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Campbell Elementary Afterschool Nutrition Science Club: Fun with Food

Natalie Strawhecker

University of Nebraska - Lincoln

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Campbell Elementary Afterschool Nutrition Science Club:
Fun with Food

An Undergraduate Honors Thesis
Submitted in Partial fulfillment of
University Honors Program Requirements
University of Nebraska-Lincoln

By
Natalie Strawhecker, Bachelor of Science
Nutrition Science
College of Education and Human Sciences

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Linda Young, MS, RD, LMNT
Department of Nutrition and Health Sciences

Abstract

Several schools in the Lincoln Public School district have programs afterschool from 3:30-5:00pm to provide a safe and fun place for students to play and learn while their parents are still at work. For this Honor's Thesis, an afterschool nutrition club was created for students to learn about MyPlate and healthy living.

At Campbell Elementary, there are two seven-week club sessions each semester. A seven-week curriculum was created with each week focusing on a different food group in MyPlate and healthy living as a whole. In order to track the students' progress, an eight question pre and post quiz was developed. A weekly journal was also maintained to note what worked well and what parts of the curriculum did not. After the first seven weeks, journal entries and the results from the quizzes were utilized to regenerate the curriculum and implement again with a new group of students in the second fall session.

In the first round of clubs, the students improved their knowledge in several MyPlate subjects, especially in regards to carbohydrates as an excellent energy source. However, this round of students had limited improvement in the question regarding gardening and they showed no improvement in the question about types of physical activity.

Prior to the second session, changes were made to the curriculum, and as a result, the second group of students showed an increase in knowledge of several topics, including gardening and physical activity, which the first round of students struggled with. However, the second round of students showed limited improvement in their knowledge of carbohydrates and no improvement in regards to the question about consuming a healthy breakfast.

Although no student in round one or two scored 100% on the quiz during the final week; the curriculum aimed to benefit the students in the future by introducing and expanding upon certain facts about MyPlate and healthy living that will impact them in the future as they begin to make choices about their diet and health.

Introduction

My first interaction with a Lincoln Public Schools afterschool program took place at Riley Elementary in the spring of 2016. Once a week, I helped students at Homework Club, an afterschool club for kindergarten through fifth grade students who needed extra assistance with their homework. When the kindergarten through second graders finished their homework, they were given crossword puzzles or word searches related to food or sports. However, I quickly began to notice that many of the students were asking me what certain vegetables were and what they looked like. After helping these students learn about fruits and vegetables with these worksheets, I knew that I wanted to create an afterschool nutrition club for students to learn more about MyPlate food categories and healthy living.

I approached Emily Koopmann, the director of afterschool clubs at Riley Elementary, and asked for permission to create my own afterschool club for kindergarten through second grade students. She helped me find an afterschool position at Campbell Elementary, and in the fall of 2017, I began implementing my curriculum.

I also approached Professor Linda Young, a professor in the College of Education and Human Sciences, and asked for her assistance with this project. She helped me create and structure a seven-week curriculum for an afterschool nutrition club for kindergarten through second grade students.

At Campbell Elementary, there are two seven-week club sessions each semester. Therefore, the first section of my thesis includes my original seven-week curriculum, a breakdown of the eight question pre and post quiz that I used to track the students' progress, and a journal entry following each lesson to note what worked well and what parts of the curriculum did not. At the end of the first seven weeks, I created pie charts to show the students' progress,

and used these results as well as my journal entries to regenerate my lesson plans in order to implement the curriculum again with a new group of students in the second fall session.

Following the results of the first round of clubs, I created a chart for each lesson to show how I changed the curriculum in the second round of clubs. After each chart is a journal entry to note how the new lessons were implemented and what improvements are needed in the future.

Finally, after the results of the second round of clubs, I included a final reflection comparing the two rounds of clubs.

**Campbell Elementary Afterschool Nutrition Science Club:
Fun with Food**

Lesson One: MyPlate Overview and Introduction to Fruit

Goals:

This lesson will focus on introducing students to MyPlate and the five food groups: fruit, vegetables, protein, grains, and dairy. The lesson will encourage students to eat foods from all five food groups, as well as participate in physical activity every day. The tail end of the session will introduce students to various types of fruit and teach students the importance of fruit in the diet and the correct number of servings.

Supplies:

Food dice, colored plates (red, yellow, blue, green, and orange), and black and white pictures of fruit

Learning Objectives:

By the end of this session, students will be able to identify the five food groups of MyPlate. Students will also be able to identify types of fruits, their health benefits, and the suggested serving size for kids ages 4-8.

Warm Up Activity/Energizer:

Public Schools of North Carolina's K-5 Energizer: Morning Routine

This activity will switch between 30 seconds of cardio and 30 seconds of stretching

1. Jumping Jacks-Arms across chest
2. High knees-reach for your toes
3. Arm circles-Reach for the sky
4. Hopping-ankle circles

Pre-quiz:

10 question quiz regarding the five food groups, MyPlate, and physical activity
(See Appendix B)

Lesson:

1. Introduction to MyPlate
 - a. Game
 - i. Rolling Dice-create six-sided dice using square Kleenex box. Place one MyPlate category picture on each side of the dice. Each picture has a corresponding activity.
 - Carrot (Vegetable)-Hop
 - Apple (Fruit)-Wiggle
 - Bread (Carbohydrate)-High knees
 - Chicken (protein)-Arm circles
 - Milk (Dairy)-Jumping jacks
 - Running (physical activity)-Run in place
2. Fruit lesson

- a. Types-introduce and show visual examples. (Allow students to touch and smell the fruits if they would like)
 - i. Blueberry, apple, orange, pineapple, strawberry, raspberry, watermelon, mango, banana, grapes, peach, pear, and kiwi
 - ii. Applesauce, fruit cups, dried fruit, and fruit juice
- b. Health benefits from fruit consumption
 - i. According to Bazzano and colleagues (2002), consuming fruits three times a day or more leads to a decreased risk of cardiovascular disease.
(Consuming fruits multiple times a day can help keep your heart healthy.)
 - ii. According to Mary Ann S Van Duyn and Elizabeth Pivonka (2000), fruit contains a large amount of fiber, which can help to regulate bowel movement and decrease risk of diverticulitis and maintain healthy intestines. It can also decrease the risk of high blood pressure and type 2 diabetes. **(Fruit contains fiber, which can help our intestines stay healthy.)**
 - iii. According to Padayatty and colleagues (2013), fruits contain a high amount of vitamin C, which is important in tissue regeneration. Vitamin C helps to heal wounds and maintain the immune system. **(Fruit also contains Vitamin C to help us get better when we are sick and heal wounds when we scrape our knee or get a cut.)**
- c. Servings suggestion
 - i. USDA MyPlate recommends 1-1.5 cups of fruit per day for ages 4-8
 - ii. Utilize the Dairy Council of California's Serving Size Chart to show students that one cup is equal to the size of one's fist.
- d. Game
 - i. Sorting fruit by color
 1. Set up five colored disks (one blue, red, green, yellow, and orange) and one bucket throughout the room
 2. Give each student a fruit picture in black and white
 3. Have the students approach the hoops one by one and place the food card in the correct color hoop. If they have a food that is not a fruit, have the student place this card in the bucket.

Worksheet (if time):

Team Nutrition's Worksheet: Banana's for Fruit

(See Appendix A)

- Includes eight black and white pictures and space for students to write the first letter of each fruit

Wrap Up/What did we learn today?

- Questions:
 - What MyPlate category of food did we learn about today?
 - One by one lift up a fruit and ask students to individually identify
 - What are the benefits of eating fruit?
 - Healthy heart to reduce risk of cardiovascular disease

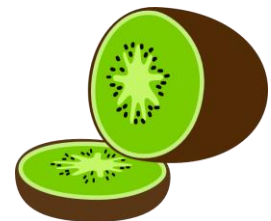
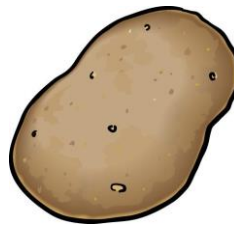
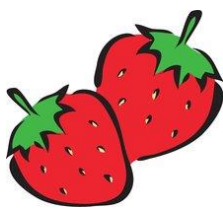
- Fruit contains fiber which keeps our intestines healthy
 - Fruit is high in Vitamin C, which helps to repair wounds and boost our immune system
- Encourage students to consume fruit multiple times a day, as well as try new types, such as those introduced today in club.

Journal One: September 13, 2017

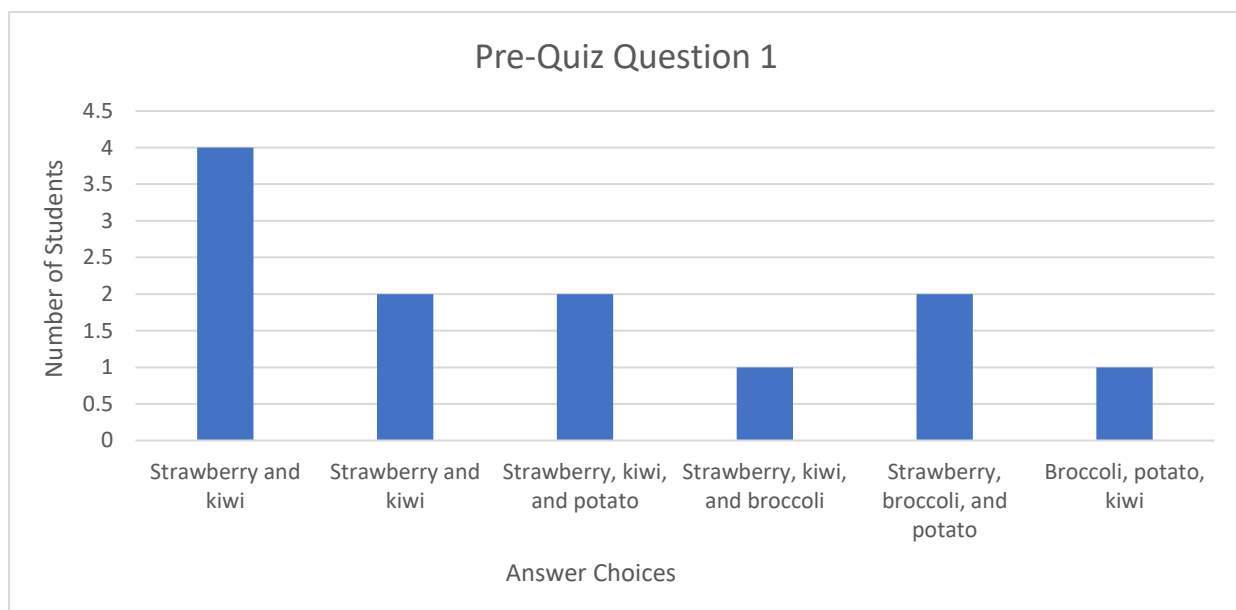
In the first seven-week session, I have twelve students in the Nutrition Science Club at Campbell Elementary. After eating a snack, the students and I went to a classroom. I introduced myself and we started the session with the warm up activity/energizer. The kids were very engaged and liked the ability to switch between cardio and stretches.

Next, I gave each student a pre-quiz and pencil. I read each question aloud, but some students were able to work ahead of me due to better reading skills. Below are the results of the pre-quiz by each question.

1. Circle the fruits

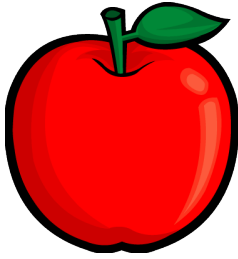


Correct Answer: Strawberry and kiwi-33% answered correctly



2. Which food helps give us strong bones?

A.



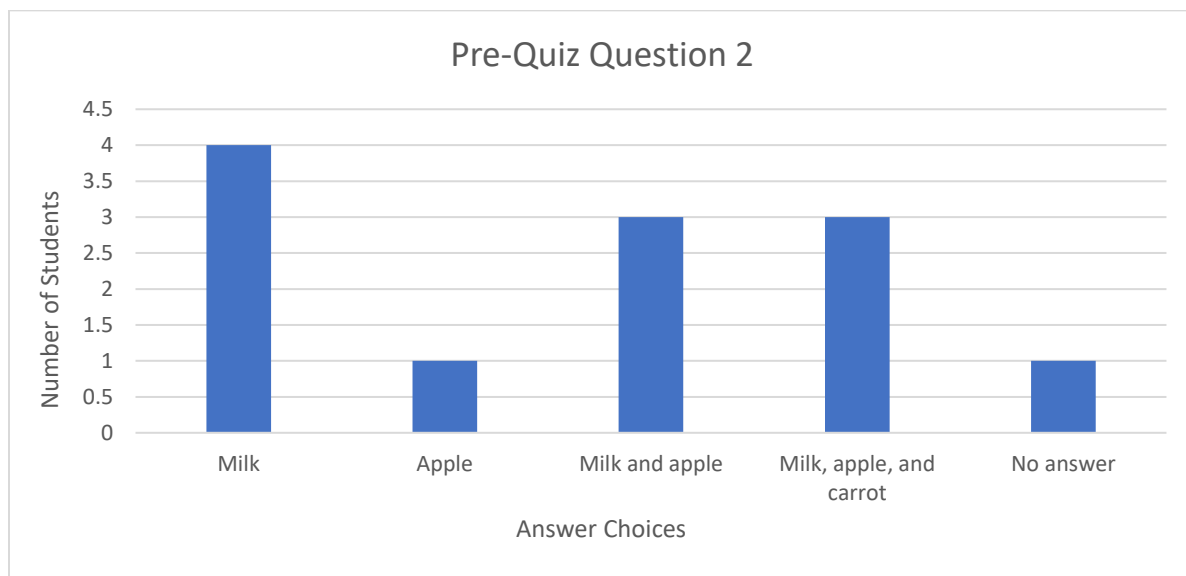
B.



C.



