’s manual, PE activity boxes and guidebooks, an Eat Smart manual, along with a diabetes and tobacco use prevention information. The total cost of CATCH is about $2.17 per student in schools with 500 students each, but with the addition of implementation costs and supplemental materials (including teacher manual, photocopying, PE equipment, and classroom accessories), the cost of CATCH is $5,625 per school or about $11.25 per student (Pyle et al., 2006). For a California elementary school with approximately 500 students, the average price per student would be $8.13 (Woodward-Lopez et al., 2010). Teachers, administrators, parents and community members have stated they enjoy the CATCH program because it is inexpensive and easy to use (Pyle et al., 2006).

The CATCH PE, the physical education component of CATCH, provides fitness activity cards arranged in grade level designated activity boxes, in addition to PE equipment and booklets to help ease teacher lessons. The CATCH Program went through various trial studies which all found that intervention students consumed less fat, were more physically active during PE classes and outside of school, and maintained these interventions through 8th grade (Owen, 2006). The Texas State Department of Health Services (TSDHS) funded a dissemination team at the University of Texas who utilized the Diffusion of Innovations theory. This theory was used to discover that CATCH has advantages over other elementary school health programs, is compatible with state and national performance objectives, is easy to use and implement, can be provided on a trial basis due to affordability, and maintains evident beneficial changes within the school environment and student health (Owen, 2006).
If a school-based program proves to be difficult to implement during school time, it is advantageous that the program also be offered afterschool. CATCH implemented an elementary after-school study called the CATCH Kids Club (CKC) in which students engaged in MVPA and healthy snack modifications. When schools are hesitant to devote some of their school time to nutrition or physical education programs, this may be a viable alternative. About 31% of elementary school students are enrolled in an after-school program. It is believed that CATCH may be beneficial as an after-school program due to the success of the dissemination of the program along with specific characteristics incorporated. The four components to a successful CATCH-PE program are the participation of students in 30 minutes of physical activity per day, the involvement of students in MVPA for 40% of their physical activity class time, ample opportunities to participate in physical activity throughout the day, and providing enjoyable activities (Kelder, Hoelscher, Barroso, Walker, Cribb, & Hu, 2004). The CKC physical activity box includes a variety of activities and warm-ups, and cool-downs. The scope of the physical activity components includes motor movement skills and large muscle movements. Evidence from this study showed a significant increase in MVPA in the physical activity component, along with it being easy to implement and favored among teachers and students. There was also an observed increase in food knowledge. The results of this study show that an after-school program can be just as effective in improving physical activity and nutrition in students (Kelder, Hoelscher, Barroso, Walker, Cribb, & Hu, 2004).

Many school-based interventions have been tested but CATCH was the most comprehensive and ambitious evidence-based approach used for coordinated school
health within 100 elementary schools throughout the United States. CATCH studies have indicated that CATCH is more effective in schools that are predominantly Hispanic or low-income. The first school where CATCH was disseminated was in El Paso, Texas where students were predominantly low-income and Hispanic, a factor that is indicative of a sample that often has a higher rate of obesity and limited community and school resources for nutrition or physical activity (Coleman et al., 2005). The school was also eligible for free or reduced-cost meals or some other form of public assistance. SOFIT, the System for Observing Fitness Instruction Time, was given to El Paso CATCH schools and control schools to test the quantity and quality of physical activities in PE classes. Before implementation of the El Paso CATCH program, students’ risk of being overweight was higher than the national standards, while after the implementation of the CATCH program, the risks of being overweight were below the national rates. The CATCH Program was said to be “one of the most successful school health programs in terms of implementation and dissemination.” Researchers believed that similar schools could also benefit from the CATCH curriculum (Coleman et al., 2005).

One application of the CATCH program was implemented by the Paso del Norte Health Foundation of El Paso, Texas. This intervention included a television and radio campaign, a community-based nutrition education program, and a walking promotion program. Within two and a half years of application, there was a 7% decrease of child obesity in the 4th grade students who participated (Hoelscher et al., 2010).

Research by Hoelscher et al. (2010) compared the effects of two different types of CATCH Programs on childhood obesity in Travis County. The two programs compared were CATCH BasicPlus (CATCH-BP) and CATCH BP and Community involvement
(CATCH-BPC). CATCH-BP was a simplified program in which schools were given training, materials and facilitator support visits. CATCH-BPC was a more in-depth, coordinated approach where BP schools were provided with additional promotion of community partnerships to integrate community members and organizations into schools, including local decision making and action, and physical activity and healthy eating promotions. Hispanics made up 61% of the total sample and within one year of the study, both BPC and BP students experienced a decrease in overweight and obesity rates, with a greater decrease in BPC schools (8.3% vs. 1.3% overweight/obesity decrease in BPC and BP schools, respectively). CATCH BPC schools were also found to have better dietary and physical activity behaviors (Hoelscher et al., 2010). In addition, the CATCH BPC classroom curriculum also had a stronger impact on community members involvements. It was concluded that a school-based obesity prevention program in an underserved population with less involvement and an emphasis on the community, could improve health related behaviors. The results from this study support the earlier CATCH results and demonstrate the importance of community involvement in school-based interventions aimed at low-income communities (Hoelscher et al., 2010).

Another CATCH study, funded by the National Institutes of Health, was a multisite study created to research the efficiency of a school-based program to decrease cardiovascular risks in elementary school students. The participant schools were located in California, Louisiana, Minnesota, and Texas. The study tested the effects of the program on the environment, classroom curricula, and home programs to decrease the risks of cardiovascular disease. This was a 3rd through 5th grade intervention in which 28 schools participated in school food service modification, increased physical education,
and classroom health curricula. The CATCH intervention focused on increasing physical activity while consuming foods low in fat, saturated fat, and sodium, along with school environment changes, a 3-year classroom curriculum, in addition to a family component in some schools. The purpose of the CATCH PE portion was to increase the amount of MVPA during PE classes to 40%, while also making the program enjoyable. The PE specialists and instructors received a short training (1-1 ½ days) to teach the PE classes. The CATCH in-class nutrition lessons were approximately 30-40 minutes in length and focused on psychosocial factors while including developmental skills on eating behaviors and physical activity patterns. The 3-year follow up showed intervention schools decreased the amount of fat served during lunch, and the time students spent in MVPA increased. Dietary knowledge and intentions also remained higher in the intervention students compared to the control students. There was a 2% decrease in the amount of fat calories consumed by intervention students (Nader et al., 1999). It was concluded that CATCH can be an effective program, because it helped lower the risks of childhood obesity and in turn reduce the risk of comorbid problems later in life (Veugelers & Fitzgerald, 2005). CATCH is the largest school-based multicomponent program to include multiethnic and multiracial group and include a longer sustainability of 3 years compared to other programs/interventions (Nader et al., 1999; Luepker, R. et al., 1996).

The diffusion rate of the CATCH program accelerated with hundreds of schools implementing the program within 3 years. With limited funding, CATCH was able to increase from 6 schools in 1996-1997 to over 1800 schools in 2004-2005. In Texas alone, more than 850,000 students participated in CATCH and all of the students achieved the national recommended levels of MVPA (Owen, Glanz, Sallis, & Kelder, 2006). As of
2008, CATCH has been used in 2,000 elementary schools throughout Texas and in over 7,000 schools nationwide, and has received positive reviews from educators and staff. For up to five years, schools were able to sustain the CATCH curriculum, class time spent in moderate to vigorous physical activity through CATCH, amount of class time engaged in CATCH activities, and total minutes of PE offered with CATCH (Woodward-Lopez et al., 2010).

The literature reviewed in this chapter illustrates the health concerns associated with childhood obesity and the populations at risk, as well as possible intervention strategies. Government organizations have developed policies and recommendations to help reverse the incline of obesity among children. Many schools are equipped with providing teachers and staff with the knowledge to educate students on the importance of eating healthy and being physically active. However, properly implementing a school-based intervention is determined by the ease of use and compatibility of the program to the school environment or curriculum. In order to facilitate the dissemination and diffusion of these interventions within schools, evidence-based coordinated programs, such as CATCH, have been offered to schools in need.

The curriculum and components offered by the CATCH Program have been found to significantly increase MVPA in children by requiring students to remain active during the allotted 45 minutes, decreasing fat consumption and the risks of overweight children in low-income schools, providing a suitable curriculum for public elementary schools with diverse populations, being enjoyable by students and school staff, cost effective, and sustainable through 8th grade. The program is beneficial to schools in that it offers multiple components to improve the health of children, is cost-effective, but also
provides options for schools to choose aspects of the program that may be easier to implement. Some of the options include an afterschool program to educate students about nutrition and an in-class curriculum that promotes physical activity breaks in addition to nutrition education. Providing nutrition education to schools within LAUSD can help increase nutrition awareness and prove to be another beneficial aspect to the CATCH curriculum and its impact on childhood obesity.
CHAPTER III

METHODOLOGY

School-based interventions have been found to be successful in influencing physical activity and, in turn, lowering the risk of childhood obesity (Nader et al., 1999). This curriculum includes nutrition education and in-class physical activities, administered indoors, to allow for continuous administration of the CATCH program, implemented as part of the Canoga Park Health Improvement Zone Project among 1st – 5th grade students at Hart and Canoga Elementary schools within the LAUSD. The objective of the lessons is to implement safe, effective, and grade-specific indoor physical activities and nutrition education lessons to promote a healthy lifestyle. The following sections address the development, expected delivery, and evaluation of the CATCH indoor physical activity and nutrition lessons.

Curriculum Development

The CATCH indoor nutrition and physical activity curriculum aimed to promote healthy eating behaviors and increase physical activity. The project included the development of modified CATCH Go For Health lessons for 1st through 5th grade students. Each lesson was developed to provide students with nutrition education along with indoor physical activities. The lessons were modified to allow for in-class implementation of exercises and for ease of administration by the elementary school teachers. The first element of the lessons included clearly defining the behavioral and learning objectives followed by listing the materials needed for the instructor to complete each lesson. The format of this first element was derived from the Monrovia Unified School District Network for a Healthy California Nutrition Education lessons (MUSD-
Network) (Network for a Healthy California Monrovia Unified School District, 2012). The standard MUSD-Network curriculum included only nutrition education and incorporated cooking in the classroom components for Monrovia students. Therefore the warm up physical activity in the beginning of the indoor lessons 1 and 2, and the stretching activities at the end of the lessons were based on the goal of the CATCH-PE curriculum. Also the activity lessons within the middle of the indoor lessons 1 and 2 were adapted from the 1st – 5th grade CATCH “Go for Health” Series curriculum including all nutrition education content (CATCH Go for Health Series, 2010). Before beginning the nutrition and physical activities with the students, it was important to set rules for the students and to establish boundaries within the classroom. The rules set for the students to establish boundaries within the classroom such as raising their hands and to wait to be called on prior to speaking, guidelines for optimizing safety while engaging in in-class physical activities, carefully listening to directions from the instructor, and following quieting procedures, were also adopted from the MUSD-Network. The original rule of being safe was set by the MUSD-Network curriculum to include safety while the instructor is cooking in the classroom. However, in order to implement the CATCH indoor physical activity component, this rule was modified to include being safe while participating in physical activity within the classroom. Every indoor lesson was adapted from parts of the CATCH “Go For Health Series” curriculum (CATCH Go for Health Series, 2010) and included suggested questions for the students, topics to explain and introduce, as well as anticipated student answers and potential questions. The nutrition portions of the curriculum were aimed at introducing students to healthy foods and educating them on the importance of eating healthy foods. The physical education
component of the lessons began with warm-up exercises, incorporated nutrition education in addition to physical activity games throughout the lesson, and each lessons concluded with a CATCH-PE stretching activity. The warm-up exercises were designed for participation at the students’ desks and involved sets of 10 jumping jacks, hop on one foot, squats, knee highs, leg raises, or toe touches.

The goal of lesson 1 was to introduce students to the concept of GO and WHOA foods, while incorporating in-class physical activities. GO foods are healthy and nutrient-rich such as foods low in fat, sugar and salts, including fruits, vegetables, whole grains, and lean proteins. The WHOA foods were foods that would be considered unhealthy such as processed foods that are high in fat, sugar, and salt. Students were shown a stoplight to help correspond the meaning of “stop” with WHOA foods and “green” with GO foods. The idea of SLOW foods was omitted since the goal was to clarify the meaning of the GO and WHOA foods and allow the explanations to be easily understood by students who may be unfamiliar with the terms. Examples of GO and WHOA foods were also mentioned throughout the lesson. Lesson 1 (Appendix A) began with warm up exercises, followed by the nutrition portion, and ending with stretch routines. Visual aids were used in reading the stories to the younger students. The 1st and 2nd grade students were informed about simpler GO and WHOA foods while the 3rd through 5th grade students received more detailed explanations of GO and WHOA foods within the additional food groups (fruit, vegetable, milk, meat and beans). Lesson 1 for the higher grade levels included additional activities with the inclusion of physical activity games that incorporated nutrition education of the GO and WHOA foods.
Lesson 2 (Appendix B) consisted of introducing fruits and vegetables, some of which may have been unfamiliar, to the students. Lesson 2, like lesson 1, began with warm up exercises and ended with stretches to maintain movement. The goal of the nutrition section in lesson 2 was to review what was previously learned about GO and WHOA foods, relate the GO, or healthy, foods to fruits and vegetables, and introduce fruits and vegetables to students through colored pictures and descriptions. The content for the younger grade levels focused on the various colors of fruits and vegetables along with the importance of consuming many different colored fruits and vegetables. The focus for the older grades also introduced fruits and vegetables, but primarily centered on teaching students the importance of GO foods to provide energy, and involving them in more “action” games.

Sections were chosen from the 1st through 5th grade CATCH “Go For Health” series workbooks (entitled 1st grade “Hooray for Health!,” 2nd grade “Celebrate Health!,” 3rd grade “Hearty Heart and Friends,” 4th grade “Taking Off,” and the “Breaking Through Barriers” 5th grade workbook) that related to the GO and WHOA foods along with fruits and vegetable education, and were combined to form more well-rounded, comprehensive, yet enjoyable, indoor lessons 1 and 2 for each grade level. The goal was to establish the idea of healthy and unhealthy foods to students who may have little to no nutrition knowledge, while providing teachers with a curriculum that comprised nutrition education and physical activity from all grade specific lessons within the CATCH workbooks.

The content of the lessons became increasingly more complex as the grade levels increased. In lesson 1, the younger students were introduced to the basic GO and WHOA
foods along with related stories and pictures, while the older students received detailed
information about the different food groups, more advanced matching activities, and
additional related physical activity lessons. In lesson 2, the content for the younger grades
focused on the rainbow of colors for fruits and vegetables including colored pictures of
the produce, while the older students received an introduction to fruits and vegetables in
addition to how they relate to GO foods and energy balance activities. Lessons concluded
with a summary of the lesson illustrating the main topics discussed. The lesson activity
sheets and visual aids were provided at the end of each lesson for instructors. The
curriculum was adjusted to include certain activities and lessons from all grades to
produce a more cohesive transition from one grade to the next. Lessons were reformatted
to be more enjoyable and relatable to the students and their particular grade level.

**Curriculum Delivery**

The CATCH indoor nutrition and physical education lessons were designed to
help students in the CATCH program maintain physical activity when poor weather
conditions, air quality, high winds, or limited outdoor school space prevented them from
participating in CATCH PE outdoors. Lessons 1 and 2 were developed for 1st through 5th
grade students at Hart Street and Canoga Park elementary schools. Each lesson was
designed to be implemented within 45 minutes, the same time allotted for the outdoor
CATCH PE lessons. All lessons included activity worksheets (Appendices A and B) and
supplemental materials (Appendices A and B) for teachers thus it is assumed that copies
would be made for the students as necessary. The curriculum was developed to introduce
nutrition awareness and physical activity, indoors, by encouraging group activities,
critical thinking, and discussions. The lessons focused on providing students with
enjoyable lessons that would become memorable and informative while incorporating age-specific activities based on their educational needs. The lessons were designed for implementation by a CATCH instructor or an elementary school classroom teacher. Prior studies show that teachers are effective nutrition and physical education instructors because they can convey the curriculum in a meaningful way, which helps students understand the purpose and importance of nutrition and exercise (France, Moosbrugger, & Brockmeyer, 2013). The curriculum included California State Standards for Health and the topics of the lessons included GO and WHOA foods, fruits and vegetables, the energy provided by GO foods, and physical activities.

**Data Collection**

The CATCH indoor physical activity and nutrition education lessons underwent a Formative Evaluation by an Expert Panel. The content evaluation included questions inquiring about how well the content was defined, if it was easy to understand, appropriate for the intended grade levels, enjoyable, informative, cohesive, and organized (Appendix C). These factors were rated on a scale of 1-5 for answers ranging from 1 “strongly agree” to 5 “strongly disagree.” The Expert Panel that reviewed the lessons consisted of three members who previously worked for Network for a Healthy California in the Monrovia Unified School District (MUSD). The Network for a Healthy California was a program in Monrovia and Baldwin Park Unified School Districts used to increase the consumption of fruits and vegetables through nutrition education in addition to promoting physical activity. This program was provided to low-income California parents and students grades 1st through 5th and through classroom-based nutrition lessons and parent nutrition education lessons. The Network utilized research-based strategies.
based on the National Health Standards to teach students the skills to make informed decisions about their health (Network for a Healthy California, 2011). One member was employed as Director, one was a Lead Nutrition Educator, and one worked as a Nutrition Educator Manager and developed program lessons for the Network for a Health California. Each of the reviewers also provided brief biographies with details regarding their knowledge in the field of nutrition and physical education in schools (Appendix D).

**Participants**

The CATCH indoor physical activity and nutrition education curriculum was designed for implementation to elementary school children in grades 1 through 5, and particularly for students at two Title I schools in the LAUSD. The profile for students in this school population is predominantly Hispanic with the majority qualifying for free or reduced-priced meals. To participate in the curriculum, students should be healthy with no injuries, chronic illnesses, or other health-related issues which would hinder their ability to be physically active.

**Formative Evaluation**

**Evaluation of the Curriculum**

The CATCH indoor nutrition and physical activity lessons for 1st through 5th grade students were modified from the CATCH Go For Health Series. Both of the indoor lessons 1 and 2 includes learning objectives, procedures, classroom physical activities and stretches, stories, discussions, activity sheets, and summaries of the lessons (Appendices A and B). This curriculum was designed to educate students about nutrition and therefore requires an evaluation from experts knowledgeable about nutrition education in schools.
**Expert Evaluations**

The expert panel (Appendix D) is composed of a school nutrition Director, Lead Nutrition Educator, and Nutrition Education Manager with previous experience and education in nutrition, dietetics, food service, and human development. The panelists provided feedback on the clarity and efficacy of the curriculum content.

**Expert Review Procedures**

The panelists were chosen due to their previous knowledge in the field particularly working with the Network for a Healthy California. Each member was provided with the modified lessons 1 and 2 for 1st through 5th grades, along with an Expert Review Form. Panelists were given two weeks to review the lessons and provide their feedback on the review forms. No monetary contributions were given to the panelists upon providing their recommendations.

**Expert Review Measurements**

The expert panel evaluated the indoor nutrition and physical activity lessons (1st through 5th grade) by completing the Formative Evaluation Survey (Appendix C), the Expert Review Forms, and providing a short biography of their qualifications. The Formative Evaluation Survey requests the panelists state their age, gender, ethnicity, area of expertise, education level, job title, and experience working with 1st through 5th grade students. The Expert Review Forms asks the panelists to rate 1 to 5 the various statements about the accuracy and effectiveness of the curriculum. The rating includes 1=Strongly Agree, 2=Agree, 3=Neutral, 4=Disagree, and 5=Strongly Disagree. The panelists are then asked to add any additional comments or recommendations they may have about the curriculum.
CHAPTER IV
RESULTS

This chapter presents the results from the Formative Evaluation Surveys, evaluating the indoor nutrition education and physical activity lessons, completed by the Expert Review Panel.

Expert Characteristics

Each member worked in a role involving the development or administration of physical activity and/or nutrition education lessons for the Network for a Healthy California with the Monrovia Unified School District (Network-MUSD). The paragraph below provides a description of their specific job title and responsibilities as well as their descriptive characteristics (i.e. gender, ethnicity, age, and education level). Each panelist is designated as member “A,” “B,” and “C.” The biographies of each panel member can be found in Appendix D.

Panel member “A,” a 40-49 year old male, is currently the Director of Food Services at MUSD. He is also the Program Coordinator for the Supplemental Nutrition Assistance Program Education (SNAP-Ed) within the Nutrition Education and Obesity Prevention (NEOP) Program. This panelist has a Bachelor of Science in Nutrition and Dietetics and a MBA. Panel member “B” is 30-39 years of age and has extensive experience in nutrition education, childhood obesity prevention, staff trainings, and development of nutrition lessons and education materials. She also has a Bachelor of Science degree in Human Development and most recently was the Nutrition Education Manager for Network-MUSD. Panelist “C” is 30-39 years old and is currently a Food Service Manager at MUSD. She was recently the Lead Nutrition Educator for Network-
MUSD with five years experience in the field. She is also a graduate student with a focus in Hospitality Management.

**Results from the Expert Review**

The table below summarizes the average ratings of the three panelists from the Expert Review Form. The completed reviews can be found in Appendix C.

Strongly Agree=1, Agree=2, Neutral=3, Disagree=4, Strongly Disagree=5

<table>
<thead>
<tr>
<th>Curriculum evaluation</th>
<th>Average rating</th>
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<tbody>
<tr>
<td>The learning objectives were clearly stated:</td>
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<tr>
<td>The materials needed were clearly defined:</td>
<td>1</td>
</tr>
<tr>
<td>The lessons were clear and easy to understand:</td>
<td>1.3</td>
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<tr>
<td>The lessons were appropriate for the grade levels intended:</td>
<td>1.3</td>
</tr>
<tr>
<td>The instructions of the lessons were easy to follow:</td>
<td>1.3</td>
</tr>
<tr>
<td>The in-class physical activities were enjoyable:</td>
<td>1</td>
</tr>
<tr>
<td>The nutrition lessons were enjoyable:</td>
<td>1</td>
</tr>
<tr>
<td>The nutrition lessons were informative:</td>
<td>1.6</td>
</tr>
<tr>
<td>The order of the lessons was cohesive:</td>
<td>1.6</td>
</tr>
<tr>
<td>The lessons were well organized:</td>
<td>1.6</td>
</tr>
<tr>
<td>The activity sheets were beneficial to the lessons:</td>
<td>1.6</td>
</tr>
</tbody>
</table>

The results from the additional comments and recommendations from the Expert Review Form are summarized below.

- Panel Member “A” commented the amount of physical activity within the lessons requires the instructor to physically fit.
• Panel Member “B” stated the lessons were “great” and further recommended the following:
  o List the duration of each lesson and provide clarity on the time frame of the lessons, whether the lessons are to be provided in one day or over the course of a week or month.
  o The lesson directions may need to be clearer due to the age range of the students.

• Panel Member “C” stated the lessons were “very entertaining” and provided good examples. Further comments made included:
  o Stating the first objective was unnecessary.
  o Health Education Content Standards needed to be included within lessons.
  o The length of the lessons should be clearly stated, along with the intended duration for each section of the lesson.
  o More descriptions of which foods are healthy may be warranted.
CHAPTER V
DISCUSSION

This project was developed to provide a nutrition and indoor physical activity curriculum to 1st through 5th grade students at Hart Street and Canoga Park Elementary schools. The modified lessons one and two were designed to help maintain consistency of the CATCH lesson administration during times that weather conditions limited their ability to participate in outdoor physical activities (i.e. rainy or windy conditions, poor air quality, excess heat, etc.). The focus of the curriculum was to implement nutrition education and physical education in low-income, Title I schools. Creating the two sets of indoor lessons one and two involved adding rules to establish boundaries during the lessons, in-class physical activities, nutrition activities, and ease of progression through each lesson and grade level.

Summary of the Problem and Purpose

The health benefits of reducing the risk of childhood obesity by implementing sustainable nutrition and physical education programs have been well documented, specifically within minority, low-income communities (Coleman et al., 2005; Nader et al. 1999; Pyle et al., 2006; Samuels et al., 2011; Veugelers & Fitzgerald, 2005). The limited availability of safe areas for physical activity for this population suggests that schools are favorable environments to meet recommendations by the Wellness Task Force and the Surgeon General. Schools eligible to use Title I funds are required to have at least 40 percent of children from low-income families (U.S. Department of Education, 2014). Hart Street Elementary and Canoga Park Elementary are schools classified as Title I schools in the LAUSD. The current project developed indoor nutrition and physical
activity lessons for the CATCH Program, funded as part of the Canoga Park Health Improvement Zone Project by the UniHealth Foundation to increase nutrition awareness and physical education in students with increased risk of poor nutrition knowledge and behaviors, low levels of physical activity, and an increased risk of developing childhood obesity and related health conditions (Sullivan, 2013). The CATCH Program is the largest and most thorough school-based health promotion program tested to date. Previous research of CATCH found that the program was sustained in 96 public elementary schools representing various ethnicities (Luepker, R. et al., 1996). CATCH PE has been found to significantly improve the percentage of class time spent in moderate to vigorous physical activity (Luepker, R. et al., 1996). The current project aimed to allow for continuous administration of the nutrition education and physical activity lessons indoors, when implementation of the lessons outdoors would not be otherwise feasible (i.e. due to unfavorable weather conditions, poor air quality, limited outdoor space due to a temporary event, etc.), thus maintaining their physical activity throughout the week.

**Recommendations for Further Research**

The evaluations of the two sets of CATCH lessons for the 1st to 5th grade students helped determine the structure, clarity, enjoyment, and potential effectiveness of the curriculum on improving nutrition awareness and maintaining physical activity within the CATCH Program. Two of the three panel members suggested outlining the duration of each lesson or allotted time for each segment of the lessons. Modifications of the lessons based on this recommendation can include listing the amount of time for each lesson within the information box at the beginning of each lesson. It was also recommended that
the lessons be made clearer for the younger students. Lesson instructions can be clarified by repeating the instructions to the younger students or relating the instructions to activities they may have participated in at home or in previous classroom activities. Prior research has concluded physical education and nutrition education are beneficial in reducing the risks of childhood obesity. Evidence has also shown the CATCH Program to be beneficial in previous schools where the program was implemented however, further research of the modified lessons is warranted to assess the effects of the curriculum along with the student perceptions. Pre-test and post-test student questionnaires may be required to measure these suggested factors.

**Limitations**

One main limitation of this project is that the efficacy of the modified lessons and the lesson implementation was not assessed by student pre- and post-test student surveys. There was also a lack of generalizability to determine the reliability of measurements within the classroom setting. Another limitation was that the program was designed for students at Hart Street and Canoga Park Elementary and could only be used for those CATCH program participants. Also, the curriculum focused mainly on physical activity, and therefore nutrition information was limited. Lastly, there were similarities in backgrounds and experiences among the review panel. Including panel members with a wider variety of backgrounds and experiences, such as parents of students from Hart Street and Canoga Park elementary schools, or the elementary school teachers, may have provided a more comprehensive evaluation of the potential efficacy and feasibility of the lessons within the schools. Furthermore, evaluation of the curriculum by the CSUN
student CATCH instructors may have also provided additional information regarding the feasibility of administration of the lessons.

**Implications**

This project will be beneficial to 1<sup>st</sup> through 5<sup>th</sup> grade students at Hart Street and Canoga Park Elementary LAUSD, Title I classified schools. The participants will learn about the differences between healthy and unhealthy food, along with fruits and vegetables that they are unfamiliar with. In addition they will discover exercises that can be done indoors and learn why those exercises are beneficial to their health. The goal of this project is to maintain physical activity within the CATCH PE curriculum and increase nutrition awareness among low-income, 1<sup>st</sup> through 5<sup>th</sup> grade students at designated schools. Further research may indicate the effectiveness of the provided lessons, for future implementation in similar schools within and beyond LAUSD.

**Conclusion**

Childhood obesity and the associated negative health implications are more prevalent among certain communities due to several different factors including low socioeconomic status, lack of physical education in schools, limited safe places to play, and little to no nutrition education. The purpose of this project was to provide students at two Title I schools participating in the CATCH program, funded as part of the Canoga Park Health Improvement Zone Project by the UniHealth Foundation, with the opportunity of continuous administration of the program. This included physical activity and nutrition education, by developing two sets of grade-specific lesson plans, for implementation indoors, among students in 1<sup>st</sup> to 5<sup>th</sup> grade. Applying the recommendations from the Expert Panel will help improve time management of the
lessons and lesson clarity for the younger students. Additional modifications of this project can include adding more nutrition information within the lessons and providing students with pre- and post-test surveys to assess the implementation of the lessons.

Increasing awareness and knowledge of physical activity and nutrition is the first step to helping reduce the growing rates of childhood obesity throughout the United States, and ultimately preventing the chronic illnesses associated.
REFERENCES


Appendix A

CATCH Indoor Nutrition and Physical Activity: Lesson 1 (1st – 5th grade)

Lesson 1: GO Foods, GO Activities

Behavioral and Learning Objectives:

1. Be introduced to the *Hooray for Health!* Program.
2. Identify healthy eating and physical activity as important health behaviors.
3. Distinguish between GO foods and WHOA foods.
4. Identify GO activities.

Grade Level: 1st grade

Materials:

1. Illustration sheet (characters from story)
2. Activity Sheet: Which Ones Are GO (1 copy for each student)
3. Stretch Routine Activity Card: (grades K-2) 
   #164 “Limber Limbs”

Sources: CATCH Go for Health Series: Hooray for Health! (1st grade curriculum)

Procedures:

- Explain to the students that on rainy days we will do activities so we can learn how to be healthy.
- Tell the students that in order to do the nutrition activities we have to make sure we are following the rules. Explain rules to them to establish boundaries:
  1. **Raise your hand** – If students have a question tell them to raise their hand to avoid yelling out.
  2. **Be safe** – physical activity movements will need to be done carefully while inside the classroom.
  3. **Listen to directions** – make sure the students are paying attention to the directions.
  4. **Follow quieting procedures** (the teacher may already have one, i.e. clapping hands).
Lesson 1

**Begin lesson by having students do quick and easy physical activity at their desk, behind their chairs (stress the importance of being safe).**

Examples of exercises are listed below and can be done in 2 ways:

1. Sets of 10 (i.e. Tell the students “Let’s do 10 squats”)
2. Exercises can be timed for 10 seconds each (i.e. Tell the students “Run in place for 10 seconds” while you and the students count out loud “1 Mississippi, 2 Mississippi, 3 Mississippi, etc.” as they run.

(As students progress the number of sets and seconds can increase)

Examples of exercises: run in place, hop on one foot (each leg), squats, knee highs (each leg), leg raises to the side (each leg), touch toes, touch toes then knees then shoulders and clap hands in the air above their heads (repeat)

Activity 1: Story and Discussion

- **Ask students:**
  “First, how do you feel when you’re healthy?”
  ➢ Possible answers: play longer, strong, happy, full of energy, not sick
  “What happens when you aren’t healthy?”
  ➢ Possible answers: they can’t play, they don’t have energy, they’re tired, they get sick a lot

- **Tell students** “That’s why being healthy is so much better than not being healthy”. Explain to them that we will learn how to be healthy in our rainy day lessons so we can play longer and not get tired or sick.

- **Explain** to the students the differences between GO foods, WHOA foods, GO activities, and WHOA activities.

  **Introduce** them to the stoplight idea. Compare and explain that “WHOA foods make us stop running as fast so it is RED like on a stoplight.” Also add, “But when we see the color GREEN on a stoplight we GO!”