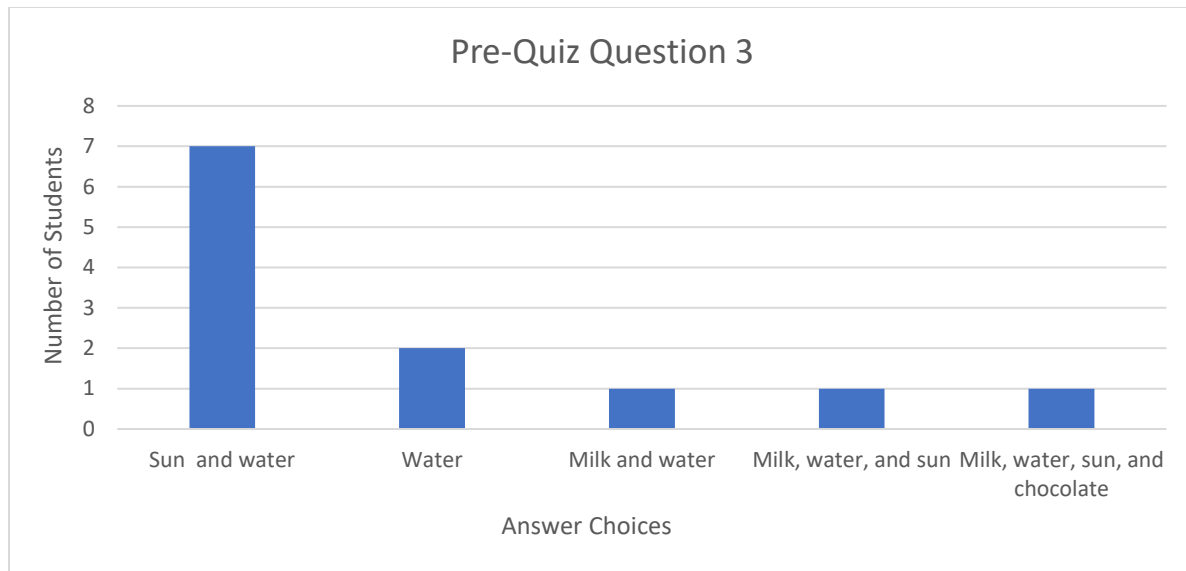
Correct answer: Milk-33% answered correctly



3. Circle the items that can help plants grow in a garden?

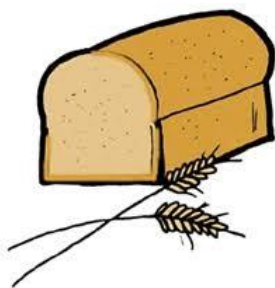


Correct Answer: Sun and water- 58% answered correctly

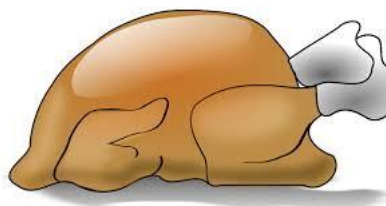


4. Which food helps us build strong muscles?

A.



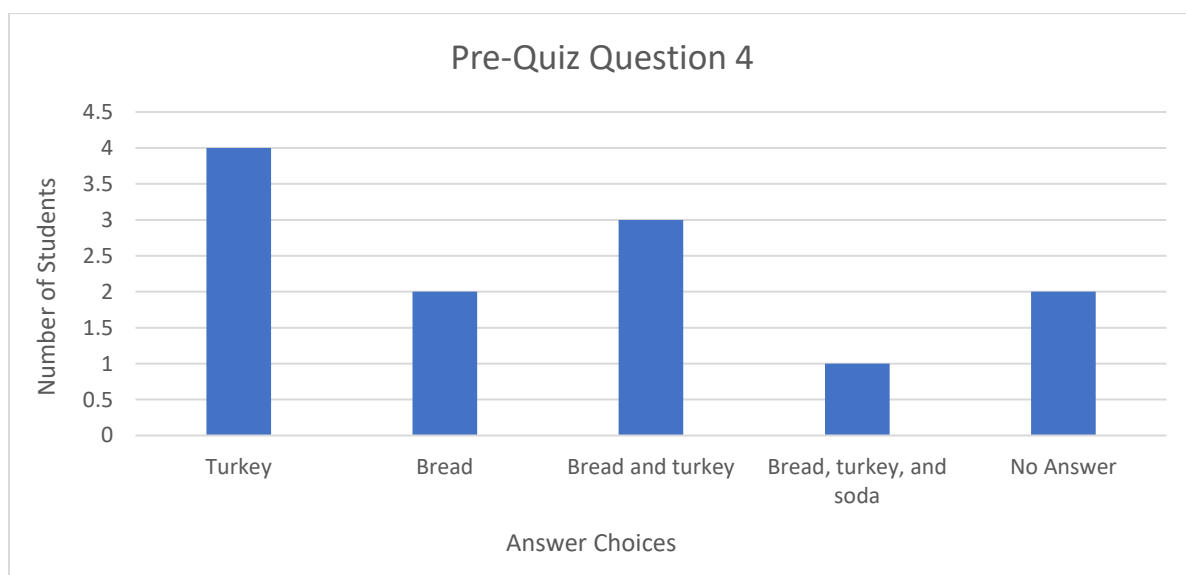
B.



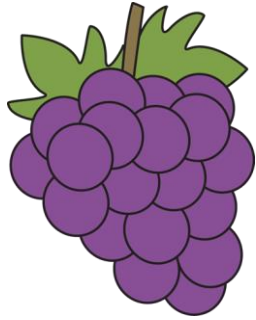
C.



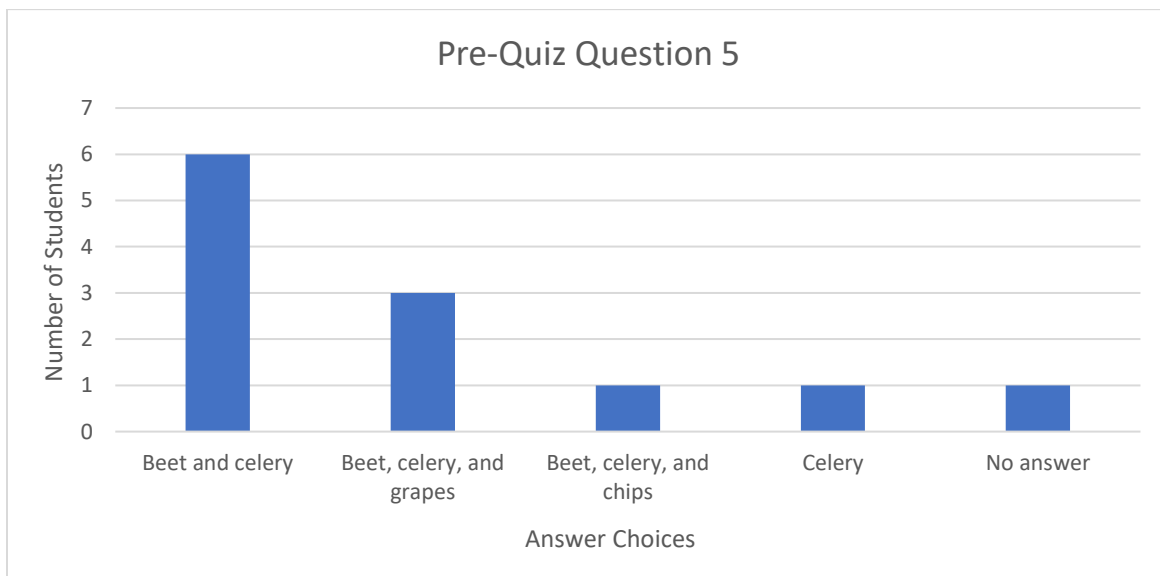
Correct Answer: Turkey- 33% answered correctly



5. Circle the vegetables



Correct answer: Beet and celery-50% answered correctly



6. What is the best way to start your day?

A.



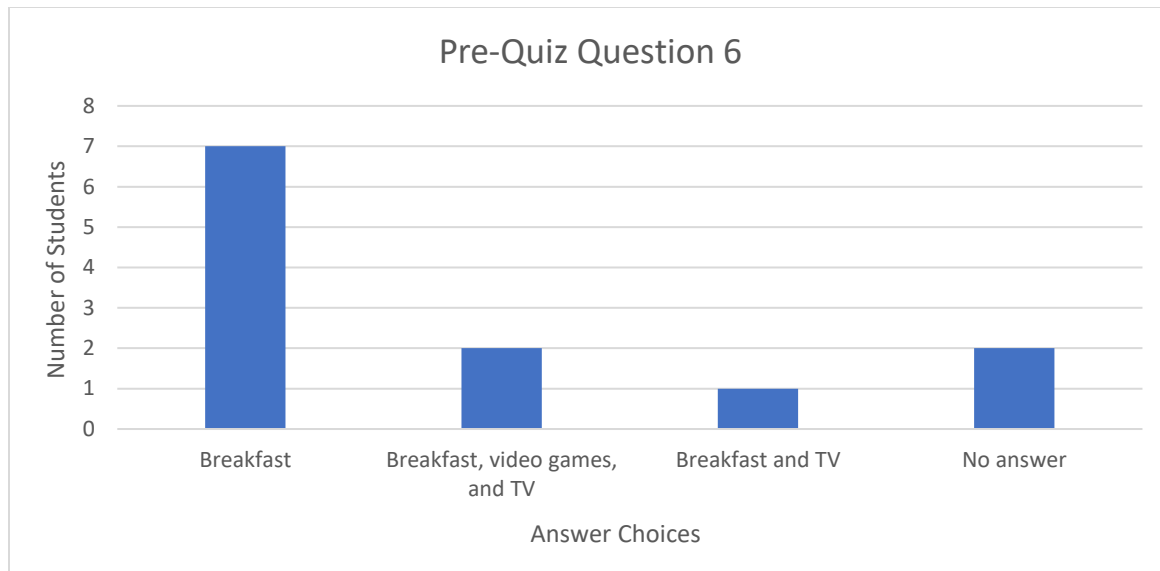
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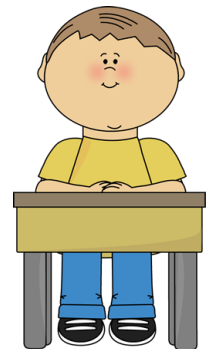
C.



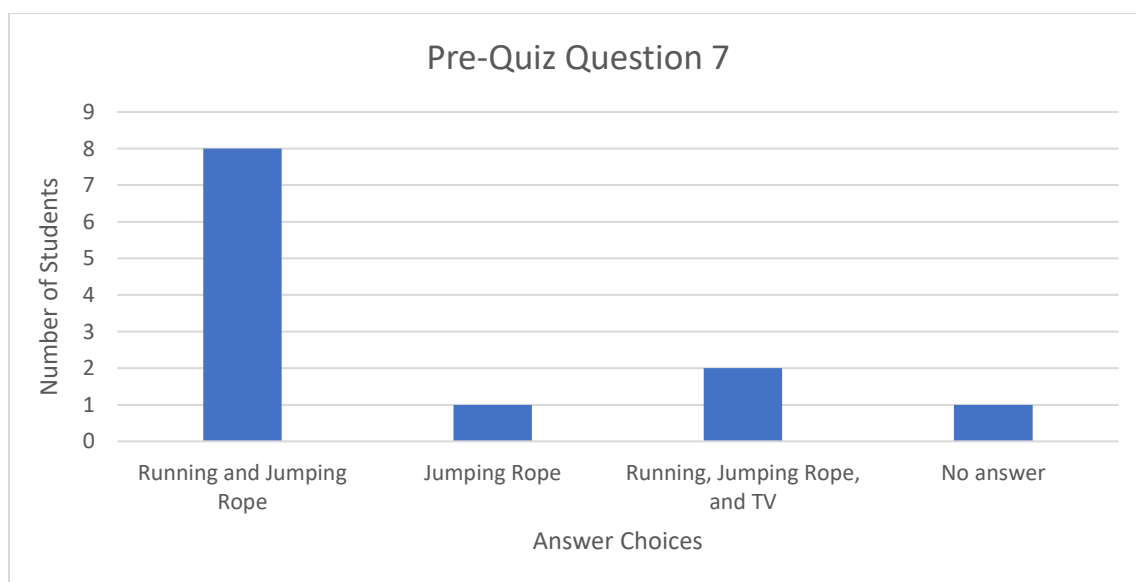
Correct answer: Eating breakfast-58% answered correctly



7. Circle the pictures where the kids are being active



Correct answer: Running and jumping rope-67% answered correctly

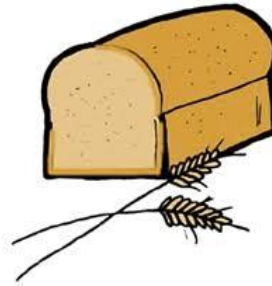


8. Which food gives energy and helps us feel full?

A.



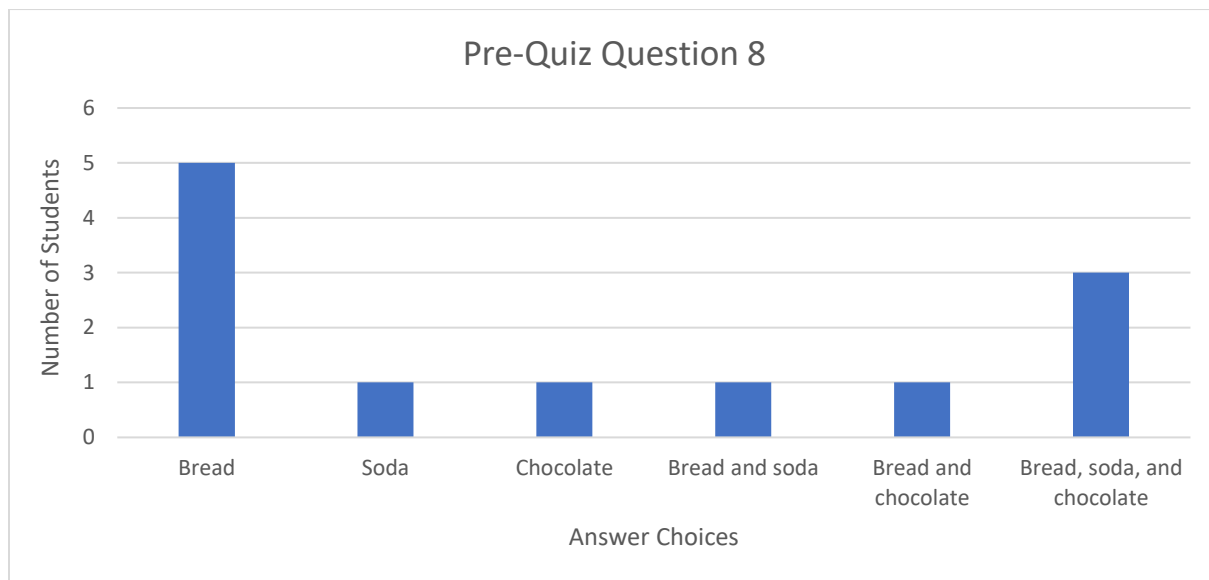
B.