**GO foods** – We can eat ANYTIME, they give us energy, and they make us strong. (GO foods are mostly fruits and vegetables)

**WHOA foods** – We can only eat once in awhile, they make us tired, and they are unhealthy
  (WHOA foods have unhealthy added fats and sugars, i.e. desserts and candy; they also include fried foods, i.e. French fries). Tell students WHOA foods can be eaten on special occasions such as birthdays but not all the time, only once in awhile.

**GO activities** – Make our heart beat faster and we breathe harder, makes our heart and lungs stronger so we can run faster, learn better, and play longer.

**WHOA activities** – Don’t make our heart beat fast
- **Introduce** characters Gus Goodfood and Jumping Jacki from planet Strongheart to students and tell them they’re going to help us get healthy.

- **Tell students** you will read them a story about how Gus Goodfood and Jumping Jacki help their friends get healthy (show students the picture of the characters). Instruct the students to back their seats away from the table because they will be standing up (remind them of the “Be Safe” rule). Tell students that when they hear the word GO they should stand up out of their seats and immediately sit back down. (Every time they hear the word GO they quickly stand up and sit down)

**Story: Getting MoMo to GO**

One day after school, Gus Goodfood and Jumping Jacki [*Show illustration*] went to visit their friends JoJo and MoMo. JoJo and MoMo are brothers. JoJo likes to play soccer and can run fast. MoMo likes to play video games and gets tired fast.

JoJo and MoMo’s mom was cooking dinner in the kitchen with GO foods. “Hi Jacki and Gus,” JoJo said, “look at all the great GO foods we bought at the grocery store.” Gus and Jacki said “We love GO foods, GO foods make us strong so we can play longer.” “I like GO foods too!” said JoJo, and he pointed to the GO foods on the kitchen table. The GO foods were corn tortillas, brown rice, pinto beans, and whole wheat crackers. Other GO foods were bananas, carrots, broccoli, strawberries, blueberries, lettuce, peaches, pears and a big watermelon.

JoJo’s mom said “JoJo, please tell your brother MoMo to come eat some GO foods for dinner so he can have energy to play.” JoJo said, “Ok but MoMo doesn’t like GO foods.”

When MoMo came to the kitchen he said “I don’t want GO foods, I would rather cookies and chips.” His mom said, “MoMo you know those are WHOA foods and it’s best to eat them only once in awhile because they make you tired.”

After Gus Goodfood, Jumping Jacki, and JoJo ate their GO foods, they went outside to run races and play GO activities. MoMo did not eat the GO foods and did not have energy to play the GO activities. MoMo went back to his room to watch TV. Gus Goodfood and Jumping Jacki said to MoMo “if you eat GO foods you can play GO activities and run faster like JoJo.” MoMo then ate the GO foods.

The next day at school JoJo and MoMo played a GO activity with their friends. Since MoMo ate the GO foods he ran faster and could now play the GO activities with his brother JoJo. MoMo now likes GO foods and GO activities. He eats GO foods every day and wins the GO activities.
- Discuss the story with the students:
  “What are some GO foods they ate?” (Have students raise their hands to tell you GO foods)
  ➢ Possible answers: corn tortillas, brown rice, pinto beans, and whole wheat crackers, bananas, carrots, broccoli, strawberries, blueberries, lettuce, peaches, pears and watermelon. (Remind students these foods can be eaten all the time).
  “What are the WHOA foods MoMo wanted to eat?”
  ➢ Possible answers: cookies, chips
  “What are some other WHOA foods that MoMo might have wanted to eat?”
  ➢ Possible answers: cakes, ice cream, pies, candy, soft drinks, fried foods (Remind students these foods should only be eaten once in awhile).
  “What are some GO activities they played?”
  ➢ Possible answers: sit ups, jumping jacks, running races, etc. (Remind students these activities make us strong because our heart beats fast when we do these activities).
  “What are some WHOA activities MoMo did?”
  ➢ Possible answers: watching TV, playing video games, etc. (Remind students these activities don’t help us get strong because our heart doesn’t beat fast when we do these activities).

Activity 2: Activity Sheet

Purpose: To distinguish between GO foods and WHOA foods; to identify GO activities.

A. Use the following dialogue to explain the activity to students.
  ➢ You’re going to use what you’ve learned from the story to do an activity.
  ➢ On this activity sheet, you’ll see pictures of GO foods and WHOA foods. You’ll also see pictures of GO activities and WHOA activities.
  ➢ Circle the GO foods and the GO activities. Draw an X on the WHOA foods and on the activities that aren’t GO activities.

B. Distribute Activity Sheet: Which Ones Are GO? Point out that the boy at the lower left side of the activity sheet is doing jumping jacks. As needed, say what the other pictures are. Have students complete the activity sheet either individually or as groups at their tables. Tell students how much time they have to do this. If students have any questions ask them to raise their hands so you can help them.

C. Call on students to name the GO foods and GO activities they circled. Tell them to correct their work as needed.

**ANSWER KEY:**

**GO foods** – broccoli, apple, plain 1% milk

**WHOA foods** – fried French fries, soft drink, cookies
GO activities – jump-roping, running, swimming
WHOA activities – watching TV, playing a board game.

D. Congratulate students on their work

Activity 3: Review
- Ask students “Will GO foods and activities will make us stronger and healthier or will WHOA foods and activities make us stronger?” Tell students eating GO foods and doing GO activities every day will help us be healthy and strong so we can learn better and play longer.
- Tell students that if Jumping Jacki and Gus Goodfood were in the classroom now what GO foods and GO activities would you tell them you learned today? If time permits have each student name one or ask them to raise their hands and call on some of the students to answer.

**Finish lesson with stretches from Stretch Routine activity card: (grades K-2) “Limber Limbs” #164**
LESSON 1 * TRANSPARENCY A

Story Illustration 1 for "GO Foods and GO Activities"
Which Ones Are GO?

DIRECTIONS:
Circle the GO foods. Circle the GO activities.
Draw an X on the WHOA foods. Draw an X on the activities that are not GO activities.
Lesson 1: A Good Balance

Behavioral and Learning Objectives:

1. Be introduced to the Celebrate Health Program.
2. Identify healthy eating and physical activity as important health behaviors and as factors that contribute to energy balance.
3. Distinguish between GO foods and WHOA foods.

Grade Level:

2nd grade

Materials:

1. Illustration sheet (characters from story)
2. Stretch Routine Activity Card: (grades K-2) #164 “Limber Limbs”

Sources:

CATCH Go for Health Series: Celebrate Health! (2nd grade curriculum)

Procedures:

- Explain to the students that on rainy days we will do activities so we can learn how to be healthy.
- Tell the students that in order to do the nutrition activities we have to make sure we are following the rules. Explain rules to them to establish boundaries:
  1. Raise your hand – If students have a question tell them to raise their hand to avoid yelling out.
  2. Be safe – Physical activity movements will need to be done carefully while inside the classroom.
  3. Listen to directions – make sure the students are paying attention to the directions.
  4. Follow quieting procedures (the teacher may already have one, i.e. clapping hands)

**Begin lesson by having students do quick and easy physical activity at their desk, behind their chairs (stress the importance of being safe).**

Examples of exercises are listed below and can be done in 2 ways:

1. Sets of 10 (i.e. Tell the students “Let’s do 10 squats”)
Lesson 1

2. Exercises can be timed for 10 seconds each (i.e. Tell the students “Run in place for 10 seconds” while you and the students count out loud “1 Mississippi, 2 Mississippi, 3 Mississippi, etc.” as they run.

(As students progress the number of sets and seconds can increase)

Examples of exercises: run in place, hop on one foot (each leg), squats, knee highs (each leg), leg raises to the side (each leg), touch toes, touch toes then knees then shoulders and clap hands in the air above their heads (repeat)

Activity 1: Story and Discussion

- **Ask students**:
  
  “First, how do you feel when you’re healthy?”
  
  ➢ Possible answers: play longer, strong, happy, full of energy, not sick
  
  “What happens when you aren’t healthy?”
  
  ➢ Possible answers: they can’t play, they don’t have energy, they’re tired, they get sick a lot

- **Tell students** “That’s why being healthy is so much better than not being healthy”. Explain to them that we will learn how to be healthy in our rainy day lessons so we can play longer and not get tired or sick.

- **Explain** to the students the differences between GO foods, WHOA foods, GO activities, and WHOA activities.

- **Introduce** them to the stoplight idea. Compare and explain that “WHOA foods make us stop running as fast so it is RED like on a stoplight.” Also add, “But when we see the color GREEN on a stoplight we GO!”

- **GO foods** – We can eat ANYTIME, they give us energy, and they make us strong. (GO foods are mostly fruits and vegetables)

- **WHOA foods** – We can only eat once in awhile, they make us tired, and they are unhealthy.

  (WHOA foods have unhealthy added fats and sugars, i.e. desserts and candy; they also include fried foods, i.e. French fries). Tell students WHOA foods can be eaten on special occasions such as birthdays but not all the time, only once in awhile.

- **GO activities** – Make our heart beat faster and we breathe harder, makes our heart and lungs stronger so we can run faster, learn better, and play longer.

- **WHOA activities** – Don’t make our heart beat fast

- **Introduce** characters Gus Goodfood and Jumping Jacki from planet Strongheart to students and tell them they’re going to help us get healthy.

- **Tell students** you will read them a story about how Gus Goodfood and Jumping Jacki help their friends get healthy (show students the picture of the characters). Instruct the students...
to back their seats away from the table because they will be standing up (remind them of the “Be Safe” rule). Tell students that when they hear the word GO they should stand up out of their seats and immediately sit back down. (Every time they hear the word GO they quickly stand up and sit down)

**Story: Getting MoMo to GO**

One day after school, Gus Goodfood and Jumping Jacki [Show illustration] went to visit their friends JoJo and MoMo. JoJo and MoMo are brothers. JoJo likes to play soccer and can run fast. MoMo likes to play video games and gets tired fast.

JoJo and MoMo’s mom was cooking dinner in the kitchen with GO foods. “Hi Jacki and Gus,” JoJo said, “look at all the great GO foods we bought at the grocery store.” Gus and Jacki said “We love GO foods, GO foods make us strong so we can play longer.” “I like GO foods too!” said JoJo, and he pointed to the GO foods on the kitchen table. The GO foods were corn tortillas, brown rice, pinto beans, and whole wheat crackers. Other GO foods were bananas, carrots, broccoli, strawberries, blueberries, lettuce, peaches, pears and a big watermelon.

JoJo’s mom said “JoJo, please tell your brother MoMo to come eat some GO foods for dinner so he can have energy to play.” JoJo said, “Ok but MoMo doesn’t like GO foods.”

When MoMo came to the kitchen he said “I don’t want GO foods, I would rather cookies and chips.” His mom said, “MoMo you know those are WHOA foods and it’s best to eat them only once in awhile because they make you tired.”

After Gus Goodfood, Jumping Jacki, and JoJo ate their GO foods, they went outside to run races and play GO activities. MoMo did not eat the GO foods and did not have energy to play the GO activities. MoMo went back to his room to watch TV. Gus Goodfood and Jumping Jacki said to MoMo “if you eat GO foods you can play GO activities and run faster like JoJo.” MoMo then ate the GO foods.

The next day at school JoJo and MoMo played a GO activity with their friends. Since MoMo ate the GO foods he ran faster and could now play the GO activities with his brother JoJo. MoMo now likes GO foods and GO activities. He eats GO foods every day and wins the GO activities.

[Tip: when reading the GO foods in the story be sure to slowly list them so the students can clearly hear the different foods]

- Discuss the story with the students:
  “What are some GO foods they ate?” (Have students raise their hands to tell you GO foods)
Possible answers: corn tortillas, brown rice, pinto beans, and whole wheat crackers, bananas, carrots, broccoli, strawberries, blueberries, lettuce, peaches, pears and watermelon. (Remind students these foods can be eaten all the time).

“What are the WHOA foods MoMo wanted to eat?”

Possible answers: cookies, chips

“What are some other WHOA foods that MoMo might have wanted to eat?”

Possible answers: cakes, ice cream, pies, candy, soft drinks, fried foods (Remind students these foods should only be eaten once in awhile).

“What are some GO activities they played?”

Possible answers: sit ups, jumping jacks, running races, etc. (Remind students these activities make us strong because our heart beats fast when we do these activities).

“What are some WHOA activities MoMo did?”

Possible answers: watching TV, playing video games, etc. (Remind students these activities don’t help us get strong because our heart doesn’t beat fast when we do these activities).

Activity 2: Physical Activity Game

Purpose: To distinguish between GO foods and WHOA foods.

A. Students are going to play a game in which they walk around the perimeter of the classroom and respond to GO and WHOA foods you announce.

B. Use the following dialogue to explain the game to students.

Let’s use what you’ve learned about GO foods and WHOA foods to play a game.

Here’s how to play. You’ll walk around the room in a big circle while I call out foods. If I say a GO food, stop walking, face the inside of the circle, and do 10 high knees. If I say a WHOA food, stop walking, face the inside of the circle, and hop on one leg.

As we play the game, I’ll tell you different ways to walk.

At all times, be careful not to run into another student.

C. Direct students to their starting points, leaving space between each student. In approximately ten-second intervals, call out the foods from the lists that follow, mixing up GO foods and WHOA foods. After calling out the first few foods, also periodically direct students to change their walking style by telling them to do one of the following:

Tiptoe
Take giant steps
Take baby steps
Swing their arms while walking
Walk as if they were on thin ice about to break
Lesson 1

<table>
<thead>
<tr>
<th>GO Foods</th>
<th>WHOA Foods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carrots</td>
<td>Ice cream</td>
</tr>
<tr>
<td>Bananas</td>
<td>Candy bar</td>
</tr>
<tr>
<td>Pineapple</td>
<td>Corn chips</td>
</tr>
<tr>
<td>Baked fish</td>
<td>Potato chips</td>
</tr>
<tr>
<td>Brown rice</td>
<td>Sugary cereal</td>
</tr>
<tr>
<td>Watermelon</td>
<td>Sugar cookies</td>
</tr>
<tr>
<td>Corn tortillas</td>
<td>Chocolate cake</td>
</tr>
<tr>
<td>Baked chicken</td>
<td>Soft drink (soda)</td>
</tr>
<tr>
<td>Cucumbers</td>
<td>French fries</td>
</tr>
<tr>
<td>Low-fat milk</td>
<td></td>
</tr>
<tr>
<td>Low-fat yogurt</td>
<td></td>
</tr>
<tr>
<td>Whole-wheat tortillas</td>
<td></td>
</tr>
<tr>
<td>Whole-wheat crackers</td>
<td></td>
</tr>
</tbody>
</table>

D. If students are unsure of whether a food is a GO or WHOA food, explain to them why the food is healthy (gives energy) or unhealthy (makes you tired).

E. **Explain** to students that when we eat WHOA foods we have to exercise more so our heart beats faster.

F. Congratulate students on their work

**Activity 3: Summary**

- **Ask students** “Will GO foods and activities will make us stronger and healthier or will WHOA foods and activities make us stronger?” Tell students eating GO foods and doing GO activities every day will help us be healthy and strong so we can learn better and play longer.

- **Tell students** that if Jumping Jacki and Gus Goodfood were in the classroom now what GO foods and GO activities would you tell them you learned today? If time permits have each student name one or ask them to raise their hands and call on some of the students to answer.

**Finish lesson with stretches from Stretch Routine activity card: (grades K-2) “Limber Limbs” #164**
Story Illustration 1 for "GO Foods and GO Activities"
Lesson 1: Helping Hearty Identify GO and WHOA Foods

Behavioral and Learning Objectives:
1. Define and identify specific GO and WHOA foods from four food groups: fruits, vegetables, milk, and meat/beans.
2. Do a classroom-based physical activity.

Grade Level: 3rd grade

Materials: Activity Sheet 1: GO-WHOA List: Fruits, Vegetables, Milk, Meat and Beans (1 copy for each student)
Activity Sheet 2: GO or WHOA? Stoplight (1 copy for each student)
Stretch Routine Activity Card: (grades 3-5) #273

Sources: CATCH Go for Health Series: Hearty Heart and Friends (3rd grade curriculum), Celebrate Health! (2nd grade curriculum pp. 4 & 5)

Procedures:
- Explain to the students that on rainy days we will do activities so we can learn how to be healthy.
- Tell the students that in order to do the nutrition activities we have to make sure we are following the rules. Explain rules to them to establish boundaries:
  1. Raise your hand – If students have a question tell them to raise their hand to avoid yelling out.
  2. Be safe – physical activity movements will need to be done carefully while inside the classroom.
  3. Listen to directions – make sure the students are paying attention to the directions.
  4. Follow quieting procedures (the teacher may already have one, i.e. clapping hands)

**Begin lesson by having students do quick and easy physical activity at their desk, behind their chairs (stress the importance of being safe).**

Examples of exercises are listed below and can be done in 2 ways:
Lesson 1

1. Sets of 10 (i.e. Tell the students “Let’s do 10 squats”)

2. Exercises can be timed for 10 seconds each (i.e. Tell the students “Run in place for 10 seconds” while you and the students count out loud “1 Mississippi, 2 Mississippi, 3 Mississippi, etc.” as they run.

   (As students progress the number of sets and seconds can increase)

   Examples of exercises: run in place, hop on one foot (each leg), squats, knee highs (each leg), leg raises to the side (each leg), touch toes, touch toes then knees then shoulders and clap hands in the air above their heads (repeat)

Activity 1: Comparison of GO and WHOA foods

Purpose: To identify difference between GO and WHOA foods in the foods groups.

A. Introduce this lesson by reviewing the CATCH message about a healthy diet and the difference between GO and WHOA foods.

- Ask students:
  “First, how do you feel when you’re healthy?”
  ➢ Possible answers: play longer, strong, happy, full of energy, not sick
  “What happens when you aren’t healthy?”
  ➢ Possible answers: they can’t play, they don’t have energy, they’re tired, they get sick a lot

- Tell students “That’s why being healthy is so much better than not being healthy”. Explain to them that we will learn how to be healthy in our rainy day lessons so we can play longer and not get tired or sick.

- Explain to the students there are no “good” foods or “bad” foods. Tell them a healthy diet can include all foods. However, some foods are better to eat more often (GO foods) and others are better to eat less often (WHOA foods). Explain the differences between GO foods, WHOA foods, GO activities, and WHOA activities.

   GO foods – We can eat ANYTIME, they give us energy, and they make us strong.
   (GO foods are mostly fruits and vegetables, lowest in added fat and sugar)

   WHOA foods – We can only eat once in a while, they make us tired, and they are unhealthy (WHOA foods have highest added fats and sugars, i.e. desserts and candy; they also include fried foods, i.e. French fries). Tell students WHOA foods can be eaten on special occasions such as birthdays but not all the time, only once in awhile.

   GO activities – Make our heart beat faster and we breathe harder, makes our heart and lungs stronger so we can run faster, learn better, and play longer.

   WHOA activities – Don’t make our heart beat fast
B. Distribute Activity Sheet 1: GO-WHOA List: Fruits, Vegetables, Milk, Meat and Beans to each student. Read aloud (or have students take turns reading aloud) the foods listed in the chart.

Explain:

- “Extra-lean” has the lowest amount of fat. “Lean” meat has more fat than extra-lean meat. “Regular” meat has the most fat of all.
- A “processed” food is a food that has been changed from the natural state it used to be in. Most processed foods have a lot of fat or sugar.
- The chicken nuggets in the cafeteria might be baked or fried, and the hamburgers might be extra-lean, lean, or regular. Ask a cafeteria worker what kind of chicken nuggets and hamburgers are served at our school.

C. Distribute Activity Sheet 2: GO or WHOA? Explain that for each food in the list, they must decide whether it is a GO or WHOA food. Then they should draw a line from the food to the GO or WHOA in the traffic light. Tell them you will do Group 1 with them, and then they will do Group 2 by themselves.

Activity 2: Physical Activity Game
Purpose: To distinguish between GO foods and WHOA foods.

A. Students are going to play a game in which they walk around the perimeter of the classroom and respond to GO and WHOA foods you announce.

B. Use the following dialogue to explain the game to students.

- Let’s use what you’ve learned about GO foods and WHOA foods to play a game.
- Here’s how to play. You’ll walk around the room in a big circle while I call out foods. If I say a GO food, stop walking, face the inside of the circle, and do 10 high knees. If I say a WHOA food, stop walking, face the inside of the circle, and hop on one leg.
- As we play the game, I’ll tell you different ways to walk.
- At all times, be careful not to run into another student

C. Direct students to their starting points, leaving space between each student. In approximately ten-second intervals, call out the foods from the lists that follow, mixing up GO foods and WHOA foods. After calling out the first few foods, also periodically direct students to change their walking style by telling them to do one of the following:

- Tiptoe
- Take giant steps
- Take baby steps
- Swing their arms while walking
- Walk as if they were on thin ice about to break
Lesson 1

<table>
<thead>
<tr>
<th>GO Foods</th>
<th>WHOA Foods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carrots</td>
<td>Ice cream</td>
</tr>
<tr>
<td>Bananas</td>
<td>Candy bar</td>
</tr>
<tr>
<td>Pineapple</td>
<td>Corn chips</td>
</tr>
<tr>
<td>Baked fish</td>
<td>Potato chips</td>
</tr>
<tr>
<td>Brown rice</td>
<td>Sugary cereal</td>
</tr>
<tr>
<td>Watermelon</td>
<td>Sugar cookies</td>
</tr>
<tr>
<td>Corn tortillas</td>
<td>Chocolate cake</td>
</tr>
<tr>
<td>Baked chicken</td>
<td>Soft drink (soda)</td>
</tr>
<tr>
<td>Cucumbers</td>
<td>French fries</td>
</tr>
<tr>
<td>Low-fat milk</td>
<td></td>
</tr>
<tr>
<td>Low-fat yogurt</td>
<td></td>
</tr>
<tr>
<td>Whole-wheat tortillas</td>
<td></td>
</tr>
<tr>
<td>Whole-wheat crackers</td>
<td></td>
</tr>
</tbody>
</table>

If students are unsure of whether a food is a GO or WHOA food, explain to them why the food is healthy (gives energy) or unhealthy (makes you tired).

Activity 3: Summary
Purpose: To review the main points of Lesson 1.

- **Ask students** “What kind of foods are GO foods?” and “What kind of foods are WHOA foods?” Also ask “What activities are GO activities?”,”Which ones are WHOA activities?”.
  Tell students eating GO foods every day and doing GO activities every day will help us be healthy and strong so we can learn better and play longer.
- **Tell students** that a healthy diet can include all foods, but that some foods are better to eat more often (GO foods) and others are better to eat less often (WHOA foods).
- **Remind students** that there are no “good” foods or “bad” foods, but that GO foods should be eaten more often than WHOA foods.

**Finish lesson with stretches from Stretch Routine activity card (#273)**
# Activity Sheet 1: GO-WHOA List: Fruits, Vegetables, Milk, Meat and Beans

<table>
<thead>
<tr>
<th>GO</th>
<th>WHOA</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FRUITS</strong></td>
<td></td>
</tr>
<tr>
<td>Blueberries</td>
<td>Frozen fruit juice bars with added sugar</td>
</tr>
<tr>
<td>100% orange juice</td>
<td>Fruit roll ups</td>
</tr>
<tr>
<td>Fresh, frozen, or canned fruits with no sugar added</td>
<td>Fruits canned in heavy syrup</td>
</tr>
<tr>
<td>Dried fruit (raisins, apricots)</td>
<td></td>
</tr>
<tr>
<td><strong>VEGETABLES</strong></td>
<td></td>
</tr>
<tr>
<td>Fresh, frozen, or canned vegetables with no sugar added or fat added</td>
<td>Fried battered vegetables</td>
</tr>
<tr>
<td></td>
<td>Fried potatoes, fried french fries, fried has browns</td>
</tr>
<tr>
<td><strong>MILK</strong></td>
<td></td>
</tr>
<tr>
<td>Fat free milk</td>
<td>Vanilla milkshake</td>
</tr>
<tr>
<td>1% Low fat milk</td>
<td>Whole milk/ Whole chocolate milk</td>
</tr>
<tr>
<td>Almond milk, soy milk, rice milk</td>
<td>Whole chocolate milk</td>
</tr>
<tr>
<td><strong>MEAT and BEANS</strong></td>
<td></td>
</tr>
<tr>
<td>Beans (pinto beans, black beans)</td>
<td>Hot dog</td>
</tr>
<tr>
<td>Peas (black-eyed peas)</td>
<td>Fried chicken (chicken nuggets)</td>
</tr>
<tr>
<td>Lean /Extra lean beef (hamburgers, meatballs)</td>
<td>Chorizo, Bologna</td>
</tr>
<tr>
<td>Grilled or baked chicken with no skin</td>
<td></td>
</tr>
</tbody>
</table>
Lesson 1

Activity Sheet 2: GO or WHOA?

Group 1: FRUITS

Frozen fruit juice bars with added sugar

Blueberries

Fruit roll ups

100% orange juice

Group 2: VEGETABLES

Canned carrots with no sugar added

Broccoli

French fries

Hash browns

Group 2: MILK

Vanilla milkshake

Fat free milk

1% Low fat milk

Whole chocolate milk

Group 3: MEAT and BEANS

Hot dog

Fried chicken nuggets

Black beans

Baked chicken with no skin

Pinto beans
Lesson 1: GO and WHOA Foods

Behavioral and Learning Objectives:
1. Define and identify specific GO and WHOA foods from four food groups: fruits, vegetables, milk, and meat/beans.
2. Do a classroom-based physical activity.
3. Set a goal to change a health-related behavior: physical activity.

Grade Level:
4th grade

Materials:
Activity Sheet 1: GO-WHOA List: Fruits, Vegetables, Milk, Meat and Beans (1 copy for each student)
Activity Sheet 2: GO or WHOA? Stoplight (1 copy for each student)
Stretch Routine Activity Card: (grades 3-5) #273

Sources:
CATCH Go for Health Series: Hearty Heart and Friends (3rd grade curriculum), Taking Off (4th grade curriculum)

Procedures:
- Explain to the students that on rainy days we will do activities so we can learn how to be healthy.
- Tell the students that in order to do the nutrition activities we have to make sure we are following the rules. Explain rules to them to establish boundaries:
  1. Raise your hand – If students have a question tell them to raise their hand to avoid yelling out.
  2. Be safe – physical activity movements will need to be done carefully while inside the classroom.
  3. Listen to directions – make sure the students are paying attention to the directions.
  4. Follow quieting procedures (the teacher may already have one, i.e. clapping hands)

**Begin lesson by having students do quick and easy physical activity at their desk, behind their chairs (stress the importance of being safe).**
Examples of exercises are listed below and can be done in 2 ways:

1. **Sets of 10** (i.e. Tell the students “Let’s do 10 squats”)

2. **Exercises can be timed for 10 seconds each** (i.e. Tell the students “Run in place for 10 seconds” while you and the students count out loud “1 Mississippi, 2 Mississippi, 3 Mississippi, etc.” as they run.

   (As students progress the number of sets and seconds can increase)

Examples of exercises: run in place, hop on one foot (each leg), squats, knee highs (each leg), leg raises to the side (each leg), touch toes, touch toes then knees then shoulders and clap hands in the air above their heads (repeat)

**Activity 1: Comparison of GO and WHOA foods**

**Purpose:** To identify difference between GO and WHOA foods in the foods groups.

A. Introduce this lesson by reviewing the CATCH message about a healthy diet and the difference between GO and WHOA foods.

- **Ask students**:
  
  “First, how do you feel when you’re healthy?”
  
  ➢ Possible answers: play longer, strong, happy, full of energy, not sick
  
  “What happens when you aren’t healthy?”
  
  ➢ Possible answers: they can’t play, they don’t have energy, they’re tired, they get sick a lot

- **Tell students** “That’s why being healthy is so much better than not being healthy”. Explain to them that we will learn how to be healthy in our rainy day lessons so we can play longer and not get tired or sick.

- **Explain** to the students there are no “good” foods or “bad” foods. Tell them a healthy diet can include all foods. However, some foods are better to eat more often (GO foods) and others are better to eat less often (WHOA foods). Explain the differences between GO foods, WHOA foods, GO activities, and WHOA activities.

  **GO foods** – We can eat ANYTIME, they give us energy, and they make us strong.
  
  (GO foods are mostly fruits and vegetables, lowest in added fat and sugar)

  **WHOA foods** – We can only eat once in awhile, they make us tired, and they are unhealthy
  
  (WHOA foods have highest added fats and sugars, i.e. desserts and candy; they also include fried foods, i.e. French fries). Tell students WHOA foods can be eaten on special occasions such as birthdays but not all the time, only once in awhile.

  **GO activities** – Make our heart beat faster and we breathe harder, makes our heart and lungs stronger so we can run faster, learn better, and play longer.

  **WHOA activities** – Don’t make our heart beat fast
Lesson 1

B. Distribute Activity Sheet 1: GO-WHOA List: Fruits, Vegetables, Milk, Meat and Beans to each student. Read aloud (or have students take turns reading aloud) the foods listed in the chart.

Explain:

- “Extra-lean” has the lowest amount of fat. “Lean” meat has more fat than extra-lean meat. “Regular” meat has the most fat of all.
- A “processed” food is a food that has been changed from the natural state it used to be in. Most processed foods have a lot of fat or sugar.
- The chicken nuggets in the cafeteria might be baked or fried, and the hamburgers might be extra-lean, lean, or regular. Ask a cafeteria worker what kind of chicken nuggets and hamburgers are served at our school.

C. Distribute Activity Sheet 2: GO or WHOA? Explain that for each food in the list, they must decide whether it is a GO or WHOA food. Then they should draw a line from the food to the GO or WHOA in the traffic light. Tell them you will do Group 1 with them, and then they will do Group 2 by themselves.

Activity 2: Classroom-Based Physical Activity

Purpose: To participate in a classroom-based physical activity.

A. Tell students that it is important to be physically active most days of the week.
B. Remind students about the GO and WHOA activities.
C. Explain that you can warm up for GO activities by stretching, walking, or doing anything else that little by little, gets your heart beating faster. Explain that you can also cool down by stretching, walking, or doing the exercise at a slower pace.
D. Tell them they are going to play a game called Minute Movement that includes a warm-up and a cool-down.

Explain:

- You will play Minute Movement with a partner.
- I will call out a category, such as fruits and sports, and a physical activity. Both of you will do the physical activity the entire time, but you with take turns naming items from the category.
- After 30 seconds have passed, I will call out a different category and physical activity.
- Do not stop moving. Instead, immediately start the next activity and start taking turns naming items in the new category. We will do this several times.

E. Categories you might call out:

- Fruits things you see on a walk or hike
- Sports sports you like to play

78
Lesson 1

Vegetables  vegetables you should eat

F. During the warm-up and action phases of the game, call out the following movements in the order they are listed, since they are ranked from least to most vigorous:

1. Arm circles  6. Sit-ups
2. Toe touches  7. Push-ups
3. March in place  8. Forwards lunges
5. Forward kicks  10. Jumping jacks

G. Start the game. Encourage students not to pause in their movement when you call out each movement and category. Continue the game until students have completed about 6 minutes of physical activity.

H. For the cool-down phase of the game, call out movement 3, 2, and 1 to allow students’ heart rate to return to normal.

**Activity 3: Goal Setting Contract**
**Purpose:** To set a goal to do a favorite physical activity two times during the week.

A. Tell students to take out a sheet of loose leaf paper to make a contract to set a physical activity goal. Have students think about and decide which physical activity they will try to do at least two times a week. Explain to students that a goal is to decide what it is you want to do and when you want to do it. Tell students to write a letter to themselves about what physical activity they will try to do at least two times a week and have them sign it at the bottom. The teacher can collect these at the end.