C.



Correct answer: Bread-42% answered correctly



Following the pre-quiz, I placed a picture of the MyPlate diagram on the board and asked the students to raise their hands if they had seen the picture before. All twelve kids raised their hands and began shouting out MyPlate categories, such as grains and fruit. Next, we played a game using a dice that I created with pictures of MyPlate categories on each side. Each picture corresponded with a various physical activity. This game ran smoothly for a little bit, but by the time each student had a turn, the students were very squirmy and no longer interested in this activity.

Next, I had each student find a seat and I began to unpack various fruits mentioned in the lesson plan. Students recognized most, but there were a few, such as the kiwi and mango that

only a few students were able to identify. However, all together this particular activity did not go very well. The students were loud and restless, and they wanted to squish and throw the fruit, rather than observe and feel as I had originally planned. Therefore, I cut this portion of the lesson plan short because it became very overwhelming for me to control their behaviors.

Once I got the group under control again using Campbell Elementary's quiet down chant, I was able to teach the students about the importance of fruit and the number of servings. I kept this portion very short and to the point, as I could tell that the students had limited attention spans by this point.

In order to test the students' knowledge on what they learned, we played a sorting game with fruits and colors. This activity was received well, and the kids enjoyed sharing their fruit with the class and putting it in on the correct colored plate.

Finally, we did not have time for the worksheet but we were able to do a quick review of what the students learned today. I had the students raise their hands and tell me what they learned today. One student mentioned that fruits are sweet and contain important nutrients. Another student mentioned that fruits have little to no fat and contain vitamin C. Finally, a student mentioned that fruits come in various sizes, shapes, and colors.

In the end, I think the lesson went well, but I definitely need to make changes to the curriculum. For example, I need to include more interactive activities, and less time at a desk. The students have already spent several hours learning; therefore, I need to find new ways to teach the students the information without just lecturing. Over the next few weeks I will try a few different activities with the hopes that I can find a few that peak the students' interests and make learning about nutrition more fun.

Lesson Two: All About Vegetables

Goals:

This lesson will focus on vegetables and the importance of consuming the recommended number of servings per day. I will also focus on educating the students about growing their own vegetables in a garden, as well as the various places vegetables grow in our community.

Supplies:

Multiple MyPlate diagrams cut into categories, celery, food coloring, ketchup, penny, quarter, whiteboard markers, and vegetable magnets

Learning Objectives:

By the end of this session, students will be able to identify types of vegetables and where they are grown in the community. Students will also learn the health benefits of vegetable consumption and suggested serving size for children ages 4-8.

Warm Up Activity/Energizer:

Variation on Public Schools of North Carolina's K-5 Energizer: Pass it On-UNO Style

In this activity, each student will come up to the front and draw a piece of the MyPlate diagram out of a brown paper sack at random. Each MyPlate category will correspond with an action/exercise.

1. Red fruit slice: 10 jumping jacks
2. Blue dairy slice: 5 squats
3. Orange grains slice: Jog in place for 20 seconds
4. Purple protein slice: 5 burpees
5. Green vegetable slice: 10 bunny hops

Lesson

1. Vegetable Lesson
 - a. Types-introduce students to various types of vegetables using pictures.
 - i. broccoli, spinach, carrot, red pepper, radish, sweet potato, squash, corn, cauliflower, celery, and onion.
 - b. Health benefits of vegetable consumption
 - i. According to Mary Ann S Van Duyn and Elizabeth Pivonka (2000), vegetables also contain a large amount of fiber, which can help to regulate bowel movement and decrease risk of diverticulitis and maintain healthy intestines. **(Vegetables also contains fiber, which can help our intestines stay healthy.)**
 - ii. Yang and colleagues (2011) suggest that increased potassium intake, which can be found in many vegetables such as potatoes and spinach, can decrease risk of cardiovascular disease and lower blood pressure. **(Vegetables contain potassium, which helps keep our heart healthy.)**
 - iii. Joy Rickman, Christine Bruhn, and Diane Barrett (2007) state that vegetables, especially carrots, spinach, and tomatoes, are high in Vitamin A, which helps people fight infections and keep skin and eyes healthy.

(Vegetables contain Vitamin A which helps keep our eyes and skin healthy, as well as fight infections.)

- c. Serving suggestion
 - i. USDA MyPlate recommends 1.5 cups of vegetables per day for ages 4-8
 - ii. Utilize the Dairy Council of California's Serving Size Chart to show students that one cup is equal to the size of one's fist.
- 2. Vegetable Growing/Gardening Lesson
 - a. Above ground plants-broccoli, spinach, cauliflower, corn, red pepper, squash, and celery
Underground roots-carrot, radish, potato, and onions
 - b. Activity one
 - i. Celery and Food Coloring
 - 1. Place celery stalks in glasses with 8 ounces of water and several drops of food coloring. Let the class observe the change overtime. In about 20-30 minutes, the celery will begin to change color due to water absorption.
 - c. Game
 - i. Pin the Vegetable
 - 1. Using whiteboard markers, draw a farm field with corn stalks, small plants above ground, and roots.
 - 2. Allow students to take turns placing the vegetable magnets on the board according to where each vegetable grows.
 - d. Activity two
 - i. Ketchup and penny experiment
 - 1. Place dirty penny in plastic bag with ketchup and allow the students to observe the chemical reaction that causes the penny to become bright and shiny again. Repeat this experiment with quarter and note that it does not change its appearance.

Worksheet (if time)

Fruits and Veggies More Matters' Fruit and Veggies They're Everywhere Coloring Sheet
(See Appendix C)

- A blank picture with various types of fruits and vegetables for students to color

Wrap Up/What did we learn today?

- Questions:
 - What MyPlate category of food did we learn about today?
 - One by one lift up a vegetable and ask students to individually identify
 - What are the benefits of eating vegetables?
 - Vegetables contain fiber to keep our stomach and digestive systems healthy
 - Vegetables contain lots of vitamins, such as Vitamin A which helps us fight disease and keeps our skin and eyes healthy.
 - Where are vegetables grown?
- Encourage students to try the new vegetables discussed in club today, as well as talking with their parents about starting a small garden at home.

Journal Two: September 20, 2017

This week's lesson went much better than week one. I decided to include more activities for the students and decreased the amount of time spent sitting in a desk. I began the session by placing the MyPlate poster on the board again and asking students what category we learned about last week. I went on to explain that vegetables would be the focus this week. However, prior to starting the energizer, I began the setup of the celery and food coloring experiment in order to give the experiment enough time to occur. I think this sneak peak of the experiment was intriguing for the students and kept them interested in the lesson right away.

After placing the celery stalks in the blue and red water, I explained the energizer. I noticed that the kids struggled with the long energizer last week, especially since it involved a lot of movement immediately after they finished eating their afterschool snack. Therefore, I was able to adapt this week's energizer. Prior to club, I cut up of a MyPlate diagrams into each category and placed it in a paper bag. One by one I pulled out a section of the plate and the students performed an activity, such as jumping jacks or bunny hops. When doing this energizer again in the future, I will cut up multiple MyPlate diagrams in order to make the activity a little longer, as well as change some of the activities, such as replace burpees with pushups.

Next, we began the vegetable portion of the session. I quickly drew a few plants above ground with roots stemming underneath using whiteboard markers. Also, prior to club, I made vegetable magnets by cutting out pictures and placing them on hard cardstock with magnets. Therefore, as I introduced each vegetable magnet to the class, I placed it on the whiteboard in its correct growing location. After introducing the vegetables, I explained their health benefits and the recommended serving size.

After the vegetable lesson, I decided to do the penny experiment prior to the game. I introduced the experiment to the students by explaining that tomatoes are made into ketchup, a sauce that all of the students use quite often. Then, I explained that tomatoes contain acid which can have a reaction with tarnished pennies. I conducted this experiment two times with pennies and then once with a quarter. I was unsure about timing this week and simply conducted the experiment for students in two groups, but I think that it will be more exciting for the students if they can try it on their own.

After the activity, we returned to learning about vegetables, but this time focused on how they grow and where they are grown in the community. I asked the students what plants need to grow and as a group decided that plants need air, soil, water, sun, and space. To show where plants are grown, we played pin the vegetable on the board. Each student received one magnet, and he/she took turns placing it on the board either on the plant above ground or the roots below.

With about ten minutes left, I decided to grab the celery experiment and have each student observe the changes that occurred. The food coloring did not move up the entire stalk in 30 minutes, but I was able to flip the celery so that the students could see the portion of the stalk that had been sitting in the water. This end of the stalk was vibrant and full of food coloring. The students were also able to see that the dye moved about halfway through the stalk. The students were very impressed and really enjoyed examining the celery. I can improve this activity in the future by starting the experiment a few hours earlier in addition to doing it in club so that I can show students the changes that occur over long periods of time.

Finally, after cleaning up the experiment, I wrapped up the session by asking the students what they learned today. Students mentioned that vegetables have roots and need water just like humans. They also mentioned that vegetables can grow both above and below ground. Finally, I

asked how many students currently have access to a garden, either in their neighborhood or backyard, and eight students rose their hands. Therefore, I closed by encouraging all the students to visit a community garden or even start one in their own backyard.

Lesson Three: MyPlate and Protein

Goals:

The primary focus of this lesson is the protein category of MyPlate. I will introduce students to various types of protein, as well as teach serving sizes using hands as a reference for size. Finally, I will teach the students the benefits of protein and encourage them to consume different types throughout the day.

Supplies:

Food pictures, whiteboard markers, bingo cards, and bingo chips

Learning Objectives:

By the end of this session, students will be able to identify different forms of protein, as well as their health benefits and the various serving sizes for kids ages 4-8.

Warm Up Activity/Energizer:

Variation on Public Schools of North Carolina's K-5 Energizer Frozen Vocabulary

First, I will draw pictures of various fruits and vegetables on the board, as well as utilize the food pictures from week two and pin them on the whiteboard. Students will be given a physical activity, such as jogging in place, and they will continue this activity until I say the name of a fruit or vegetable on the board, in which they will freeze in place. Below is a list of activities the student will perform prior to freezing. I will go through this list twice before starting the lesson.

1. Running in place
2. Bunny hops
3. Jumping jacks
4. High knees
5. Squats
6. I'm a star
7. Playing air guitar

Lesson:

1. Protein lesson
 - a. Types-introduce students to various types of protein and show pictures to help students visualize.
 - i. Ask students to raise their hands if they have eaten a certain form of protein
 - ii. Chicken, beef, turkey, seafood, eggs, nuts, and beans
 - b. Health benefits from protein consumption
 - i. Importance of Protein
 1. According to Koopman, Saris, Wagenmakers, and Van Loon (2012), protein intake stimulates muscle protein synthesis, thus leading to muscle growth. **(Protein intake can help us build strong muscles.)**
 - ii. Protein and bone growth
 1. According to Bonjour, Ammann, Chevalley, and Rizzoli (2001), protein intake also leads to bone growth, and inadequate protein

intake can increase the risk of bone fractures or developing osteoporosis (**Eating protein can also help us build strong bones.**)

iii. Beans

1. According to Mark Messina (1999), beans are high in protein and one serving of beans, half of a cup cooked, contains about 7 grams of protein or about 25% of the recommended daily amount for children ages 6-8. Beans are also high in soluble and insoluble fibers and keep the digestive tract functioning properly. (**Beans are a great source of protein and can help us build muscle and keep our digestive tract working properly.**)

iv. Eggs

1. According to Elizabeth Applegate (2000), eggs are an energy dense food that are low in calories but full of nutrients. Eggs are one of few foods with significant amounts of vitamin D and K, as well as high amounts of protein, folate, and riboflavin. (**Eggs are an excellent source of protein and contain a large number of beneficial vitamins and nutrients.**)

v. Seafood

1. According to He and colleagues (2004), consuming fish once a week or more leads to a decreased risk of heart disease. (**Eating fish is a great source of protein and can help keep our heart healthy.**)

vi. Protein and Iron

1. According to Sally Grantham-McGregor and Cornelius Ani (2001), there is a correlation between iron-deficiency and poor cognitive and motor skills in children. Parents can prevent this deficiency with protein intake because several forms of meat are high in iron. (**Many forms of protein are high in iron, a nutrient key to childhood development.**)

vii. Protein and satiety

1. Paddon-Jones and colleagues (2008) suggest that protein intake can lead to satiety in addition to carbohydrates, and thus increasing protein intake can lead to weight loss. (**Eating foods high in protein can also help keep us full. For example, eating eggs with breakfast will keep us fuller than a donut.**)

c. Serving suggestion

- i. USDA MyPlate recommends 4 ounces of protein per day for children ages 4-8
- ii. Utilize the Dairy Council of California's Serving Size Chart to show students that the palm of one's hand is equivalent to three ounces of chicken, beef, fish or pork, and one's thumb is about the size of a tablespoon or the suggested serving size of peanut butter.

d. Game

- i. Grocery store bingo

1. Each student will receive a bingo card and chips. The bingo card is five by five squares and each square contains a fruit, vegetable, or protein. I will randomly pull foods out a hat and students will mark down items on their card using chips. When a student has a bingo, he/she will raise his/her hand and read aloud the foods in the bingo row. We will play this game a few times to allow multiple students the chance to participate and win.
2. See Appendix E for bingo card example

Worksheet (if time)

Team Nutrition's Worksheet: Protein Foods Sorting
(See Appendix D)

- This black and white activity sheet contains ten food tiles of various categories, and students must color and cut out the foods that are protein and paste them in the shopping cart.

Wrap Up/What did we learn today?

- Questions:
 - What MyPlate category of food did we learn about today?
 - Show pictures and ask students to individually identify
 - What are the benefits of eating protein?
 - Protein helps us build muscle and gain strong bones.
 - Beans are a great source of protein and help our digestive system work properly.
 - Eggs contain a lot of important vitamins and nutrients.
 - Seafood can help keep our hearts healthy as well as provide protein.
 - Meats also high in iron, a nutrient important in childhood development.
 - When a meal contains protein, it keeps us fuller longer.
- Encourage students to consume protein multiple times a day, as well as try new types, such as those introduced today in club.