**Activity 4: Summary**
**Purpose:** To review the main points of Lesson 1.

- **Ask students** “What kind of foods are GO foods?” and “What kind of foods are WHOA foods?” Also ask “What activities are GO activities?”,”Which ones are WHOA activities?” Tell students eating GO foods every day and doing GO activities every day will help us be healthy and strong so we can learn better and play longer.
- **Tell students** that a healthy diet can include all foods, but that some foods are better to eat more often (GO foods) and others are better to eat less often (WHOA foods).
- **Remind students** that there are no “good” foods or “bad” foods, but that GO foods should be eaten more often than WHOA foods.
**Finish lesson with stretches from Stretch Routine activity card (#273)**


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<td></td>
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<td></td>
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<td>• Almond milk, soy milk, rice milk</td>
<td>• Whole chocolate milk</td>
</tr>
<tr>
<td><strong>MEAT and BEANS</strong></td>
<td>• Beans (pinto beans, black</td>
<td>• Hot dog</td>
</tr>
<tr>
<td></td>
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<td>• Fried chicken (chicken nuggets)</td>
</tr>
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<td>• Chorizo, Bologna</td>
</tr>
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<td></td>
<td>• Lean / Extra lean beef</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(hamburgers, meatballs)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Grilled or baked chicken with no skin</td>
<td></td>
</tr>
</tbody>
</table>
Activity Sheet 2: GO or WHOA?

**Group 1: FRUITS**

Frozen fruit juice bars with added sugar
Blueberries
Fruit roll ups
100% orange juice

**Group 2: VEGETABLES**

Canned carrots with no sugar added
Broccoli
French fries
Hash browns

**Group 2: MILK**

Vanilla milkshake
Fat free milk
1% Low fat milk
Whole chocolate milk

**Group 3: MEAT and BEANS**

Hot dog
Fried chicken nuggets
Black beans
Baked chicken with no skin
Pinto beans
Lesson 1: Energy Balance and GO Eating

Behavioral and Learning Objectives:
1. Define and identify specific GO and WHOA foods from four food groups: fruits, vegetables, milk, and meat/beans.
2. Play a game to review and reinforce the concept of GO and WHOA foods.
3. Do a classroom-based physical activity.

Grade Level: 5th grade

Materials:
- Activity Sheet 1: GO-WHOA List: Fruits, Vegetables, Milk, Meat and Beans (1 copy for each student)
- Activity Sheet 2: GO and WHOA cards (1 copy for each group of students)
- GO and WHOA Card Game KEY (1 copy for teacher use)
- Stretch Routine Activity Card: (grades 3-5) #273

Sources: CATCH Go for Health Series: Breaking through Barriers (5th grade curriculum), Hearty Heart and Friends (3rd grade curriculum)

Procedures:
- Explain to the students that on rainy days we will do activities so we can learn how to be healthy.
- Tell the students that in order to do the nutrition activities we have to make sure we are following the rules. Explain rules to them to establish boundaries:
  1. Raise your hand – If students have a question tell them to raise their hand to avoid yelling out.
2. **Be safe** – physical activity movements will need to be done carefully while inside the classroom.

3. **Listen to directions** – make sure the students are paying attention to the directions.

4. **Follow quieting procedures** (the teacher may already have one, i.e. clapping hands)

**Begin lesson by having students do quick and easy physical activity at their desk, behind their chairs (stress the importance of being safe).**

Examples of exercises are listed below and can be done in 2 ways:

1. **Sets of 10** (i.e. Tell the students “Let’s do 10 squats”)

2. **Exercises can be timed for 10 seconds each** (i.e. Tell the students “Run in place for 10 seconds” while you and the students count out loud “1 Mississippi, 2 Mississippi, 3 Mississippi, etc.” as they run.

(As students progress the number of sets and seconds can increase)

Examples of exercises: run in place, hop on one foot (each leg), squats, knee highs (each leg), leg raises to the side (each leg), touch toes, touch toes then knees then shoulders and clap hands in the air above their heads (repeat)

**Activity 1: Comparison of GO and WHOA foods**

**Purpose:** To identify difference between GO and WHOA foods in the foods groups.

A. Introduce this lesson by reviewing the CATCH message about a healthy diet and the difference between GO and WHOA foods.

- **Ask students:**
  “First, how do you feel when you’re healthy?”
  
  - Possible answers: play longer, strong, happy, full of energy, not sick

  “What happens when you aren’t healthy?”
  
  - Possible answers: they can’t play, they don’t have energy, they’re tired, they get sick a lot

- **Tell students** “That’s why being healthy is so much better than not being healthy”. Explain to them that we will learn how to be healthy in our rainy day lessons so we can play longer and not get tired or sick.

- **Explain** to the students there are no “good” foods or “bad” foods. Tell them a healthy diet can include all foods. However, some foods are better to eat more often (GO foods) and others are better to eat less often (WHOA foods). Explain the differences between GO foods, WHOA foods, GO activities, and WHOA activities.

- **Introduce** them to the stoplight idea. Compare and explain that “WHOA foods make up stop running as fast so it is RED like on a stoplight.” Also add, “But when we see the color GREEN on a stoplight we GO!”
Lesson 1

GO foods – We can eat ANYTIME, they give us energy, and they make us strong. (GO foods are mostly fruits and vegetables)

WHOA foods – We can only eat once in awhile, they make us tired, and they are unhealthy

WHOA foods can be eaten on special occasions such as birthdays but not all the time, only once in awhile.

GO activities – Make our heart beat faster and we breathe harder, makes our heart and lungs stronger so we can run faster, learn better, and play longer.

WHOA activities – Don’t make our heart beat fast

B. Distribute Activity Sheet 1: GO-WHOA List: Fruits, Vegetables, Milk, Meat and Beans to each student. Read aloud (or have students take turns reading aloud) the foods listed in the chart.

Explain why the different foods are in each category:

- “Extra-lean” has the lowest amount of fat. “Lean” meat has more fat than extra-lean meat. “Regular” meat has the most fat of all.
- A “processed” food is a food that has been changed from the natural state it used to be in. Most processed foods have a lot of fat or sugar.
- The chicken nuggets in the cafeteria might be baked or fried, and the hamburgers might be extra-lean, lean, or regular. Ask a cafeteria worker what kind of chicken nuggets and hamburgers are served at our school.

Activity 2: GO and WHOA Card game

Purpose: To play a game to review and reinforce the concept of GO and WHOA foods.

A. Collect the Activity Sheet 1: GO-WHOA List: Fruits, Vegetables, Milk, Meat and Beans

B. Announce to students that they will now play a game to help them review GO and WHOA foods from the list. Tell them to listen carefully as you explain the instructions as follows:

- I’ll divide the class into groups and give each group a card with two foods listed on it. Keep the card face down until I give the signal to turn it over.
- Group members will decide together which food is a GO food and which one is a WHOA food. Next to the foods, the team leader will write a G for GO food and a W for WHOA beside each food (Also you can remind them about the colors on a stoplight and have them use crayons to draw a GREEN “G” next to the GO foods and a RED “W” next to the WHOA foods; circling each one in the color green or red can also be implemented).
Lesson 1

- After the group’s answers have been written down, the team leader should raise their hand. Then I’ll check the answers, and if both are correct I’ll give the group the next card. We’ll keep playing the game until the groups have finished all EIGHT cards or until I announce that time is up.
- You cannot look at your GO-WHOA List while playing the game. To make your decision, use what you’ve learned about GO and WHOA foods. Remember that GO foods are low-fat foods with low sugar and WHOA foods are the opposite.
- The game is going to move fast – so work quickly.

C. Divide the class into groups. Designate team leaders, and give each of them the first round of GO and WHOA cards (see Activity Sheet 2: GO and WHOA cards), reminding them to leave it face down until you give the signal. Then give the signal for them to turn over the card.

D. Check students’ answers by using the GO-WHOA List or the GO and WHOA Card Game KEY for teachers. Continue to hand out cards as time permits.

Activity 3: Classroom-Based Physical Activity

Purpose: To participate in a classroom-based physical activity.

A. Tell students that it is important to be physically active most days of the week.
B. Remind students about the GO and WHOA activities.
C. Explain that you can warm up for GO activities by stretching, walking, or doing anything else that, little by little, gets your heart beating faster. Explain that you can also cool down by stretching, walking, or doing the exercise at a slower pace.
D. Tell them they are going to play a game called Minute Movement that includes a warm-up and a cool-down.

Explain:
- You will play Minute Movement with a partner.
- I will call out a category, such as fruits and sports, and a physical activity. Both of you will do the physical activity the entire time, but you with take turns naming items from the category.
- After 30 seconds have passed, I will call out a different category and physical activity.
- Do not stop moving. Instead, immediately start the next activity and start taking turns naming items in the new category. We will do this several times.

E. Categories you might call out:

- Fruits: things you see on a walk or hike
- Sports: sports you like to play
Lesson 1

**Vegetables**

**vegetables you should eat**

F. During the warm-up and action phases of the game, call out the following movements in the order they are listed, since they are ranked from least to most vigorous:

6. Arm circles  
7. Toe touches  
8. March in place  
9. Jog in place  
10. Forward kicks

6. Sit-ups  
7. Push-ups  
8. Forwards lunges  
9. Squats  
10. Jumping jacks

G. Start the game. Encourage students not to pause in their movement when you call out each movement and category. Continue the game until students have completed about 6 minutes of physical activity.

H. For the cool-down phase of the game, call out movement 3, 2, and 1 to allow students’ heart rate to return to normal.

**Activity 4: Summary**  
**Purpose:** To review the main points of Lesson 1.

- **Ask students** “What kind of foods are GO foods?” and “What kind of foods are WHOA foods?” Also ask “What activities are GO activities?”, “Which ones are WHOA activities?” Tell students eating GO foods every day and doing GO activities every day will help us be healthy and strong so we can learn better and play longer.

- **Tell students** that a healthy diet can include all foods, but that some foods are better to eat more often (GO foods) and others are better to eat less often (WHOA foods).

- **Remind students** that there are no “good” foods or “bad” foods, but that GO foods should be eaten more often than WHOA foods.

**Finish lesson with stretches from Stretch Routine activity card (#273)**
**Activity Sheet 1: GO-WHOA List: Fruits, Vegetables, Milk, Meat and Beans**

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<td><strong>FRUITS</strong></td>
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<tr>
<td></td>
<td>• Fruits canned in heavy syrup</td>
</tr>
<tr>
<td><strong>VEGETABLES</strong></td>
<td>• Fresh, frozen, or canned vegetables with no sugar added or fat added</td>
</tr>
<tr>
<td></td>
<td>• Fried battered vegetables</td>
</tr>
<tr>
<td></td>
<td>• Fried potatoes, fried french fries, fried has browns</td>
</tr>
<tr>
<td><strong>MILK</strong></td>
<td>• Fat free milk</td>
</tr>
<tr>
<td></td>
<td>• 1% Low fat milk</td>
</tr>
<tr>
<td></td>
<td>• Almond milk, soy milk, rice milk</td>
</tr>
<tr>
<td></td>
<td>• Vanilla milkshake</td>
</tr>
<tr>
<td></td>
<td>• Whole milk/ Whole chocolate milk</td>
</tr>
<tr>
<td></td>
<td>• Whole chocolate milk</td>
</tr>
<tr>
<td><strong>MEAT and BEANS</strong></td>
<td>• Beans (pinto beans, black beans)</td>
</tr>
<tr>
<td></td>
<td>• Peas (black-eyed peas)</td>
</tr>
<tr>
<td></td>
<td>• Lean /Extra lean beef (hamburgers, meatballs)</td>
</tr>
<tr>
<td></td>
<td>• Grilled or baked chicken with no skin</td>
</tr>
<tr>
<td></td>
<td>• Hot dog</td>
</tr>
<tr>
<td></td>
<td>• Fried chicken (chicken nuggets)</td>
</tr>
<tr>
<td></td>
<td>• Chorizo, Bologna</td>
</tr>
</tbody>
</table>
### Activity Sheet 2: GO and WHOA Cards

<table>
<thead>
<tr>
<th>Card # 1</th>
<th>Card # 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Blueberries</td>
<td>• Hash browns</td>
</tr>
<tr>
<td>• French fries</td>
<td>• Pinto beans</td>
</tr>
<tr>
<td>Card # 3</td>
<td>Card # 4</td>
</tr>
<tr>
<td>• 1% Low fat milk</td>
<td>• Frozen fruit juice bars with added sugar</td>
</tr>
<tr>
<td>• Fruit roll ups</td>
<td>• Black beans</td>
</tr>
<tr>
<td>Card # 5</td>
<td>Card # 6</td>
</tr>
<tr>
<td>• Fried chicken nuggets</td>
<td>• 100% orange juice</td>
</tr>
<tr>
<td>• Baked chicken with no skin</td>
<td>• Hot dog</td>
</tr>
<tr>
<td>Card # 7</td>
<td>Card # 8</td>
</tr>
<tr>
<td>• Canned carrots with no sugar added</td>
<td>• Vanilla milkshake</td>
</tr>
<tr>
<td>• Whole chocolate milk</td>
<td>• Fat free milk</td>
</tr>
</tbody>
</table>
**GO and WHOA Card Game KEY**

<table>
<thead>
<tr>
<th>Card # 1</th>
<th>Card # 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Blueberries - G</td>
<td>• Hash browns - W</td>
</tr>
<tr>
<td>• French fries – W</td>
<td>• Pinto beans - G</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Card # 3</td>
<td>Card # 4</td>
</tr>
<tr>
<td>• 1% Low fat milk - G</td>
<td>• Frozen fruit juice bars with added sugar - W</td>
</tr>
<tr>
<td>• Fruit roll ups - W</td>
<td>• Black beans - G</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Card # 5</td>
<td>Card # 6</td>
</tr>
<tr>
<td>• Fried chicken nuggets - W</td>
<td>• 100% orange juice - G</td>
</tr>
<tr>
<td>• Baked chicken with no skin - G</td>
<td>• Hot dog - W</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Card # 7</td>
<td>Card # 8</td>
</tr>
<tr>
<td>• Canned carrots with no sugar added - G</td>
<td>• Vanilla milkshake - W</td>
</tr>
<tr>
<td>• Whole chocolate milk - W</td>
<td>• Fat free milk - G</td>
</tr>
</tbody>
</table>
Lesson 2

Appendix B

CATCH Indoor Nutrition and Physical Activity: Lesson 2 (1st – 5th grade)

Canoga Park Elementary School
Hart Street Elementary School
Nutrition Education – Classroom Lessons

<table>
<thead>
<tr>
<th>Lesson 2: A Rainbow of Fruits and Vegetables</th>
</tr>
</thead>
<tbody>
<tr>
<td>Behavioral and Learning Objectives:</td>
</tr>
<tr>
<td>1 Identify fruits and vegetables, including some that may be unfamiliar.</td>
</tr>
<tr>
<td>2 Identify how often fruits and vegetables should be eaten.</td>
</tr>
<tr>
<td>3 Identify an important reason for eating a variety of colors of fruits and vegetables.</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Grade Level:</th>
</tr>
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<tbody>
<tr>
<td>1st grade</td>
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</table>

<table>
<thead>
<tr>
<th>Materials:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fruit and Vegetable Cards (1-4): Instructor will have to color these cards prior to lesson Activity Sheets 2A &amp; 2B Stretch Routine Activity Card: (grades K-2) #164 “Limber Limbs”</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sources:</th>
</tr>
</thead>
<tbody>
<tr>
<td>CATCH Go for Health Series: Hooray for Health! (1st grade curriculum)</td>
</tr>
</tbody>
</table>

Procedures:

- Explain to the students that on rainy days we will do activities so we can learn how to be healthy.
- Tell the students that in order to do the nutrition activities we have to make sure we are following the rules. Explain rules to them to establish boundaries:

1. **Raise your hand** – If students have a question tell them to raise their hand to avoid yelling out.
2. **Be safe** – physical activity movements will need to be done carefully while inside the classroom.
3. **Listen to directions** – make sure the students are paying attention to the directions.
Lesson 2

4. Follow quieting procedures (the teacher may already have one, i.e. clapping hands)

**Begin lesson by having students do quick and easy physical activity at their desk, behind their chairs (stress the importance of being safe).**

Examples of exercises are listed below and can be done in 2 ways:

1. Sets of 10 (i.e. Tell the students “Let’s do 10 squats”)
2. Exercises can be timed for 10 seconds each (i.e. Tell the students “Run in place for 10 seconds” while you and the students count out loud “1 Mississippi, 2 Mississippi, 3 Mississippi, etc.” as they run.