Journal Three: September 28, 2017

I had to change my initial plan for the day after interacting with the students at snack time before club. The students were very irritable and could not sit still. I decided to spend ten minutes outside on the playground before heading to the classroom for the lesson. The students were very appreciative and they all ran outside shouting recess. After being in class since lunch, this little break with physical activity was a great way for the students to release some excess energy.

After “recess” we returned to the classroom to begin the lesson for the day. I tried to start with the energizer I had planned, but the kids did not really enjoy it. Many students simply asked to remain in their seats as they did not want to participate. I think it was too difficult to understand the concept of the game. I was hoping the students would move until they heard the name of a vegetable called aloud, but when I began to call other fruits and food, they stopped as well. I plan to simplify this energizer next time to ensure it is more effective for the students by only calling out the names of the food on the board rather than throwing in others that are not pictured.

Next, we began the protein lesson. I introduced the students to the various forms of protein using pictures and then explained the recommended serving sizes and health benefits. There were a lot of smiles and hands when eggs and chicken were mentioned, but then sour faces were made by many when seafood was mentioned.

After the lesson, we played bingo as a group. I created a variety of bingo cards with fruit, vegetables, and various types of protein. I had each student pair up and work as a team to get a bingo. The students really enjoyed this game, and ironically the same pair won three times in a row, even after switching cards.

To wrap up the session, I reviewed the health benefits of protein with the students, stressing that protein helps with muscle growth. I encouraged the students to eat various forms of protein throughout the day, especially at breakfast.

Lesson Four: MyPlate and Grains

Goals:

The primary focus on this lesson is the grains category of MyPlate. I will introduce students to various types of grains, as well as teach serving sizes using hands as a reference. Finally, I will teach students the benefits of eating grains and encourage them to consume various types throughout the day.

Supplies:

Brown paper back, various fruits, vegetables, grains, and pictures of protein

Learning Objectives:

By the end of this session, students will be able to identify different forms of grains, as well as the health benefits of grain consumption and the recommended serving size for kids ages 4-8.

Warm Up Activity/Energizer:

Variation on Public Schools of North Carolina's K-5 Energizer As If

I will read a statement aloud to the student and they must perform/act out the actions for 20 seconds.

- Jog in place as if a big scary monster is chasing after you
- Walk as if you are walking through a big bowl of sticky Jell-O
- Jump in place as if you are popcorn popping
- Reach up as if are grabbing a jar of peanut butter from a high shelf
- March in place as if you are member of a marching band
- Dance as if you are on a dancing show on television
- Swim as if you are in a giant pool of chocolate pudding
- Move your feet as if you are ice skating
- Shake your body as if you are wet dog

Lesson:

1. Grains lesson
 - a. Types-introduce students to various types
 - i. Bagel, bread, cereal, oatmeal, tortillas, pasta noodles, and rice
 - ii. Encourage students to consume whole grains
 - b. Health benefits of grain consumption
 - i. Schroder, Gallaher, Arndt, and Marquart (2009) state that consuming whole grains is beneficial to the human diet because it delays gastric emptying, slows glycemic response, and reduces the onset of hunger. Thus, the fiber found in whole grains can increase energy and keep us feeling full longer. (**Whole grains contain fiber which helps give us energy.**)
 - ii. Ye, Chacko, Chou, Kugizaki, and Liu (2012) suggest that those who consume grains, particularly whole grains, have a decreased risk of cardiovascular disease and type 2 diabetes. They suggest that the fiber found in whole grains contributes to the inverse relationship. (**Eating**

whole grains can help reduce the risk of major illnesses, such as heart disease and diabetes, in the future.)

- c. Serving Suggestion
 - i. USDA MyPlate recommends 5 ounces of grains per day for children ages 4-8. 2.5 of the five ounces should be whole grains.
 - ii. Utilize the Dairy Council of California's Serving Size Chart to show students that the size of one's fist is equivalent to one cup, or the suggested serving of cereal. A handful is equivalent to ½ cup or the suggested serving size of noodles, rice, and oatmeal.
- d. Game
 - i. A variation on red light/green light
 - 1. We will go outside for this activity or use the gym if there is bad weather. The students will line up in a straight line and I will stand at the other end of the court. As I call out various types of grains, students may take steps forward. However, if I mention a different type of food, such as a fruit or protein, the students must stop moving. If students move when they should not, such as moving when the word potato is called, students must take three steps backwards. The student who reaches me first is the winner.
- e. Additional activity
 - i. Reach in the bag and feel
 - 1. This activity will incorporate foods from the previous three lectures. I will place one fruit, vegetable, picture of protein, or grain in a bag and pass it around to students. Each student will place their hand in the bag and feel the food without looking. Then, he/she will pass it to the next student. After all students have felt the food in the bag, I will ask for volunteers to guess. I will repeat the activity as time allows.

Wrap Up/What did we learn today?

- Questions:
 - What MyPlate category of food did we learn about today?
 - Show examples and ask students to individually identify
 - What are the benefits of eating grains?
 - Grains contain fiber and help give us energy
 - Eating whole grains can reduce the risk of future illness, such as heart disease
- Encourage students to consume grains, especially whole grains, multiple times a day, as well as try new types, such as those introduced today in club.

Journal Four: October 3, 2017

Once again, the kids were very energized when eating their snack after school; therefore, I decided to let them take a break with a short recess before the lesson. After about ten minutes outside, we headed inside and started with the As If energizer. The students really enjoyed this energizer, especially the actions that included foods, such as Jell-O and chocolate pudding.

After the energizer, I introduced the students to the various forms of grain using picture magnets. I also explained the health benefits and serving sizes. However, this did not take as long as I thought, so I decided to give the students the coloring handouts from the past three weeks that we did not have time for. Students enjoyed this activity and it was a nice quiet activity that tested the students' knowledge from the past few weeks.

With about ten minutes remaining, we headed back outside to play my variation of red light and green light. I explained the rules to the students, such that they could only move toward the finish line if I mentioned a grain, such as bread or oatmeal. If I mentioned a fruit, vegetable, or protein the students were told not to move, and if they did move incorrectly they had to take one step back. The students really enjoyed this game and I eventually let the student that won the round help me call out foods.

I did not end up utilizing the reach in the bag and feel activity, but I plan to incorporate it the future. I also had a request by a few students to include another experiment, so I will try to find more interactive experiments for the next few weeks.

Lesson Five: MyPlate and Dairy

Goals:

The primary goal of this lesson is to teach students about the dairy section of MyPlate. I will introduce students to various types of dairy, as well as teach serving sizes using the students' hands as a reference point. Finally, I will teach students about the health benefits of dairy, and encourage them to consume various types throughout the day.

Supplies:

Food pictures, milk, paper plate, food coloring, q-tip, and dish soap

Learning Objectives:

By the end of this lesson, students will be able to identify different forms of dairy, as well as their health benefits and the various serving sizes for kids ages 4-8.

Warm Up Activity/Energizer:

Variation on Public Schools of North Carolina's K-5 Energizer Over, Under, Around, and Through

Students will stand in front of their desks and perform the activity described.

- Over a puddle of sticky peanut butter
- Under an apple tree
- Around a field of corn
- Through a sea of milk
- Over a puddle of honey
- Under a coconut tree
- Around a field of tomatoes
- Through a sea of applesauce
- Over a puddle of Jell-O
- Under an orange tree
- Around a patch of broccoli
- Through a sea of apple juice

Lesson

1. Dairy Lesson

- a. Types-introduce students to various types of dairy and show pictures to help students visualize
 - i. Ask students to raise their hands if they have eaten a certain dairy food presented
 - ii. Milk, yogurt, and cheese
- b. Health benefits of dairy consumption
 - i. Greer, Krebs, and the Committee on Nutrition (2006) state that calcium intake is a crucial step in the growth process of children. Dairy products contain calcium which is an essential nutrient in the development of bone mass. **(Consuming dairy products can help us build strong bones.)**
 - ii. Wagner, Greer, and the Section on Breastfeeding and Committee on Nutrition (2008) state that Vitamin D is a crucial vitamin in the

development of bones in children. It is essential children receive adequate amounts of vitamin D in order to prevent the development of rickets.

(Vitamin D is an essential vitamin found in many forms of dairy that allows us to build strong bones.)

- c. Serving suggestion
 - i. USDA MyPlate recommends 2.5 cups of dairy for children ages 4-8
 - ii. Utilize the Dairy Council of California's Serving Size Chart to show students that one's fist is equivalent to a cup, such as a cup of yogurt or milk.
- d. Milk experiment
 - i. Reaction between dish soap and milk
 - 1. I will place a shallow rim of milk on a plate and place drops of food coloring in the middle. Then using a q-tip dipped in dish soap I will gently touch the ring of colors.
- e. Game
 - i. Relay Boards
 - 1. The white board will be divided into three sections and I will divide the students into three groups. Each section of the board will have a series of pictures from the five categories of MyPlate: fruits, vegetables, protein, grain, and dairy.
 - 2. I will call out a food category or a certain health benefit of a type of food and students must go to their corresponding board section and select the food that fits this category. **(THIS IS NOT A RACE AND I WILL WAIT UNTIL EACH TEAM MEMBER SELECTS THE CORRECT FOOD!)**

Worksheet (if time)

MyPlate Word Search

(See Appendix F)

- A word search with the names of foods we have discussed in club created online through a word search generator.

Wrap Up/What did we learn today?

- Questions:
 - What MyPlate category of food did we learn about today?
 - Show pictures and ask students to individually identify
 - What are the benefits of eating dairy?
 - Dairy products have vitamin D and calcium to help us build strong bones
- Encourage students to consume dairy multiple times a day.

Journal Five: October 10, 2017

Today club began with a short recess outside. The kids were so excited to let off some excess energy outside by playing tag and climbing on the monkey bars. Due to the nice weather, I decided to have the club outside today. This worked well for the experiment as well due to its messy nature. After recess, I gathered the students and we went through the energizer. The kids enjoyed this energizer much better than last week because it was all related to fun foods.

After the warm up, I began the lesson by asking the students to give me examples of dairy. Immediately hands rose and students started shouting milk, cheese, yogurt, and ice cream. One student even mentioned that he has a special milk each morning that has extra protein. Next, I explained the importance of dairy in bone growth. I encouraged the students to have different types of dairy throughout the day.

Following the lesson, I engaged the students by setting up the experiment. It was a very simple experiment, but the kids were so intrigued, that I ended up doing the experiment five times. Each time, I would simply pour a small amount of milk in a bowl and drop various drops of food coloring in the middle. Then, I dipped a q-tip in dish soap and touched the q-tip to the surface of the milk. This instantly created a reaction that allowed the food coloring to dart in various directions. The kids were so excited and asked me to keep repeating it with different colors. One student even said that this was the best part of his day and he was going to go home and try the experiment again.

I ran out of time and was not able to complete the board race activity, but after getting to know my students over the past four weeks, I do not think this activity is appropriate for this age group after school. Any opportunity to run in the classroom is not safe and the kids would get out of hand quickly. I am going to change this activity and simply make a collage of food pictures on

the board and have the students grab a certain food type one by one. For example, I would ask a student to grab a grain they would eat at lunch or a fruit they eat at a picnic in the summer. I feel like this sort of activity will be better for the students to learn, while also not creating extra chaos in the classroom. Finally, as we ended club, I reminded the students to consume lots of dairy each day in order to help their bones grow.

Lesson Six: Breakfast and Healthy Snacks

Goals:

The primary focus of this lesson is eating breakfast and encouraging students to eat healthy snacks throughout the day. I will introduce students to several different healthy breakfast and snack options, as well as allow the students to be creative and invent their own food combinations. I will stress the importance of consuming three MyPlate food groups at breakfast and two groups when eating a snack.

Supplies:

Food picture magnets and white board markers

Learning Objectives:

By the end of this session, students will be able to create various breakfasts with three MyPlate food groups, as well as healthy snacks with two food groups.

Warm Up Activity/Energizer:

Five Corners

This is an adaptation to the game Four Corners, a game I played in grade school when recess was in the classroom.

One student will be the leader and stand in the middle of the room with his/her eyes closed. The four corners in the room as well as a space in front of the chalkboard will be denoted as the five corners. Each corner will be labelled with a different MyPlate category. Students will have fifteen seconds to choose a corner. After time is up, the student in the middle will call out one corner and all students that are standing in this corner must sit down. The game continues until there is one student remaining. I will repeat this activity two or three times depending on time.

Lesson:

1. The importance of eating breakfast
 - a. According to Rampersaud and colleagues (2005), breakfast consumption is essential for children in order to ensure whole-diet nutrient adequacy. Those who skip breakfast are less likely to engage in physical activity and consume the correct nutrients throughout the rest of the day, thus leading to an increased risk of obesity. Children who consumed a balanced breakfast with multiple food groups are likely to have better overall diet quality, as well as positive cognitive benefits, such as memory, academic success, and mood. **(Breakfast is the most important meal of the day because it helps our brain function and can improve academic performance and memory. Breakfast should contain three or more different food groups and be consumed every morning.)**
 - b. Various examples of healthy breakfasts
 - i. Slice of bread, one egg, fruit
 - ii. Cereal, milk, and fruit
 - iii. Bowl of oatmeal, peanut butter, and fruit
 - iv. Slice of bread, glass of milk, and fruit
 - v. Eggs, bacon, and potatoes
2. Healthy Snacks

- a. According to Julie Hess and Joanne Slavin (2014), snacks contribute to about 37% of children's (ages 2-11) daily energy intake; however, these snacks only provide 15-30% of beneficial nutrients. Therefore, children are snacking, but consuming foods high in sugar and low in essential nutrients. (**Snacks with high nutrient foods are important meals throughout the day to provide us with energy.**)
 - b. Encourage students to use two MyPlate food groups
 - c. Various examples
 - i. Celery and peanut butter
 - ii. Milk and piece of fruit
 - iii. Carrots and hummus
 - iv. Yogurt and fruit
 - v. Slice of bread with peanut butter
 - vi. Applesauce and carrots
3. Game
- a. Teamwork Meals
 - i. Students will be divided into groups of three and given various food pictures. Students must work together to create a healthy breakfast using three cards or a healthy snack with two cards. The goal is to be creative but also realistic because there are so many ways to combine different categories of food.

Activity (if time)

Classroom MyPlate Crossword

(See Appendix G)

- I will create a crossword puzzle through an online generator with questions about each food group of MyPlate as well as breakfast and snacks.

Wrap Up/What did we learn today?

- Questions
 - What is the most important meal of the day?
 - How many food categories should we eat at breakfast?
 - What is an example of a healthy breakfast?
 - How many food categories should we eat in a snack?
 - What is an example of a healthy snack?
- Encourage students to go home and make a new snack or breakfast they invented today.

Journal Six: October 17, 2017

We started club with a ten-minute recess outside. It was a great way for the students to let off some energy, as well as play with kids from other grades. After recess, we headed inside and played five corners, an adaptation to four corners, a game I played a lot when I was a kid. The students had fun with it, although they were focusing more on moving and winning the game rather than the food categories, but they had fun and it was a way to remind them of the five food groups on MyPlate.

Next, I began the lesson by asking each student what they eat for breakfast. I got a wide variety of answers, such as eggs and toast, pancakes, waffles, milk and cereal, and granola bar. I. They all agreed with me that breakfast is the best way to start the day and I encouraged them to eat three food groups at each breakfast, such as a slice of toast, milk, and fruit.

I also encouraged the students to eat healthy snacks with two or more food groups. Each day after school, they are given a snack that usually contains two food groups, but some days are more nutritious than others. For example, this week the students were given a banana, yogurt, and fruit juice; however, last week they ate cheese crackers and fruit juice. I gave them a few examples of my favorite snacks and encouraged them to try to always have two food groups.

Finally, rather than work on teamwork meals, I decided to do the MyPlate crossword as a large group. I read each box and asked students to raise their hand if they knew the answer. They enjoyed this activity, and I plan to use it again in the future. I also hope to use the teamwork meals next time I present this lesson. I think this would be a great team bonding exercise. I simply ran out of time today when trying to teach the students about the breakfasts and snacks. The students were very talkative today, especially about what breakfast and snacks they like to eat, so in the future I will keep better track of time so that I have more time for teamwork meals.

Lesson Seven: Physical Activity and MyPlate Review

Goals:

The goal of this session is to encourage the students to participate in physical activity for sixty minutes each day. I will introduce student to various levels of physical activity as well as the health benefits. Finally, we will review the curriculum and take the same quiz as week one with the hope that students will score better than their previous attempt.

Supplies:

Bouncy ball, basketball ball, soccer ball, jump rope, yoga mat, hula hoops, and food pictures

Learning Objectives:

By the end of this session, students will be able to list various forms of physical activity and the health benefits of participating in these activities daily.

Warm Up Activity/Energizer

For the final week, we will go outside or utilize the gym to do a dynamic warm up as seen with various athletic teams.

First, the students and I will jog two laps. Then we will complete a series of exercises down and back on the basketball court: high knees, butt kicks, lunges, bunny hops, and karaoke. Then we will stretch our arms and legs with various stretches, such as butterfly and arms across the chest.

Lesson

1. Physical Activity

a. Examples

- i. Low impact-walking, yoga, and biking
- ii. Moderate-jogging, dancing, and climbing
- iii. Vigorous-running and sport practices

b. Health Benefits

- i. Strong and colleagues (2005) suggest that children and adolescents should participate in sixty minutes of moderate to vigorous exercise each day. Physical activity plays a role in cardiovascular health, adiposity, and blood pressure, as well as assisting in physical growth and behavioral development. **(Kids should participate in physical activity for sixty minutes each day in order to assist their physical growth and behavioral development.)**

c. MyPlate recommendation

- i. Sixty minutes of physical activity each day
- ii. Sixty minutes of vigorous activity three of the seven days

d. Game

i. MyPlate obstacle course

1. I will set up a series of hula hoops throughout the gym, each one corresponding to a certain food group. One by one, I will give each student a food picture and he/she will have to perform a type of physical activity on the way to the hula hoop.

2. Post Quiz

- a. Students will take the same quiz as week one to see if their knowledge of nutrition and MyPlate has improved over the seven-week course.
 - b. See Appendix H
3. Feedback
 - a. I will have each student share their favorite club activity and what they did not like about the lessons in order to revise the curriculum and make the program better for the next group.

Activity (if time)

Free time

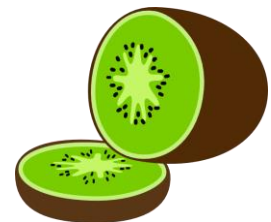
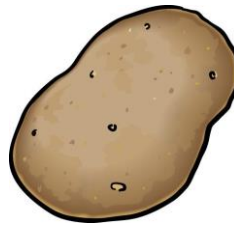
- Students will be allowed to play outside for the remaining club time

Journal Seven: October 25, 2017

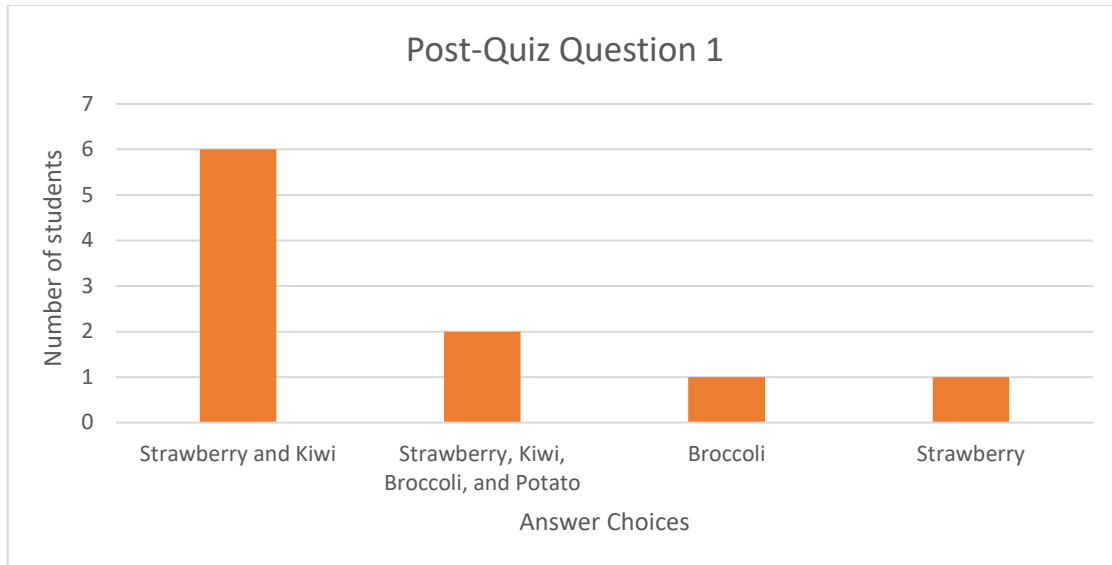
Today is the final session of the first round of clubs. We began with a short ten-minute recess outside to help release some of the extra energy. I decided not to do my original energizer because the kids were playing tag and already very warmed up; instead, we played two rounds of red light green light again using food groups.

After recess, we headed inside and I quickly shared with the student the importance of physical activity, as well as the benefits. After a short discussion, I decided to have the students take the post-quiz prior to our activity due to a large number of students leaving early the past few weeks. I wanted to ensure that everyone was able to take the quiz. Unfortunately, two students were absent, so I had ten responses today compared to the twelve originally. I have broken down the results of each question and afterwards I will denote the change from week one to week seven in my first session evaluation.

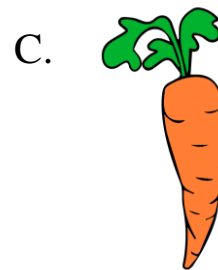
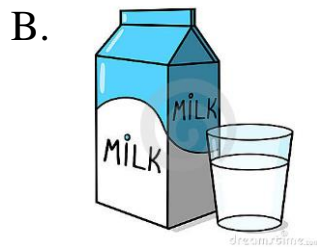
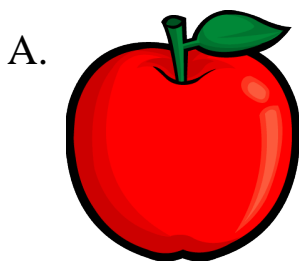
1. Circle the fruits



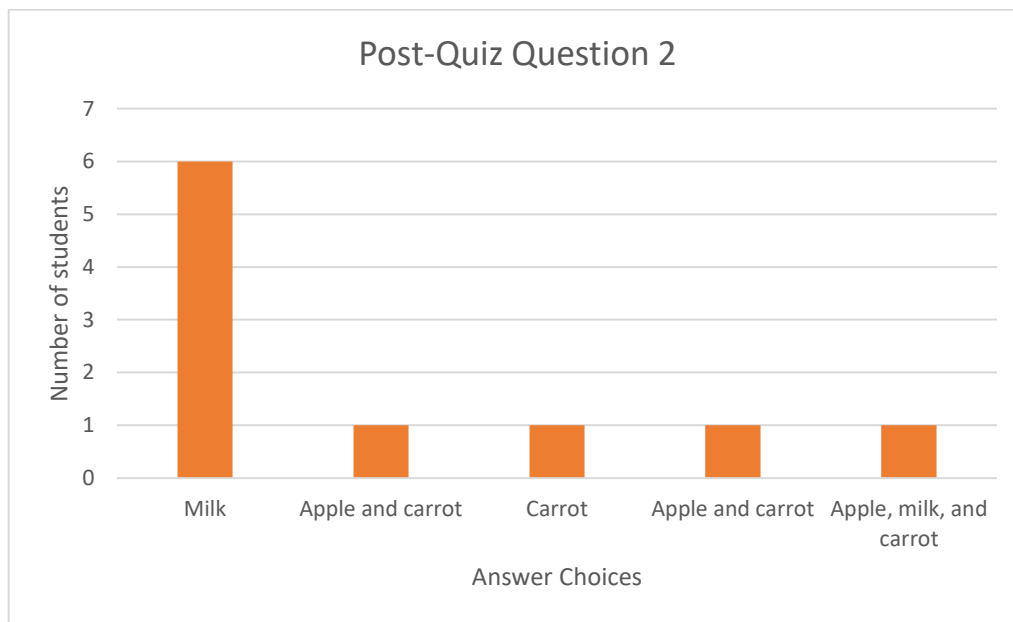
Correct Answer: Strawberry and kiwi-60% answered correctly



2. Which food helps give us strong bones?



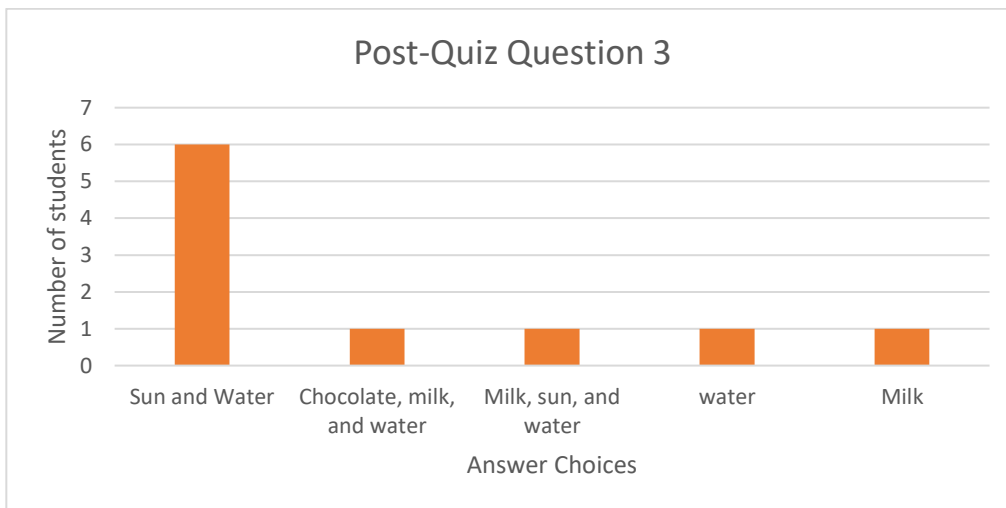
Correct answer: Milk-60% answered correctly



3. Circle the items that can help plants grow in a garden?

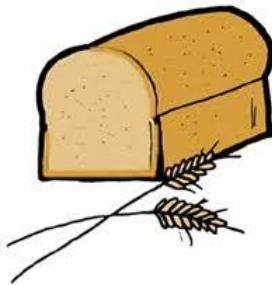


Correct Answer: Sun and water- 60% answered correctly

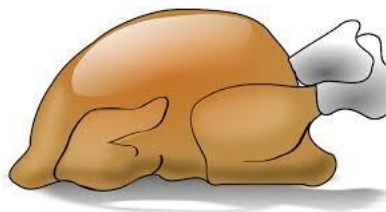


4. Which food helps us build strong muscles?

A.



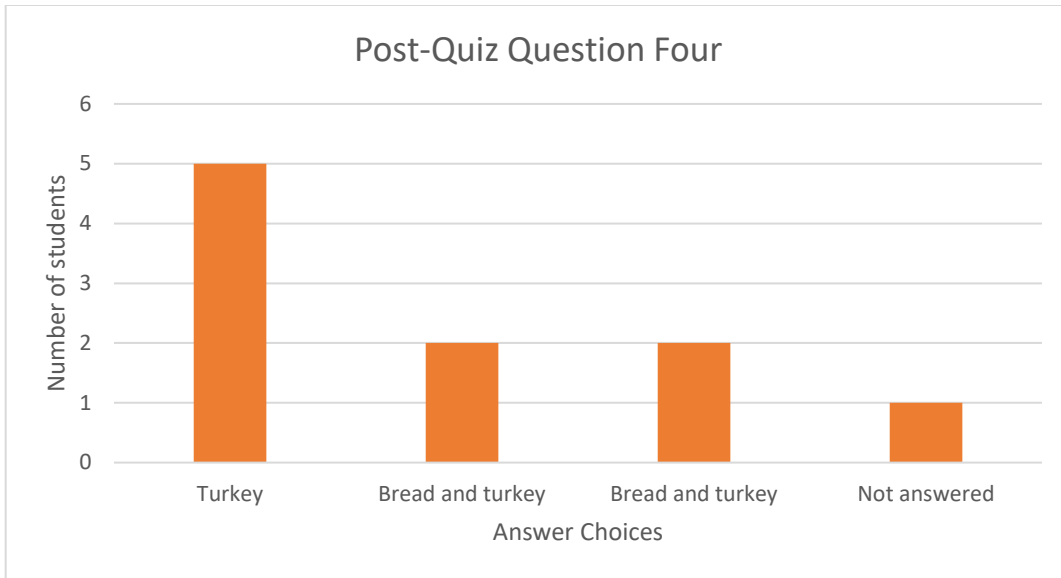
B.