(As students progress the number of sets and seconds can increase)

Examples of exercises: run in place, hop on one foot (each leg), squats, knee highs (each leg), leg raises to the side (each leg), touch toes, touch toes then knees then shoulders and clap hands in the air above their heads (repeat)

**Activity 1: Discussion**

- **Ask students**:
  “Should you eat more GO foods or WHOA foods if you want to be healthy?”
  - Answer: GO foods
  “What are some WHOA foods you heard about in the last lesson?”
  - Possible answers: Candy, cookies, cake, pies, soft drinks, chips.
  “What are some GO foods you heard about in the last lesson?”
  - Possible answers: Fruits, vegetables, beans, corn, tortillas, brown rice, whole wheat, eggs, low-fat yogurt, low-fat cheese, baked fish, and/or baked chicken without the skin.

- **Tell students** “Today you will find out why fruits and vegetables are GO foods”. Explain to them that fruits and vegetables help your body to grow in many ways. “They help you not get sick, and they help you heal faster when you cut yourself. They keep your eyes and skin healthy. Also they give you energy to learn, run, and play.”

- **Ask students** “Do you think you should eat fruits and vegetables often?” Yes because it’s best to eat more than one kind of fruit or vegetable every day.

- **Explain** to the students why it is important to eat fruits and vegetables of different colors.
  “Are all fruits the same color?” “What colors are strawberries and grapes?”
  - Name a few fruits and their colors
  “What about vegetables?” “What colors are broccoli and carrots?”
  - Name vegetables and their colors
  - Explain to students that fruits and vegetables can come in a rainbow of colors. Tell students they will be learning about new fruits and vegetables and what colors they are.

- **Show** students the **Fruit and Vegetable Cards (1-4):**
  1. Say the name of the fruit or vegetable and have students repeat it.
2. Use the information below to describe the fruit along with its color (Due to the grade level you can name only a few fruits and vegetables from each section).

**FRUITS:**
- **Blueberries:** You can eat the whole fruit. (Dark blue)
- **Cantaloupe:** You can only eat the inside. (Brown/yellow outside, Pink/orange inside)
- **Grapefruit:** You can only eat the inside. (Yellow/dark pink outside and inside)
- **Kiwi:** You can only eat the inside. (Brown/green outside, bright green inside)
- **Mango:** You can only eat the inside. (Yellow/green/orange outside, yellow inside)
- **Pear:** You can eat the whole fruit. (Green/red/yellow outside, white inside)
- **Pineapple:** You can only eat the inside. (Brown/yellow outside, yellow inside)
- **Tangerine:** You can only eat the inside. (Orange outside and inside)

**VEGETABLES:**
- **Asparagus:** Green
- **Beets:** Purple outside and inside
- **Bell Peppers:** Either green, red, yellow or orange
- **Broccoli:** Green
- **Cabbage:** Green or purple
- **Cauliflower:** White
- **Celery:** Green
- **Eggplant:** Purple outside, white inside

**Activity 2: Game**

**Purpose:** To identify fruits and vegetables including new ones; to identify important reasons to eat a rainbow of fruits and vegetables.

A. Tell students Jumping Jacki and Gus Goodfood have a game to play called Rainbow Game.

B. Divide students into groups of two or three. Give one group Activity Sheet 2A and the other group Activity Sheet 2B.

C. Tell group one with the Activity Sheet 2A to color the first square **green**, the second square **white** or leave blank, the third square **purple**, and the fourth square **red**. Tell group two with the Activity Sheet 2B to color the first square **blue**, the second square **yellow**, the third square **orange**, and the fourth square **green**.

D. Explain the game to the students:

- **There are colored fruit and vegetable cards in different places in the room.**
Lesson 2

- Look for the cards and when you find one, look at the color of the fruit or vegetable on the card. If the same color is on your paper, put an X on one of the little lines next to that color square. Then put the card back where you found it.
- Do this until I tell you the Rainbow Game is over.

E. Have students play the game and help them find cards if needed. (Note: Assign one student in each team to write the X’s on the activity sheet)

F. At the end of the game call on students who raise their hands to tell the name and color of the fruits and vegetables found.

Activity 3: Summary

- Review the main points of the lesson with students
- Ask students:
  “What are some reasons we should eat fruits and vegetables?”
  ➢ Possible answers: they help your body grow, help your skin and eyes stay healthy, help heal cuts faster, give you lots of energy to run and play
  “What should you eat a rainbow of fruits and vegetables?”
  ➢ Possible answers: all colors help the body in different ways

- Tell students that fruits and vegetables are GO foods and that eating them every day will keep them healthy and have energy.
- Ask students what fruit or vegetable they will try to eat this week. (If students respond that they do not like vegetables, encourage them to try a bite and they might like it!)

**Finish lesson with stretches from Stretch Routine activity card: (grades K-2) “Limber Limbs” #164**
Lesson 2

LESSON 2 - FRUIT AND VEGETABLE CARDS: 1

Blueberries

Cantaloupe

Grapefruit

Kiwi
LESSON 2 - FRUIT AND VEGETABLE CARDS: 2

Mango

Pear

Pineapple

Tangerine
Lesson 2

LESSON 2 - FRUIT AND VEGETABLE CARDS: 3

Asparagus
Beets
Bell Peppers
Broccoli
Lesson 2

LESSON 2 - FRUIT AND VEGETABLE CARDS: 4

Cabbages
Celery
Cauliflower
Eggplant
Lesson 2

LESSON 2 – ACTIVITY SHEET 2A

JUMPING JACKI & GUS GOODFOOD’S

RAINBOW GAME

Green

White

Purple

Red
Lesson 2

LESSON 2 – ACTIVITY SHEET 2B

JUMPING JACKI & GUS GOODFOOD’S

RAINFOOD GAME

Blue

Yellow

Orange

Green
Lesson 2

Lesson 2: A Rainbow of Fruits and Vegetables

Behavioral and Learning Objectives:
1. Identify fruits and vegetables, including some that may be unfamiliar.
2. Identify how often fruits and vegetables should be eaten.
3. Identify an important reason for eating a variety of colors of fruits and vegetables.

Grade Level: 2nd grade

Materials:
- Fruit and Vegetable Cards (1-4): Instructor will have to color these cards prior to lesson. Also MAKE TWO COPIES of these cards.
- Activity Sheets 2A & 2B
- Stretch Routine Activity Card: (grades K-2) #164 “Limber Limbs”

Sources:
- CATCH Go for Health Series: Hooray for Health! (1st grade curriculum) and Celebrate Health! (2nd grade curriculum pp. 14 & 15)

Procedures:
- Explain to the students that on rainy days we will do activities so we can learn how to be healthy.
- Tell the students that in order to do the nutrition activities we have to make sure we are following the rules. Explain rules to them to establish boundaries:
  1. **Raise your hand** – If students have a question tell them to raise their hand to avoid yelling out.
  2. **Be safe** – physical activity movements will need to be done carefully while inside the classroom.
  3. **Listen to directions** – make sure the students are paying attention to the directions.
  4. **Follow quieting procedures** (the teacher may already have one, i.e. clapping hands)
Lesson 2

**Begin lesson by having students do quick and easy physical activity at their desk, behind their chairs (stress the importance of being safe).**

Examples of exercises are listed below and can be done in 2 ways:

1. Sets of 10 (i.e. Tell the students “Let’s do 10 squats”)

2. Exercises can be timed for 10 seconds each (i.e. Tell the students “Run in place for 10 seconds” while you and the students count out loud “1 Mississippi, 2 Mississippi, 3 Mississippi, etc.” as they run.

(As students progress the number of sets and seconds can increase)

Examples of exercises: run in place, hop on one foot (each leg), squats, knee highs (each leg), leg raises to the side (each leg), touch toes, touch toes then knees then shoulders and clap hands in the air above their heads (repeat)

**Activity 1: Discussion**

- **Ask students**
  “Should you eat more GO foods or WHOA foods if you want to be healthy?”
  ➢ Answer: GO foods
  “What are some WHOA foods you heard about in the last lesson?”
  ➢ Possible answers: Candy, cookies, cake, pies, soft drinks, chips.
  “What are some GO foods you heard about in the last lesson?”
  ➢ Possible answers: Fruits, vegetables, beans, corn, tortillas, brown rice, whole wheat, eggs, low-fat yogurt, low-fat cheese, baked fish, and/or baked chicken without the skin.

- **Tell students** “Today you will find out why fruits and vegetables are GO foods”. Explain to them that fruits and vegetables help your body to grow in many ways. “They help you not get sick, and they help you heal faster when you cut yourself. They keep your eyes and skin healthy. Also they give you energy to learn, run, and play.”

- **Ask students** “Do you think you should eat fruits and vegetables often?” Yes because it’s best to eat more than one kind of fruit or vegetable every day.

- **Explain** to the students why it is important to eat fruits and vegetables of different colors.
  “Are all fruits the same color?” “What colors are strawberries and grapes?”
  ➢ Name a few fruits and their colors
  “What about vegetables?” “What colors are broccoli and carrots?”
  ➢ Name vegetables and their colors
  ➢ Explain to students that fruits and vegetables can come in a rainbow of colors. Tell students they will be learning about new fruits and vegetables and what colors they are.

- **Show** students the **Fruit and Vegetable Cards (1-4):**
  1. Say the name of the fruit or vegetable and have students repeat it.
2. Use the information below to describe the fruit along with its color (Due to the grade level you can name only a few fruits and vegetables from each section).

**FRUITS:**
- **Blueberries:** You can eat the whole fruit. (Dark blue)
- **Cantaloupe:** You can only eat the inside. (Brown/yellow outside, Pink/orange inside)
- **Grapefruit:** You can only eat the inside. (Yellow/dark pink outside and inside)
- **Kiwi:** You can only eat the inside. (Brown/green outside, bright green inside)
- **Mango:** You can only eat the inside. (Yellow/green/orange outside, yellow inside)
- **Pear:** You can eat the whole fruit. (Green/red/yellow outside, white inside)
- **Pineapple:** You can only eat the inside. (Brown/yellow outside, yellow inside)
- **Tangerine:** You can only eat the inside. (Orange outside and inside)

**VEGETABLES:**
- **Asparagus:** Green
- **Beets:** Purple outside and inside
- **Bell Peppers:** Either green, red, yellow or orange
- **Broccoli:** Green
- **Cabbage:** Green or purple
- **Cauliflower:** White
- **Celery:** Green
- **Eggplant:** Purple outside, white inside

**Activity 2: Team Race**

**Purpose:** To identify fruits and vegetables including new ones; to identify important reasons to eat a rainbow of fruits and vegetables. **(Note:** There should be TWO copies of specified fruits and vegetables from the Fruit and Vegetable Cards (1-4) for this game.)

- **Specified Fruits and Vegetables** that need TWO copies:
  - Activity Sheet 2A
    - Green box – use Asparagus picture from Fruit and Vegetables Cards #3
    - White box – use Cauliflower picture from Fruit and Vegetables Cards #4
    - Purple box – use Beets picture from Fruit and Vegetables Cards #3
    - Red box – use Bell Peppers picture from Fruit and Vegetables Cards #3
  - Activity Sheet 2B
    - Blue box – use Blueberries picture from Fruit and Vegetables Cards #1
    - Yellow box – use Pineapple picture from Fruit and Vegetables Cards #2
    - Orange box – use Tangerine picture from Fruit and Vegetables Cards #2
    - Green box – use Celery picture from Fruit and Vegetables Cards #4

- **Instructions:**
  
  A. Tell students Jumping Jacki and Gus Goodfood have a game to play called Rainbow Game.
Lesson 2

B. Divide students into groups of two. Give one group Activity Sheet 2A and the other group Activity Sheet 2B.

C. Hold up a Fruit and Vegetable Cards for each of the colors on the Activity Sheets 2A and 2B. (For Example: Hold up a picture of the Blueberries from the Fruit and Vegetable Card 1, etc.)

D. Have the groups draw the different fruits and vegetables, you are holding in their boxes labeled with the colors. (For example: While you are holding the blueberry picture, they will draw a blueberry in the box labeled Blue on the Activity Sheet 2B). See the description under “Specified Fruits and Vegetables.”

E. After the children have finished drawing the fruits and vegetables in their assigned boxes, the game can begin.

F. **Explain** the game to the students:

- There are colored fruit and vegetable cards in different places in the room (only two of each of the “Specified Fruit and Vegetables”).
- Each group will be lined up on either side of the room.
- When I say *go*, the first team member will search for one fruit and vegetable card that matches the one on their activity sheet box.
- Look for the cards and when you find one, look at the color of the fruit or vegetable on the card. If the same color and fruit is on your paper, put an X on one of the little lines next to that color square. Then keep the card with your group.
- After the teams have found all of their cards and matched them to their fruit or vegetables on their Activity Sheets, the game is over.

G. Have students play the game and help them find cards if needed. *(Note: Assign one student in each team to write the X’s on the activity sheet)*

H. At the end of the game call on students who raise their hands to tell the name and color of the fruits and vegetables found.

**Activity 3: Summary**
- **Review the main points of the lesson with students**
- **Ask students:**
  - “What are some reasons we should eat fruits and vegetables?”
    - Possible answers: they help your body grow, help your skin and eyes stay healthy, help heal cuts faster, give you lots of energy to run and play
  - “What should you eat a rainbow of fruits and vegetables?”
    - Possible answers: all colors help the body in different ways
- **Tell students** that fruits and vegetables are GO foods and that eating them every day will keep them healthy and have energy.

- **Ask students** what fruit or vegetable they will try to eat this week. (If students respond that they do not like vegetables, encourage them to try a bite and they might like it!)

**Finish lesson with stretches from Stretch Routine activity card: (grades K-2) “Limber Limbs” #164**
LESSON 2 - FRUIT AND VEGETABLE CARDS: 1

Blueberries

Cantaloupe

Grapefruit

Kiwi
Lesson 2

LESSON 2 - FRUIT AND VEGETABLE CARDS: 2

Mango

Pear

Pineapple

Tangerine
Lesson 2

LESSON 2 - FRUIT AND VEGETABLE CARDS: 3
Lesson 2

LESSON 2 - FRUIT AND VEGETABLE CARDS: 4

Cabbage

Cauliflower

Celery

Eggplant
LESSON 2 – ACTIVITY SHEET 2A

RAINBOW GAME

Green

White

Purple

Red
LESSON 2 – ACTIVITY SHEET 2B

JUMPING JACKI & GUS GOODFOOD’S

RAINBOW GAME

Blue

Yellow

Orange

Green
Lesson 2: Fruits and Vegetables

**Behavioral and Learning Objectives:**
1. Identify fruits and vegetables, including some that may be unfamiliar.
2. Identify how often fruits and vegetables should be eaten.
3. Identify an important reason for eating a variety of colors of fruits and vegetables.

**Grade Level:**
3rd grade

**Materials:**
- Fruit and Vegetable Cards (1-4): *Instructor will have to color these cards prior to lesson.*
- 16 Popsicle sticks (optional)
- 2-3 Paper or Plastic cups
- Stretch Routine Activity Card: (grades K-2) #164 “Limber Limbs”

**Sources:**
- CATCH Go for Health Series: Celebrate Health! (2nd grade curriculum pp. 14 & 15) and Taking Off (4th grade curriculum p. 105)

**Procedures:**
- Explain to the students that on rainy days we will do activities so we can learn how to be healthy.
- Tell the students that in order to do the nutrition activities we have to make sure we are following the rules. Explain rules to them to establish boundaries:

  **1. Raise your hand** – If students have a question tell them to raise their hand to avoid yelling out.
  **2. Be safe** – physical activity movements will need to be done carefully while inside the classroom.
  **3. Listen to directions** – make sure the students are paying attention to the directions.
  **4. Follow quieting procedures** (the teacher may already have one, i.e. clapping hands)
Lesson 2

**Begin lesson by having students do quick and easy physical activity at their desk, behind their chairs (stress the importance of being safe).**

Examples of exercises are listed below and can be done in 2 ways:

1. Sets of 10 (i.e. Tell the students “Let’s do 10 squats”)

2. Exercises can be timed for 10 seconds each (i.e. Tell the students “Run in place for 10 seconds” while you and the students count out loud “1 Mississippi, 2 Mississippi, 3 Mississippi, etc.” as they run.

   (As students progress the number of sets and seconds can increase)

   Examples of exercises: run in place, hop on one foot (each leg), squats, knee highs (each leg), leg raises to the side (each leg), touch toes, touch toes then knees then shoulders and clap hands in the air above their heads (repeat)

**Activity 1: Discussion**

- **Ask students:** “Should you eat more GO foods or WHOA foods if you want to be healthy?”
  - Answer: GO foods
  - “What are some WHOA foods you heard about in the last lesson?”
    - Possible answers: Candy, cookies, cake, pies, soft drinks, chips.
  - “What are some GO foods you heard about in the last lesson?”
    - Possible answers: Fruits, vegetables, beans, corn, tortillas, brown rice, whole wheat, eggs, low-fat yogurt, low-fat cheese, baked fish, and/or baked chicken without the skin.

- **Tell students** “Today you will find out why fruits and vegetables are GO foods”. Explain to them that fruits and vegetables help your body to grow in many ways. “They help you not get sick, and they help you heal faster when you cut yourself. They keep your eyes and skin healthy. Also they give you energy to learn, run, and play.”

- **Ask students** “Do you think you should eat fruits and vegetables often?” Yes because it’s best to eat more than one kind of fruit or vegetable every day.

- **Explain** to the students why it is important to eat fruits and vegetables of different colors. (Fruits and Vegetables are all different colors because they help your body in different ways)

- **Show** students the **Fruit and Vegetable Cards (1-4):**
  1. Say the name of the fruit or vegetable and show students a colored picture of the fruit or vegetable from the cards
  2. Use the information below to describe the fruit along with its color.
Lesson 2

FRUITS:
Blueberries: You can eat the whole fruit. (Dark blue)
Cantaloupe: You can only eat the inside. (Brown/yellow outside, Pink/orange inside)
Grapefruit: You can only eat the inside. (Yellow/dark pink outside and inside)
Kiwi: You can only eat the inside. (Brown/green outside, bright green inside)
Mango: You can only eat the inside. (Yellow/green/orange outside, yellow inside)
Pear: You can eat the whole fruit. (Green/red/yellow outside, white inside)
Pineapple: You can only eat the inside. (Brown/yellow outside, yellow inside)
Tangerine: You can only eat the inside. (Orange outside and inside)

VEGETABLES:
Asparagus: Green
Beets: Purple outside and inside
Bell Peppers: Either green, red, yellow or orange
Broccoli: Green
Cabbage: Green or purple
Cauliflower: White
Celery: Green
Eggplant: Purple outside, white inside

Activity 2: Action Game
Purpose: To play an action game that illustrates the concept of energy balance.

- Before starting the game:
  ➢ The instructor will have already colored the fruits and vegetables from the Fruits and Vegetables Cards (1-4), and cut up the cards to place each one on a popsicle stick.
  ➢ The instructor should write one physical activity on the back of each Fruit and Vegetable Card. (For example: on the back of the Blueberries card, write “arm circles”, and place this card on a popsicle stick so both sides are clearly seen). See “Exercises to choose from” below.
  ➢ 8 cards should be placed in each of the 2 plastic cups. (one plastic cup for each team)

- Exercises to choose from are:
  Arm circles, lunges in place, invisible jump rope, jog in place, jumping jacks, toe touches, knee lifts, march in place, squats. (The instructor can also create additional exercises that can safely be done inside the classroom).

- Instructions:

  A. Tell students they are going to play a game. Emphasize that they must listen carefully to the instructions. Show them one of the cards.
Lesson 2

B. **Explain** the game to the students:

- There are colored fruit and vegetable cards in different places in the room
- Each group will be lined up on either side of the room.
- When I say *go*, the first team member will search for one fruit and vegetable card.
- Look for the cards and when you find one, raise your hand. The teacher will call on the student with the raised hand.
- The student must show the card to everyone and say what it is. The student will also tell everyone what the exercise is and lead the class in the exercise. After the student will take the card back to their group and place it in their group’s plastic cup or container.
- Then the second person in line is up next.

C. Have students play the game until all the food cards have been drawn, or as time allows.

D. Collect the cards that have been drawn.

**Activity 3: Summary**

- **Review the main points of the lesson with students**
- **Ask students:**
  “What are some reasons we should eat fruits and vegetables?”
  - Possible answers: they help your body grow, help your skin and eyes stay healthy, help heal cuts faster, give you lots of energy to run and play
- **Tell students** that fruits and vegetables are GO foods and that eating them every day will keep them healthy and have energy.
- **Ask students** what fruit or vegetable they will try to eat this week. (If students respond that they do not like vegetables, encourage them to try a bite and they might like it!)

**Finish lesson with stretches from Stretch Routine activity card: (grades K-2) “Limber Limbs” #164**
Lesson 2

LESSON 2 - FRUIT AND VEGETABLE CARDS: 1

Blueberries

Cantaloupe

Grapefruit

Kiwi
LESSON 2 - FRUIT AND VEGETABLE CARDS: 2

Mango

Pear

Pineapple

Tangerine
LESSON 2 - FRUIT AND VEGETABLE CARDS: 3

Asparagus  
Beets  
Bell Peppers  
Broccoli
Lesson 2

LESSON 2 - FRUIT AND VEGETABLE CARDS: 4

Cabbage

Cauliflower

Celery

Eggplant
Lesson 2: Fruits and Vegetables

Behavioral and Learning Objectives:
1. Identify how often fruits and vegetables should be eaten.
2. Identify an important reason for eating a variety of colors of fruits and vegetables.
3. Identify an important reason for eating GO foods.
4. Identify physical activity associated with GO and WHOA foods.

Grade Level:
4th grade

Materials:
Fruit and Vegetable Cards (1-4): Instructor will have to color these cards prior to lesson.
16 Popsicle sticks (optional)
2-3 Paper or Plastic cups
Higher or Lower Handout
Stretch Routine Activity Card: (grades K-2)
#164 “Limber Limbs”

Sources:
CATCH Go for Health Series: Celebrate Health! (2nd grade curriculum pp. 14 & 15)
and Taking Off (4th grade curriculum p. 105)

Procedures:
- Explain to the students that on rainy days we will do activities so we can learn how to be healthy.
- Tell the students that in order to do the nutrition activities we have to make sure we are following the rules. Explain rules to them to establish boundaries:

1. **Raise your hand** – If students have a question tell them to raise their hand to avoid yelling out.
2. **Be safe** – physical activity movements will need to be done carefully while inside the classroom.
Lesson 2

3. **Listen to directions** – make sure the students are paying attention to the directions.
4. **Follow quieting procedures** (the teacher may already have one, i.e. clapping hands)

**Begin lesson by having students do quick and easy physical activity at their desk, behind their chairs (stress the importance of being safe).**

Examples of exercises are listed below and can be done in 2 ways:

1. Sets of 10 (i.e. Tell the students “Let’s do 10 squats”)
2. Exercises can be timed for 10 seconds each (i.e. Tell the students “Run in place for 10 seconds” while you and the students count out loud “1 Mississippi, 2 Mississippi, 3 Mississippi, etc.” as they run.

   (As students progress the number of sets and seconds can increase)

Examples of exercises: run in place, hop on one foot (each leg), squats, knee high (each leg), leg raises to the side (each leg), touch toes, touch toes then knees then shoulders and clap hands in the air above their heads (repeat)

**Activity 1: Discussion**

- **Ask students:**
  
  “Should you eat more GO foods or WHOA foods if you want to be healthy?”
  
  ➢ Answer: GO foods

  “What are some WHOA foods you heard about in the last lesson?”
  
  ➢ Possible answers: Candy, cookies, cake, pies, soft drinks, chips.

  “What are some GO foods you heard about in the last lesson?”
  
  ➢ Possible answers: Fruits, vegetables, beans, corn, tortillas, brown rice, whole wheat, eggs, low-fat yogurt, low-fat cheese, baked fish, and/or baked chicken without the skin.

- **Tell students** “Today you will find out why fruits and vegetables are GO foods”. Explain to them that fruits and vegetables help your body to grow in many ways. “They help you not get sick, and they help you heal faster when you cut yourself. They keep your eyes and skin healthy. Also they give you energy to learn, run, and play.”

- **Ask students** “Do you think you should eat fruits and vegetables often?” Yes because it’s best to eat more than one kind of fruit or vegetable every day.

- **Explain** to the students why it is important to eat fruits and vegetables of different colors. (Fruits and Vegetables are all different colors because they help your body in different ways)

**Activity 2: Review GO and WHOA Foods**

A. Have student recall from Lesson 1 what other GO and WHOA foods there are.
Lesson 2

**GO foods:**
Blueberries,
100% orange juice
Fresh, frozen, or canned fruits with no sugar added
Dried fruit (raisins, apricots)
Fresh, frozen, or canned vegetables with no sugar added or fat added
Fat free milk
1% Low fat milk
Almond milk, soy milk, rice milk
Beans (pinto beans, black beans)
Lean /Extra lean beef (hamburgers, meatballs)
Grilled or baked chicken with no skin

**WHOA foods:**
Frozen fruit juice bars with added sugar
Fruit roll ups
Fruits canned in heavy syrup
Fried battered vegetables
Fried potatoes, fried french fries, fried has browns
Vanilla milkshake
Whole milk/ Whole chocolate milk
Whole chocolate milk
Hot dog
Fried chicken (chicken nuggets)
Chorizo, Bologna

B. Ask students which foods are most likely to help give you energy? (GO Foods). Explain to them that these foods can be eaten most of the time.

C. Review with the class the **Higher or Lower Handout-Round 1** to show them how to fill out the handouts.

D. Tell students to look at their handouts (**Higher or Lower Handout- Rounds 2, 3, 4**) and determine if the food left blank if higher or lower than the food already filled out.

E. Ask students to raise their hands if they think the corresponding food is higher or lower. The students will write higher or lower on the lines provided.

F. Remind students that it is healthier to eat more fruits and vegetables and low-fat, low-sugar, low-salt foods.

**Activity 3: Action Game**
**Purpose:** To play an action game that illustrates the concept of energy balance.
- **Before starting the game:**
Lesson 2

- The instructor will have already colored the fruits and vegetables from the **Fruits and Vegetables Cards (1-4)**, and cut up the cards to place each one on a popsicle stick.
- The instructor should write one physical activity on the back of each Fruit and Vegetable Card. (For example: on the back of the Blueberries card, write “arm circles”, and place this card on a popsicle stick so both sides are clearly seen). See “Exercises to choose from” below.

  - **Exercises to choose from are:**
    - Arm circles, lunges in place, invisible jump rope, jog in place, jumping jacks, toe touches, knee lifts, march in place, squats. (The instructor can also create additional exercises that can safely be done inside the classroom).

  - **Instructions:**
    A. Tell students they are going to play a game. Emphasize that they must listen carefully to the instructions. Show them one of the cards.
    B. **Explain** the game to the students:
      - There are colored fruit and vegetable cards in different places in the room
      - Each group will be lined up on either side of the room.
      - When I say go, the first team member will search for one fruit and vegetable card.
      - Look for the cards and when you find one, raise your hand. The teacher will call on the student with the raised hand.
      - The student must show the card to everyone and say what it is. The student will also tell everyone what the exercise is and lead the class in the exercise. After the student will take the card back to their group and place it in their group’s plastic cup or container.
      - Then the second person in line is up next.
    C. Have students play the game until all the food cards have been drawn, or as time allows.
    D. Collect the cards that have been drawn.

**Activity 4: Summary**

- **Review the main points of the lesson with students**
- **Ask students:**
  “What are some reasons we should eat fruits and vegetables?”
  - Possible answers: they help your body grow, help your skin and eyes stay healthy, help heal cuts faster, give you lots of energy to run and play
- **Tell students** that fruits and vegetables are GO foods and that eating them every day will keep them healthy and have energy.
Lesson 2

- **Ask students** what fruit or vegetable they will try to eat this week. (If students respond that they do not like vegetables, encourage them to try a bite and they might like it!)

**Finish lesson with stretches from Stretch Routine activity card: (grades K-2) “Limber Limbs” #164**
LESSON 2 - FRUIT AND VEGETABLE CARDS: 1

Blueberries
Cantaloupe
Grapefruit
Kiwi
Lesson 2

LESSON 2 - FRUIT AND VEGETABLE CARDS: 2

Mango  Pear
Pineapple  Tangerine
Lesson 2

LESSON 2 – FRUIT AND VEGETABLE CARDS: 3

Asparagus
Beets
Bell Peppers
Broccoli
LESSON 2 - FRUIT AND VEGETABLE CARDS: 4

Cabbage

Cauliflower

Celery

Eggplant
## Higher or Lower?

### ROUND 1

<table>
<thead>
<tr>
<th></th>
<th>Banana (1 medium)</th>
<th>Chocolate Peanut Candy Bar</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calories</td>
<td>105</td>
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</tr>
<tr>
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<tr>
<td></td>
<td>Whole-grain Bagel</td>
<td>Doughnut</td>
</tr>
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<td>----------------</td>
<td>-------------------</td>
<td>----------</td>
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<td></td>
</tr>
<tr>
<td>Fiber (g)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Roasted Chicken (no skin)</td>
<td></td>
</tr>
<tr>
<td>Calories</td>
<td>111</td>
<td></td>
</tr>
<tr>
<td>Fat (g)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Sodium (mg)</td>
<td>49</td>
<td></td>
</tr>
</tbody>
</table>
Lesson 2: Fruits and Vegetables

Behavioral and Learning Objectives:
1. Identify how often fruits and vegetables should be eaten.
2. Identify an important reason for eating GO foods.
3. Identify physical activity associated with GO and WHOA foods.