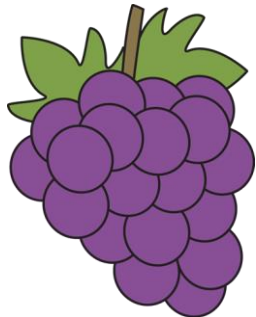
C.



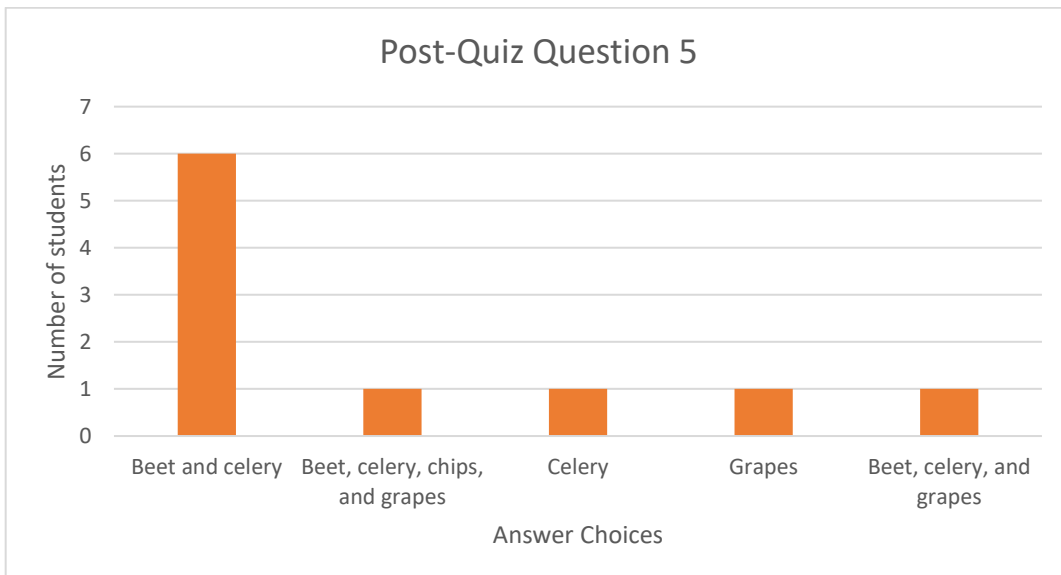
Correct Answer: Turkey- 50% answered correctly



5. Circle the vegetables



Correct answer: Beet and celery-60% answered correctly



6. What is the best way to start your day?

A.



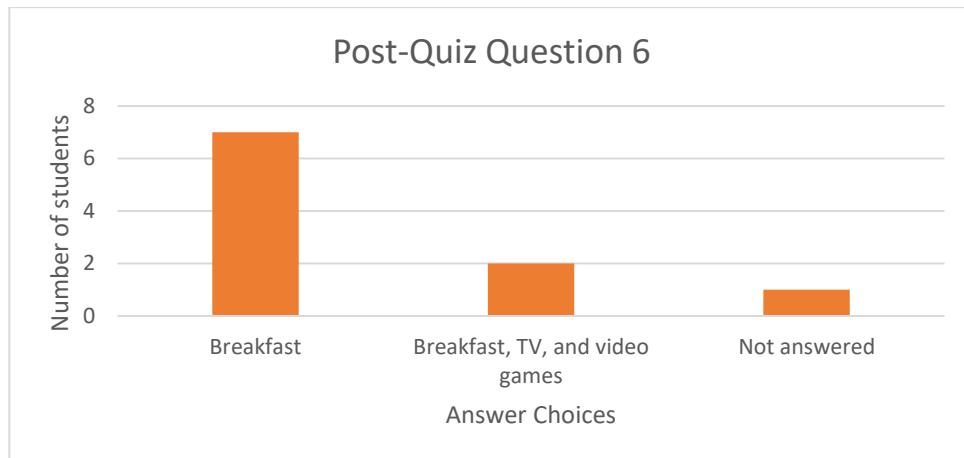
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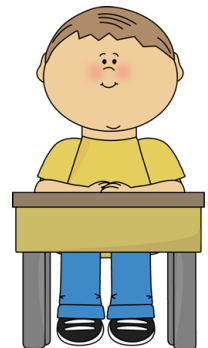
C.



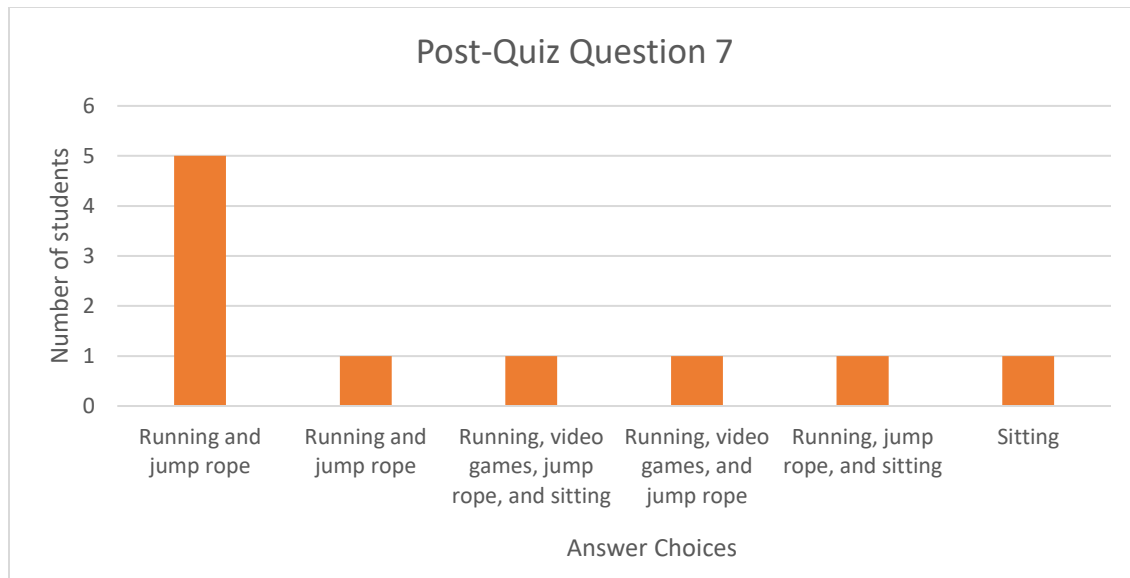
Correct answer: Eating breakfast-70% answered correctly



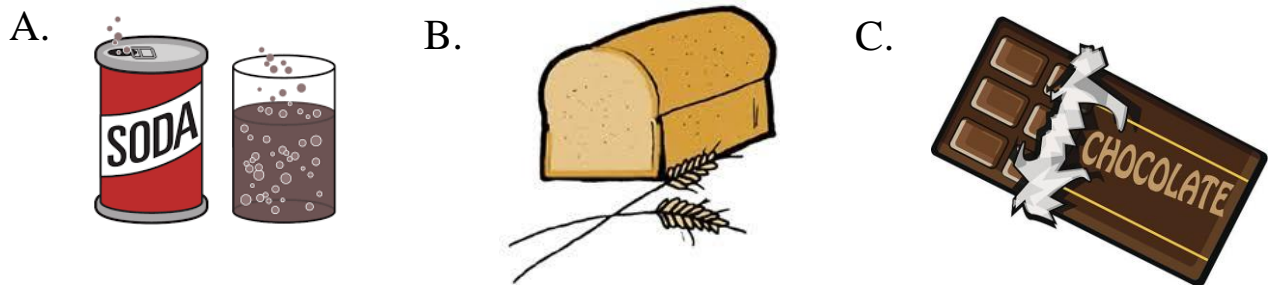
7. Circle the pictures where the kids are being active



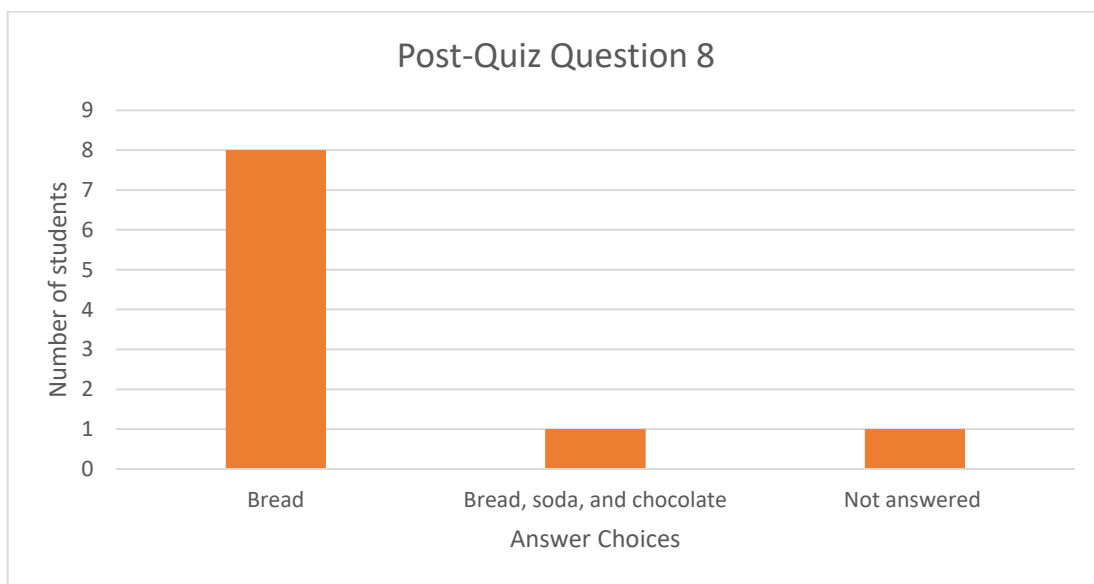
Correct answer: Running and jumping rope-50% answered correctly



8. Which food gives energy and helps us feel full?



Correct answer: Bread-80% answered correctly



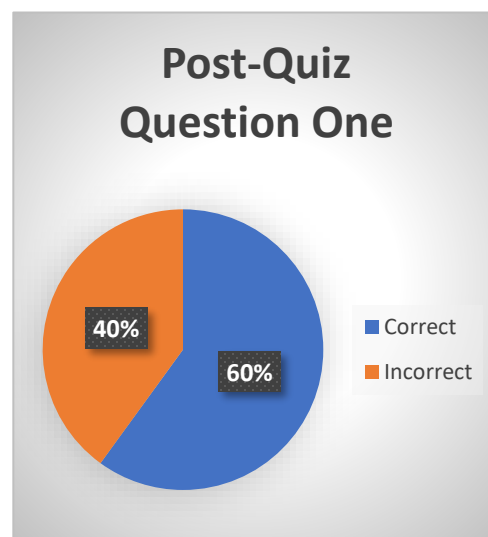
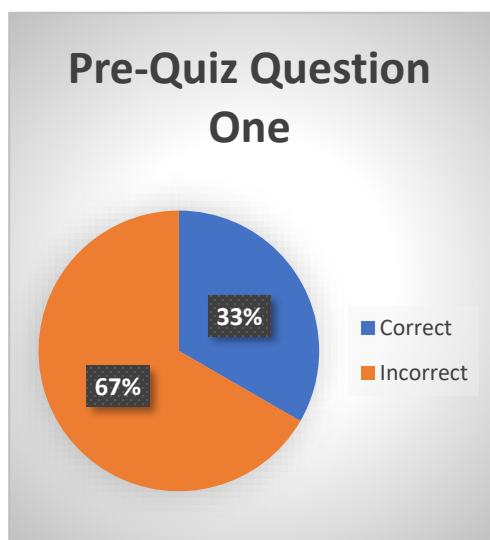
Following the quiz, I asked students their favorite and least favorite part of club over the past seven weeks. Immediately, hands were raised and all of the students mentioned the fun experiments, such as the tie-dye dairy experiment or the celery experiment. One student also mentioned that he liked the coloring sheets that we did. On the other hand, a few students mentioned that they found the lessons a little boring and wished we would have spent more time outside or doing experiments. I appreciate the feedback from the students, and I will definitely work on trying to make the next round as engaging and fun as possible.

Finally, due to limited sports equipment, I was not able to set up the obstacle course, so the students played outside on the playground for the last ten minutes of club time. It was really nice to see students in different grades playing together and forming new friendships over the course of seven weeks. I am looking forward to the next club session and my new students, and I hope that this group of twelve students is able to take away a few important nutrition facts that will help them make healthy choices in the future.

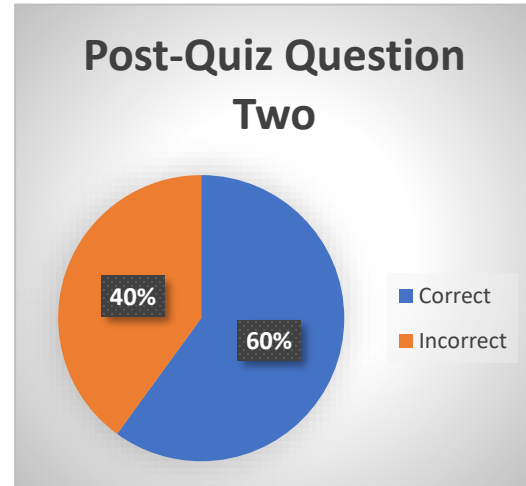
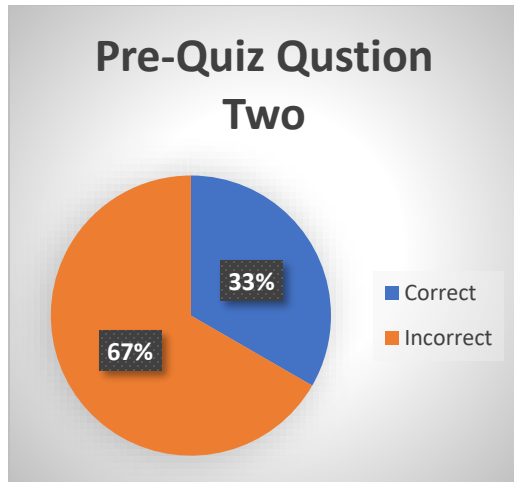
Round One Reflection

The first round of the Campbell Elementary After School Nutrition Club: Fun with Food was a great experience for me, and I hope that the students are able to use their new knowledge about nutrition and healthy living at school and home. Over the course of seven weeks, I taught twelve kindergarten through second grade students about the importance of MyPlate food categories and healthy living. At our first club session, I had the students take an eight-question quiz, and then each week we focused on a different MyPlate food category or health lesson. Each topic was included on the pre-quiz and then the same exact quiz was given to the students at the last club session. The first week, twelve students took the exam, but then in the last week only ten students were present due to illness; therefore, my results may look a little skewed due to the two students who were absent. However, I am still able to use the data from the quizzes to see what information I need to teach better in the second round of clubs. I also can reflect on what worked well for the students and what did not in order to make the second round of clubs even better for the students.

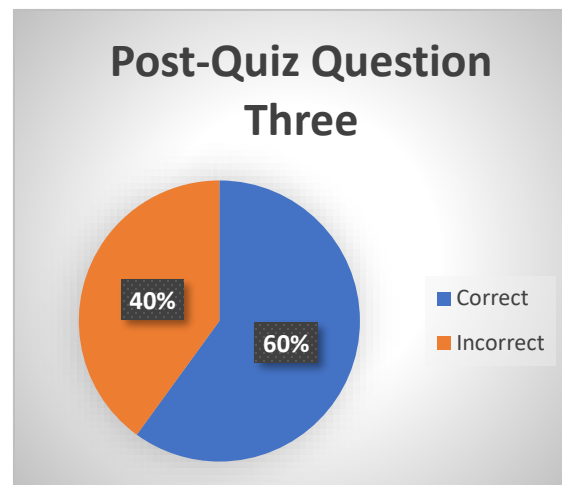
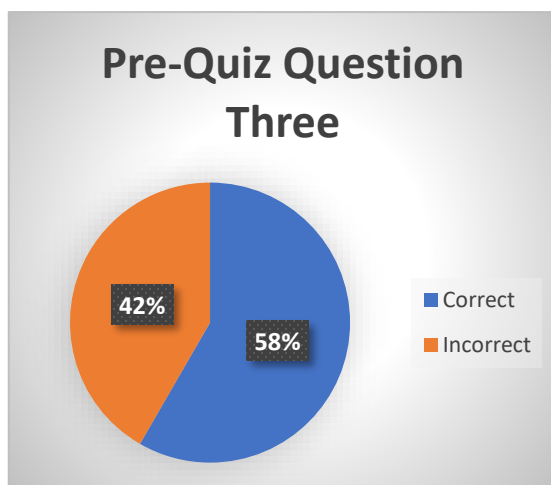
The first question tested the students' knowledge of fruits. The number of students who answered the answer correctly nearly doubled, so I am confident that the fruit lesson was a great start to the club and continuing to use fruit in the other weeks helped their retention of the material.



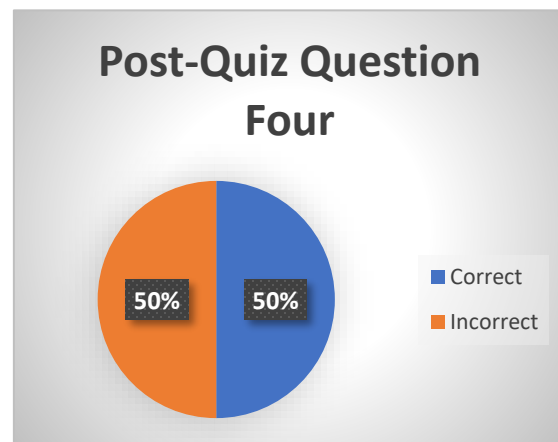
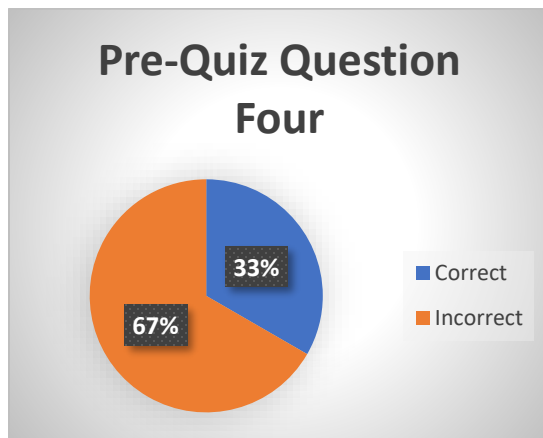
Question two was a reference to week five and the dairy lesson. The results of this question also nearly doubled and I am glad to see that students can identify the importance of calcium. I could promote the importance of dairy even more in the next session by highlighting foods high in calcium that can be eaten at each meal, such as milk, yogurt, and cottage cheese.



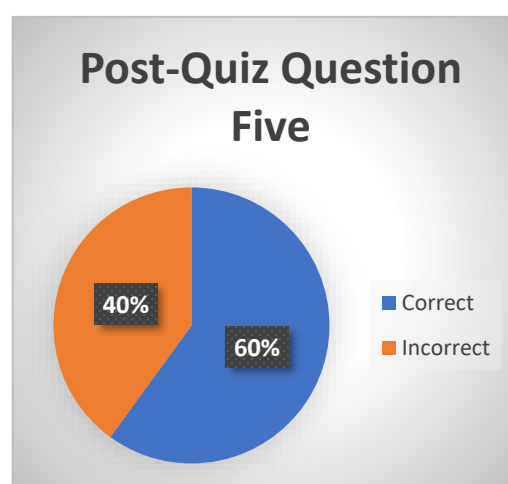
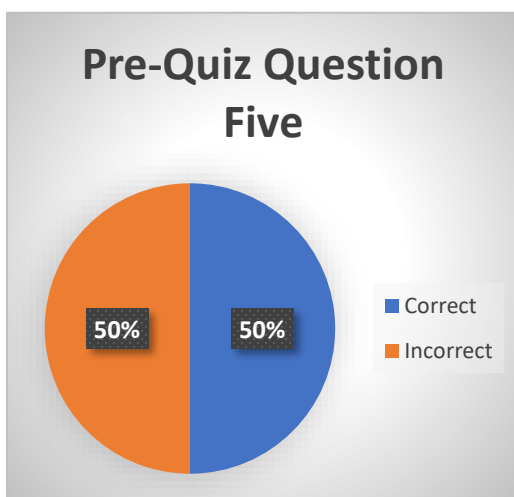
Question three asked the students to circle the items that can help plants grow in a garden. The results of this question did not increase very much, which suggests that I did not do a good job of teaching this portion of the lesson. There is a gardening after school club already present, but I would like to include a group activity to help the students with this lesson. Therefore, I am considering planting a small vegetable during the second round of clubs so that the students can watch the plant grow, as well as what it needs to survive.



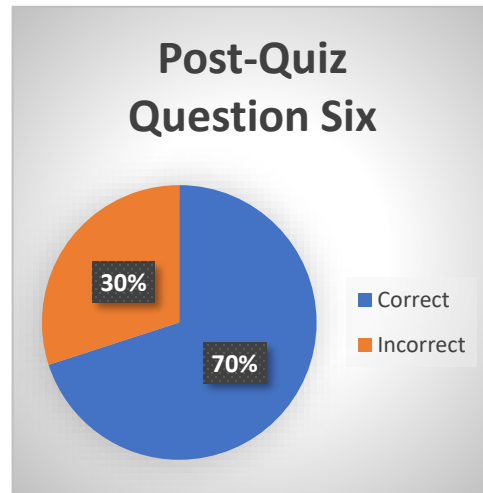
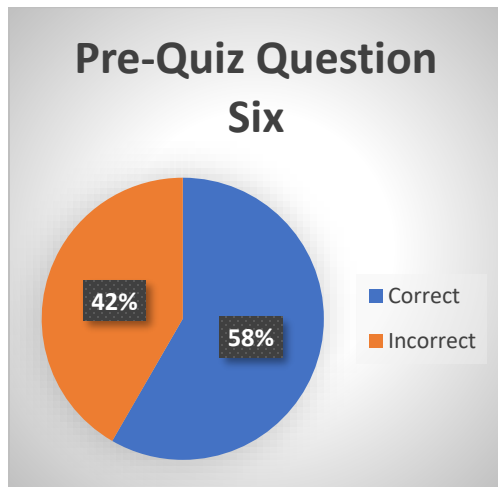
The fourth question refers to the curriculum from week three and asks students to identify the food that helps one build strong muscles. Although the number of correct answers increased, I would still love to see improvement with this concept. Therefore, when teaching the protein lesson, I will be sure to stress the importance between protein consumption and muscles with some sort of activity to help this idea stick with the students.



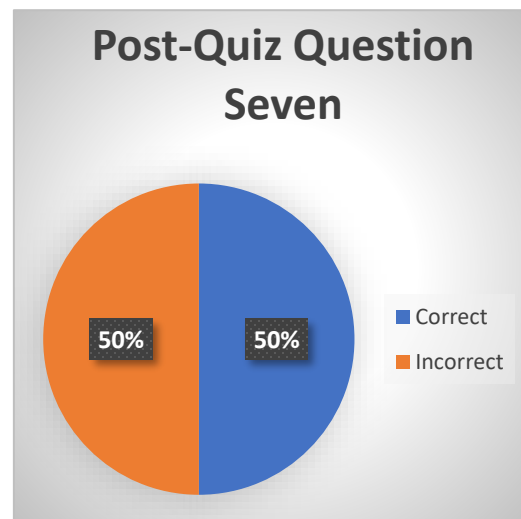
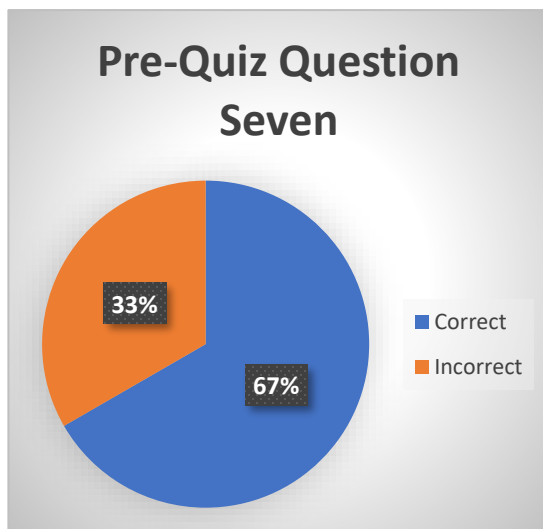
The fifth question asks students about the curriculum from week two by asking the students to identify the vegetables. The results of this question did not increase as much as I would have hoped. I picked one well known vegetable, celery, but then the beet was more challenging. When teaching the vegetable lesson, I will make sure to spend more time with less known vegetables, such as beets, sweet potato, squash, and cauliflower. The two food experiments in week two were very engaging, and I plan to use them again in the second round of clubs.



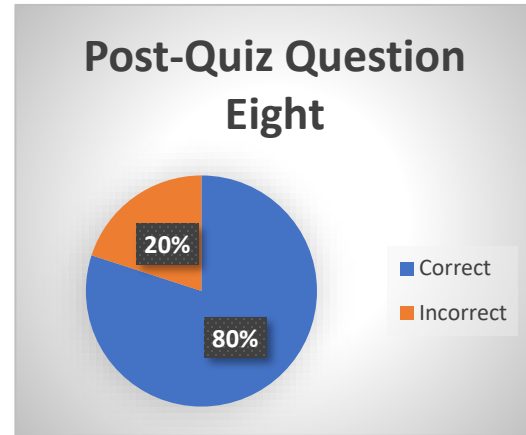
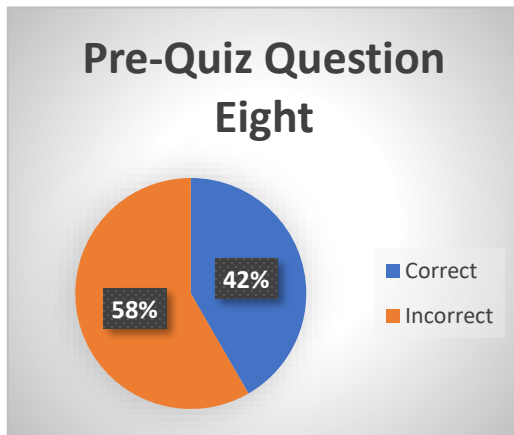
Question six asked the students about the best way to start the day. Although the results show an increase in the correct answer, I believe that I can do a better job of teaching this lesson by watching the clock and making sure we have enough time to do teamwork meals, an activity I created to help the students put together three food groups at breakfast.



Question seven was the only question in the quiz that did not show an increase in the correct answer. I believe this decrease is due to my teaching of the physical activity lesson. I spent a lot of time outdoors with the kids and did not have a true lesson in the classroom; therefore, the students did not grasp the true meaning of physical activity and which activities are considered active and which are not.



Finally, question eight showed the most improvement among students. I am happy to see that the students learned the importance of carbohydrates and which types of food give us the best forms of energy. The students really enjoyed my variation of red light green light, and I hope to create one more activity to help the students learn about grains, especially the health benefits of whole grains.



Overall, the first session of club was a learning curve. I am not an Education major, so I was not familiar with the best methods to grab the students' attentions or quite them down in a uniform manner. As the weeks went on, I got better at leading the activities and teaching the lessons, but it was not an easy task. Teaching the kids after school was much more difficult than I had initially thought. They have already been in school for an entire day, and the last thing they want to do is sit down and learn more information. Therefore, after my experience with lesson one, I had to learn how to adapt my lesson plans to keep the students engaged, while also teaching the information I wanted. Some activities worked great, while others did not keep the students engaged for very long. Therefore, I plan to use my experiences during these first seven weeks to create engaging lesson plans for the second round of my afterschool club. Next week I will have a new group of students, and I hope that I am able to better their knowledge of nutrition and healthy activities in order to help them make healthy decisions in the future.