Grade Level: 5th grade

Materials:
- GO and WHOA Food Picture Cards
- 16 Popsicle sticks (optional)
- 2-3 Paper or Plastic cups
- Higher or Lower Handout
- Stretch Routine Activity Card: (grades K-2)
  #164 “Limber Limbs”

Sources:
- CATCH Go for Health Series: Taking Off (4th grade curriculum p. 105) and Breaking through Barriers (5th grade curriculum)

Procedures:
- Explain to the students that on rainy days we will do activities so we can learn how to be healthy.
- Tell the students that in order to do the nutrition activities we have to make sure we are following the rules. Explain rules to them to establish boundaries:
  1. **Raise your hand** – If students have a question tell them to raise their hand to avoid yelling out.
  2. **Be safe** – physical activity movements will need to be done carefully while inside the classroom.
  3. **Listen to directions** – make sure the students are paying attention to the directions.
  4. **Follow quieting procedures** (the teacher may already have one, i.e. clapping hands)

**Begin lesson by having students do quick and easy physical activity at their desk, behind their chairs (stress the importance of being safe).**

Examples of exercises are listed below and can be done in 2 ways:
Lesson 2

1. Sets of 10 (i.e. Tell the students “Let’s do 10 squats”)
2. Exercises can be timed for 10 seconds each (i.e. Tell the students “Run in place for 10 seconds” while you and the students count out loud “1 Mississippi, 2 Mississippi, 3 Mississippi, etc.” as they run.
   (As students progress the number of sets and seconds can increase)
Examples of exercises: run in place, hop on one foot (each leg), squats, knee highs (each leg), leg raises to the side (each leg), touch toes, touch toes then knees then shoulders and clap hands in the air above their heads (repeat)

Activity 1: Discussion
- Ask students:
  “Should you eat more GO foods or WHOA foods if you want to be healthy?”
  ➢ Answer: GO foods
  “What are some WHOA foods you heard about in the last lesson?”
  ➢ Possible answers: Candy, cookies, cake, pies, soft drinks, chips.
  “What are some GO foods you heard about in the last lesson?”
  ➢ Possible answers: Fruits, vegetables, beans, corn, tortillas, brown rice, whole wheat, eggs, low-fat yogurt, low-fat cheese, baked fish, and/or baked chicken without the skin.
- Tell students “Today you will find out why fruits and vegetables are GO foods”. Explain to them that fruits and vegetables help your body to grow in many ways. “They help you not get sick, and they help you heal faster when you cut yourself. They keep your eyes and skin healthy. Also they give you energy to learn, run, and play.”
- Ask students “Do you think you should eat fruits and vegetables often?” Yes because it’s best to eat more than one kind of fruit or vegetable every day.
- Explain to the students why it is important to eat fruits and vegetables of different colors. (Fruits and Vegetables are all different colors because they help your body in different ways)

Activity 2: Review GO and WHOA Foods
A. Have student recall from Lesson 1 what other GO and WHOA foods there are.
   GO foods:
   Blueberries,
   100% orange juice
   Fresh, frozen, or canned fruits with no sugar added
   Dried fruit (raisins, apricots)
   Fresh, frozen, or canned vegetables with no sugar added or fat added
   Fat free milk
   1% Low fat milk
   Almond milk, soy milk, rice milk
Beans (pinto beans, black beans)
Lean /Extra lean beef (hamburgers, meatballs)
Grilled or baked chicken with no skin

**WHOA foods:**
Frozen fruit juice bars with added sugar
Fruit roll ups
Fruits canned in heavy syrup
Fried battered vegetables
Fried potatoes, fried french fries, fried has browns
Vanilla milkshake
Whole milk/ Whole chocolate milk
Whole chocolate milk
Hot dog
Fried chicken (chicken nuggets)
Chorizo, Bologna

B. Ask students which foods are most likely to help give you energy? (GO Foods). Explain to them that these foods can be eaten most of the time.

C. Review with the class the **Higher or Lower Handout-Round 1** to show them how to fill out the handouts.

D. Tell students to look at their handouts (**Higher or Lower Handout- Rounds 2, 3, 4**) and determine if the food left blank if higher or lower than the food already filled out.

E. Ask students to raise their hands if they think the corresponding food is higher or lower. The students will write higher or lower on the lines provided.

F. Remind students that it is healthier to eat more fruits and vegetables and low-fat, low-sugar, low-salt foods.

**Activity 3: Action Game**

**Purpose:** To play an action game that illustrates the concept of energy balance.

- **Before starting the game:**
  - Cut up the GO and WHOA food picture cards to place each one on a popsicle stick (optional).
  - There should be one cup for each team of two. 12 GO cards should be placed in each cup along with 9 WHOA cards.

- **Instructions:**
  A. Tell students they are going to play a game. Emphasize that they must listen carefully to the instructions. Show them one of the cards.

  B. **Explain** the game to the students:
Lesson 2

- This container is full of foods cards. On each card you will see the name of an exercise. You will also see the number of repetitions, or the number of times, that everyone in the class will do the exercise.
- Each group will be lined up on either side of the room.
- When I say go, the first team member will search for one card
- Look for the cards and when you find one, raise your hand. The teacher will call on the student with the raised hand.
- That student must show the card to everyone and say what it is. The student will also tell everyone what the exercise is and how many times they will do the exercise. The student with then lead the class in the exercise. After, the student will take the card back to their group and place it in their group’s plastic cup or container.
- Then the second person in line is up next.

C. Have students play the game until all the food cards have been drawn, or as time allows.
D. Discuss with the students why the most repetitions are on the WHOA cards. (Answer: The WHOA foods have more calories and when you eat WHOA foods, you need to do more exercise).
E. Collect the cards that have been drawn.

Activity 4: Summary
- Review the main points of the lesson with students
  - Ask students:
    “What are some reasons we should eat fruits and vegetables?”
    ➢ Possible answers: they help your body grow, help your skin and eyes stay healthy, help heal cuts faster, give you lots of energy to run and play
  - Tell students that fruits and vegetables are GO foods and that eating them every day will keep them healthy and have energy.
  - Ask students what fruit or vegetable they will try to eat this week. (If students respond that they do not like vegetables, encourage them to try a bite and they might like it!)

**Finish lesson with stretches from Stretch Routine activity card: (grades K-2) “Limber Limbs” #164**
<table>
<thead>
<tr>
<th>GO</th>
<th>GO</th>
<th>GO</th>
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<tbody>
<tr>
<td><strong>Apple</strong></td>
<td><strong>Cherries</strong></td>
<td><strong>Grapes</strong></td>
</tr>
<tr>
<td>5 Knee Lifts</td>
<td>5 Arm Circles</td>
<td>5 Lunges in Place</td>
</tr>
<tr>
<td>GO</td>
<td>GO</td>
<td>GO</td>
</tr>
<tr>
<td><strong>Baked Chicken without Skin</strong></td>
<td><strong>Black Beans</strong></td>
<td><strong>Eggs</strong></td>
</tr>
<tr>
<td>5-Second Jog in Place</td>
<td>5 Jumping Jacks</td>
<td>5 Toe Touches</td>
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<tr>
<td>GO</td>
<td>GO</td>
<td>GO</td>
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<td><strong>Skim Milk</strong></td>
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<td><strong>Low-fat String Cheese</strong></td>
</tr>
<tr>
<td>5 Knee Lifts</td>
<td>5-Second March in Place</td>
<td>5 Invisible Jump-ropes</td>
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Lesson 2

<table>
<thead>
<tr>
<th>GO</th>
<th>GO</th>
<th>GO</th>
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<tr>
<td><strong>Kidney Beans</strong></td>
<td><strong>Brown Rice</strong></td>
<td><strong>Tuna Packed in Water</strong></td>
</tr>
<tr>
<td>5 Toe Touches</td>
<td>5-Second March in Place</td>
<td>5 Arm Circles</td>
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<tr>
<td><strong>Unbuttered Popcorn</strong></td>
<td><strong>Graham Crackers</strong></td>
<td><strong>Oatmeal</strong></td>
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<td>5 Knee Lifts</td>
<td>5 Arm Circles</td>
<td>5 Lunges in Place</td>
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<td><strong>Baked Tortilla Chips</strong></td>
<td><strong>Corn Tortilla</strong></td>
<td><strong>Whole-wheat Bread</strong></td>
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<tr>
<td>5 Knee Lifts</td>
<td>5-Second March in Place</td>
<td>5 Invisible Jump-ropes</td>
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Lesson 2

- **Cucumber**: 5-Second Jog in Place
- **Banana**: 5 Jumping Jacks
- **Pineapple**: 5 Toe Touches
- **Onion**: 5 Knee Lifts
- **Orange**: 5-Second March in Place
- **Broccoli**: 5 Arm Circles
### Lesson 2

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<td>WHOA</td>
<td>WHOA</td>
<td>WHOA</td>
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<tr>
<td>Beef Gravy</td>
<td>Fried Shrimp</td>
<td>Fried Hash Browns</td>
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<td>15 Knee Lifts</td>
<td>15-Second March in Place</td>
<td>15 Invisible Jump-ropes</td>
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<tr>
<td>WHOA</td>
<td>WHOA</td>
<td>WHOA</td>
</tr>
<tr>
<td>Potato Chips</td>
<td>Corn Chips</td>
<td>Fried French Fries</td>
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<tr>
<td>15-Second Jog in Place</td>
<td>15 Jumping Jacks</td>
<td>15 Toe Touches</td>
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## Higher or Lower?

### ROUND 1

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<tr>
<th></th>
<th>Banana (1 medium)</th>
<th>Chocolate Peanut Candy Bar</th>
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### Higher or Lower?

#### ROUND 2

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<tr>
<td>Total Sugars (g)</td>
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<td></td>
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<td>Fiber (g)</td>
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#### ROUND 3

<table>
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#### ROUND 4

<table>
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<th>Roasted Chicken (no skin)</th>
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<tr>
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<td>Fat (g)</td>
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<tr>
<td>Sodium (mg)</td>
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</tbody>
</table>
Appendix C

Formative Evaluation

*CATCH Go For Health Series: Lessons 1 and 2 (1st – 5th grade)*

Please return to Candice Crump by November 7th, 2014
Thank you for taking the time to evaluate my curriculum. The *CATCH Go For Health Series* curriculum contains modified lessons 1 and 2, created to maintain physical activity indoors and provide nutrition awareness for 1st through 5th grade students. The Formative Evaluation Survey is intended to acquire your expert opinion of this curriculum project, which was prepared for my Master’s of Science Degree in Family and Consumer Sciences, Nutrition Dietetics from California State University, Northridge. Your feedback is important for the success and collaboration of this project. Please answer the questions on this survey completely and honestly. Additional comments, criticism, and recommendations are also encouraged.
Formative Evaluation Survey

Part 1: General Information

Please mark or fill in the appropriate response.

1. Please indicate your appropriate age range:
   - □ <20 yrs
   - □ 20-29 yrs
   - □ 30-39 yrs
   - □ 40-49 yrs
   - □ 50-59 yrs
   - □ 60-69 yrs
   - □ >70 yrs

2. Please indicate your gender:
   - □ Male
   - □ Female

3. Please indicate your ethnicity:
   - □ White, Non Hispanic
   - □ Black, Non Hispanic
   - □ Hispanic/Latino
   - □ Asian/Pacific Islander
   - □ American Indian
   - □ Other: ______________________

4. Which most appropriate describes your area(s) of expertise:
   - □ Education
   - □ Physical Activity
   - □ Curriculum
   - □ Nutrition
   - □ Adolescents
   - □ Health
   - □ Other: ______________________

5. Please indicate your highest level of education:
   - □ MA/MS
   - □ PhD
   - □ EdD
   - □ DrPH
   - □ Other: ______________________

6. Please indicate your current position of employment:
   - □ Junior High School Teacher
   - □ High School Teacher
   - □ University/College Professor
   - □ Public Health Advocate
   - □ Other: ______________________

7. Do you have any experience working with 1st – 5th grade students?
   - □ Yes
   - □ No
**Part II: Expert Review Form**

**EXPERT REVIEW FORM**

I, ______________________ have agreed to provide __________________________ with an expert review and evaluation of the modified CATCH: Go For Health Series lessons for grades 1\textsuperscript{st} through 5\textsuperscript{th}.

<table>
<thead>
<tr>
<th>Rate on a scale of 1-5:</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
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**Additional notes:**

______________________________________________________________________________
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______________________________________________________________________________
______________________________________________________________________________

Signature ___________________________ Date _________________________________
Formative Evaluation Survey

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1. **Please indicate your appropriate age range:**
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4. **Which most appropriate describes your area(s) of expertise:**
   - □ Education
   - □ Physical Activity
   - □ Curriculum
   - □ Nutrition
   - □ Adolescents
   - □ Health
   - □ Other:__Food Science__

5. **Please indicate your highest level of education:**
   - □ MA/MS
   - □ PhD
   - □ EdD
   - □ DrPH
   - □ Other:_MBA__________________

6. **Please indicate your current position of employment:**
   - □ Junior High School Teacher
   - □ High School Teacher
   - □ University/College Professor
   - □ Public Health Advocator
   - □ Other:_Food Service Director________

7. **Do you have any experience working with 1st – 5th grade students?**
   - □ Yes
   - □ No
EXPERT REVIEW FORM

Kenneth Wright have agreed to provide Candice Crump with an expert review and evaluation of the modified CATCH: Go For Health Series lessons for grades 1st through 5th.

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Additional notes:

Candice is a physically attractive presenter. I think that she has many attributes of the lessons. I enjoyed the lesson. I would use it in the future. It taught me things that I didn't know before. It made me more aware of the things that kids need to know.

Signature: [Signature] Date: 11 November 2019
Formative Evaluation Survey

Part 1: General Information

Please mark or fill in the appropriate response.

1. Please indicate your appropriate age range:
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   - □ Other:_Food Science__________

5. Please indicate your highest level of education:
   - □ MA/MS
   - □ PhD
   - □ EdD
   - □ DrPH
   - □ Other:_Bachelor of Science__________

6. Please indicate your current position of employment:
   - □ Junior High School Teacher
   - □ High School Teacher
   - □ University/College Professor
   - □ Public Health Advocator
   - □ Other:_Nutrition Education Manager

7. Do you have any experience working with 1st – 5th grade students?
   - □ Yes
   - □ No
EXPERT REVIEW FORM

I, Tamara Morrison have agreed to provide Candice Crump with an expert review and evaluation of the modified CATCH: Go For Health Series lessons for grades 1st through 5th.

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Additional notes:

These lessons are great. My only recommendation is to list about how long each lesson should take. Also, it is not clear if each activity for the grade levels will happen all on one day or over the course of a week, month, etc. When working with kids of any age, you want to be as clear and specific as possible with your directions. An example of this is to say, “We will all form a large circle and walk in a clockwise direction when directed,” rather than, “You’ll walk around the room in a big circle.”

Signature: Tamara Morrison  Date: November 9, 2014
Formative Evaluation Survey

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7. **Do you have any experience working with 1st – 5th grade students?**
   - [ ] Yes
   - [ ] No
EXPERT REVIEW FORM

I, __Sandy Castro____ have agreed to provide ____Candice Crump__ with an expert review and evaluation of the modified CATCH: Go For Health Series lessons for grades 1st through 5th.

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Additional notes:
It is not crucial to incorporate Learning objective #1 in the objectives. Need to include the Health Education Content Standard. Sources should state that this lesson was adapted from Catch. The length of the lesson was not clearly stated. It will be helpful to include a breakdown of the time for each section. Lesson was very entertaining and provided good examples. Depending on the time, the lesson will need to be modified. Provide more detail explanation why "Go" foods are healthy (Low in sugar and fat, nutrient dense).

Signature ___________________________ Date 11/11/14
Appendix D

Expert Panel Biographies

Kenneth Singleton: Ken has 12 years experience in food service, management, and nutrition education for the Monrovia Unified Schools District, Long Beach Unified School District, and Unites States Army. His previous work with the Network for a Healthy California included directing and managing nutrition education that included the school cafeterias and the classroom curriculums. He also was in charge of preparing and presenting nutrition related reports to the Board of Education and maintaining the Network’s budget. Ken provided leadership to a staff of 16 members including a Registered Dietitian. Currently, his job title as Director of Food Service includes his responsibilities for all major functions of Monrovia public school district food service operations. He has also implemented vegetarian options and salad bars into the district cafeterias, which were compliant under the Hunger Free Kids Act compliance.

Tamara Morrison: Tamara has over 6 years experience working for the Network for a Healthy California as Lead Nutrition Educator and a Nutrition Education Manager. Her presentations and training with the Network and their contractors included obesity prevention in California low-income schools and how to maximize the use of Harvest of the Month newsletters. Her duties as Nutrition Education Manager included the daily operations of nutrition education programming at 12 school sites within the Monrovia Unified School District (MUSD), collaboration with the Network team to evaluate the delivery of monthly nutrition education lessons for grades Pre Kindergarten through 8th. Tamara was also primary developer of nutrition education materials and resources such as lesson plans, newsletters, brochures, PowerPoint presentations, and promotional flyers. Additionally, she developed staff trainings for Nutrition Education Activities Assistants, food service employees, teachers and administrators.

Sandy Castro: Sandy has over 6 years experience in nutrition education and food service, along with 6 years experience in management. As a Lead Nutrition Educator for the Network for a Healthy California, her duties included researching and developing lesson plans for students and parents and engaging parents in taste testing for Monrovia and Baldwin Hills schools. Sandy also ordered the “Harvest of the Month” produce for schools and created Spanish nutrition education lessons.