Second Round: Campbell Elementary After School Nutrition Club: Fun with Food

Comparison Between Round One and Round Two

Lesson One: MyPlate Overview and Introduction to Fruit

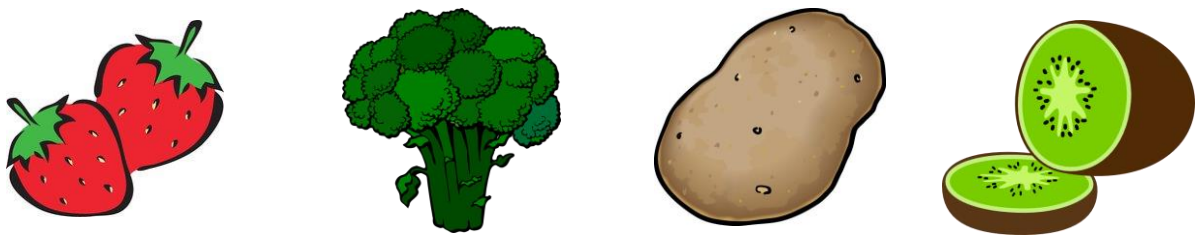
Remained the same	Energizer: Morning Routine Introduction to MyPlate via Rolling Dice game Game: Sort fruits by color
Removed for Round Two	Bringing physical fruits for the students to touch and feel during the fruit lesson
Additions to Round Two	Creation of fruit magnets for visualization of fruits Inclusion of Team Nutrition's Worksheet: Banana's for Fruit in the lesson

Journal One: November 1, 2017

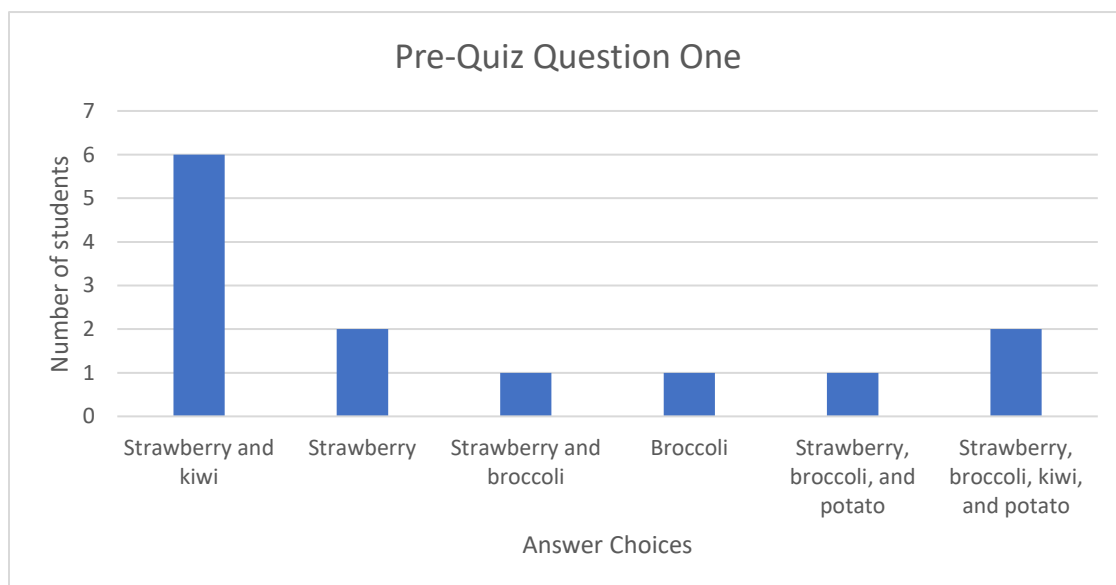
Today I started my second round of clubs. In this session, I have thirteen students from grades kindergarten through second grade. Due to bad weather outside, I began the club inside with introductions and the energizer. The students really enjoyed the energizer, especially since they were already very familiar with the exercises and stretches from P.E. class.

After the energizer, I had students return to their seats and take the pre-quiz in order for me to find our starting level, as well as what information needs to be studied the most. Below you will see the graphical results for each question.

1. Circle the fruits?

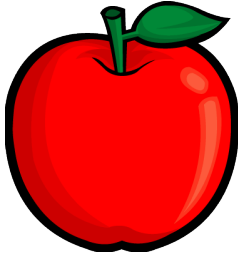


Correct Answer: Strawberry and kiwi-46% answered correctly



2. Which food helps give us strong bones?

A.



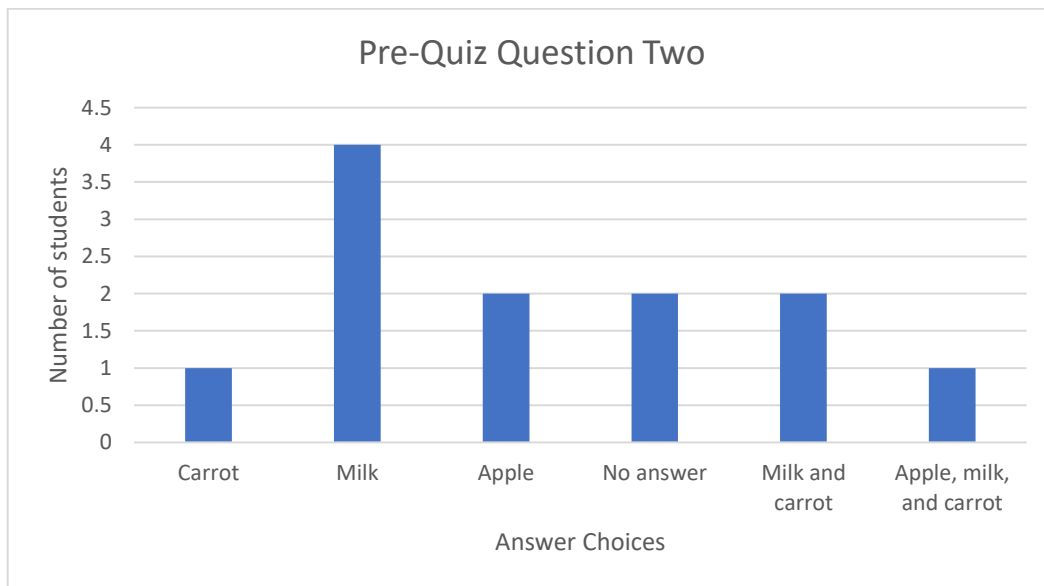
B.



C.



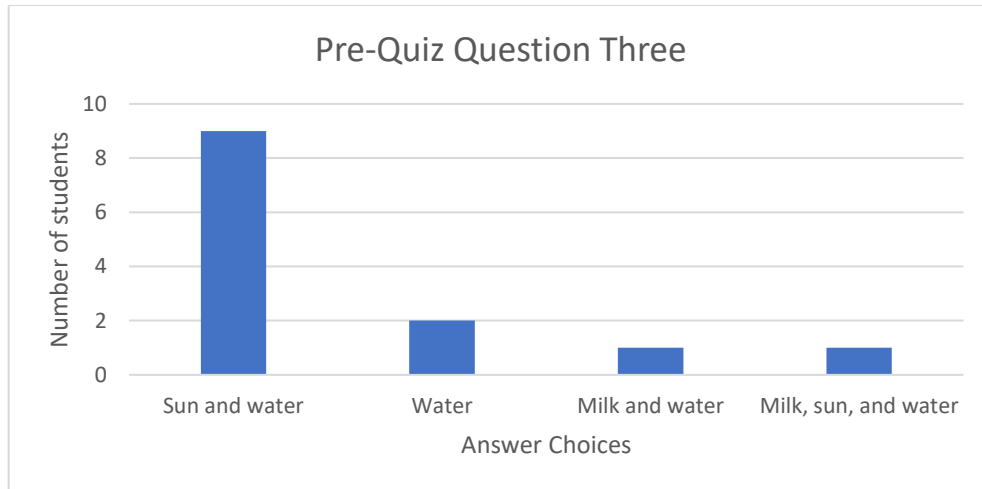
Correct answer: Milk-31% answered correctly



3. Circle the items that can help plants grow in a garden?

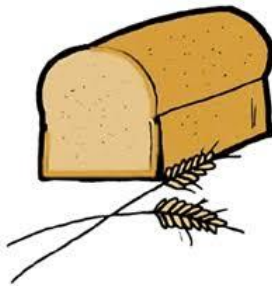


Correct Answer: Sun and water- 69% answered correctly

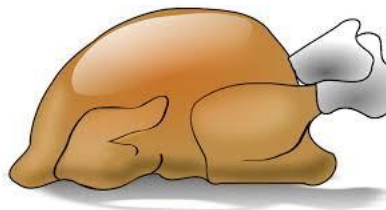


4. Which food helps us build strong muscles?

A.



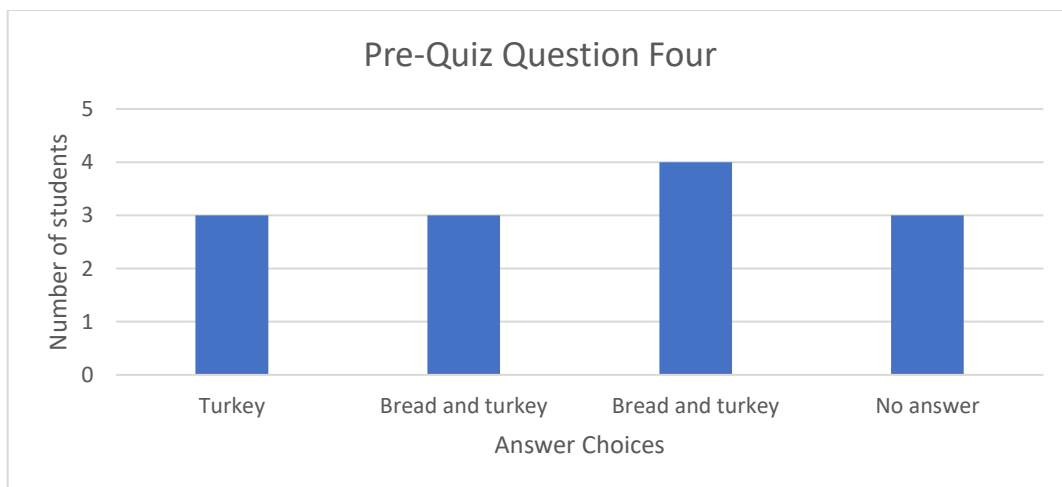
B.



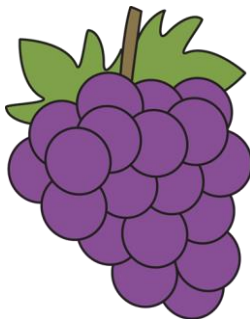
C.



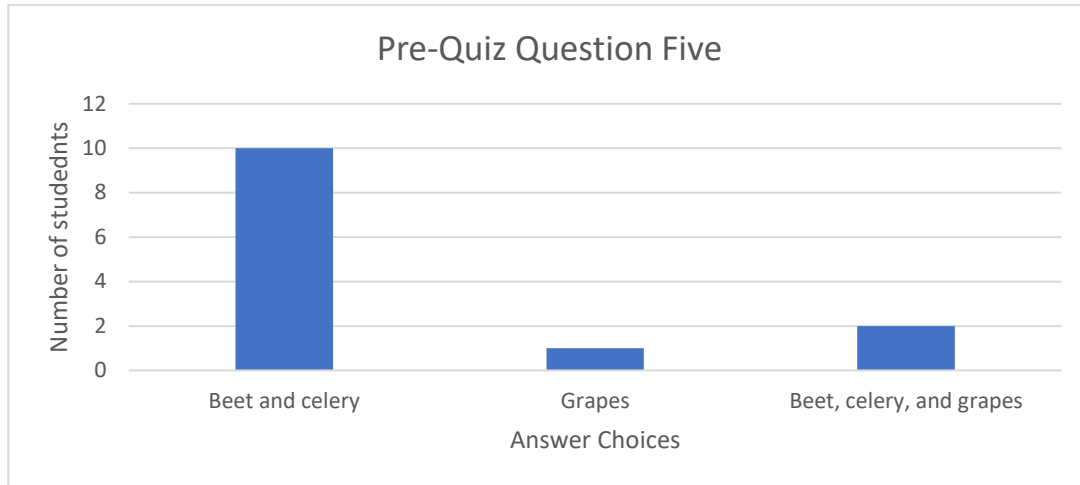
Correct Answer: Turkey- 23% answered correctly



5. Circle the vegetables



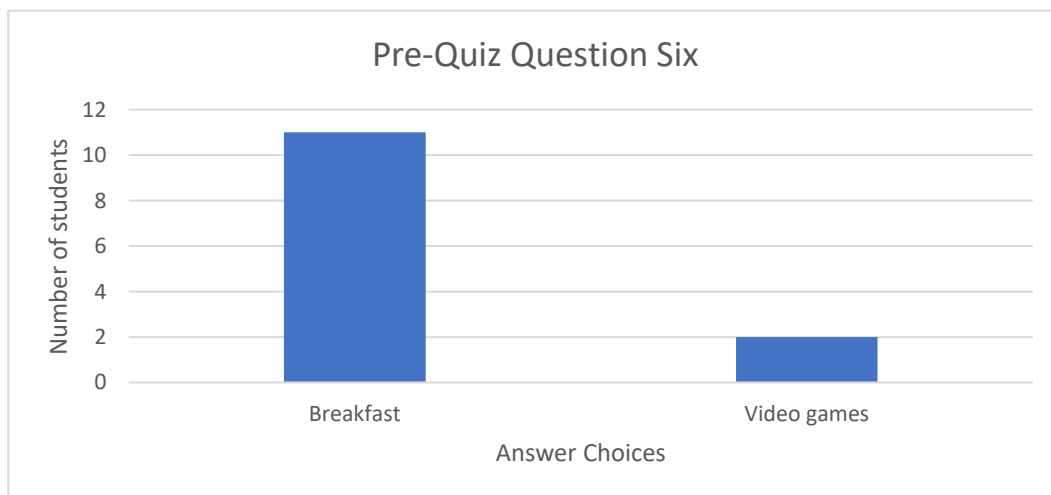
Correct answer: Beet and celery-77% answered correctly



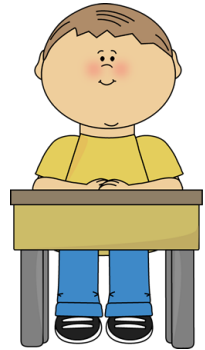
6. What is the best way to start your day?



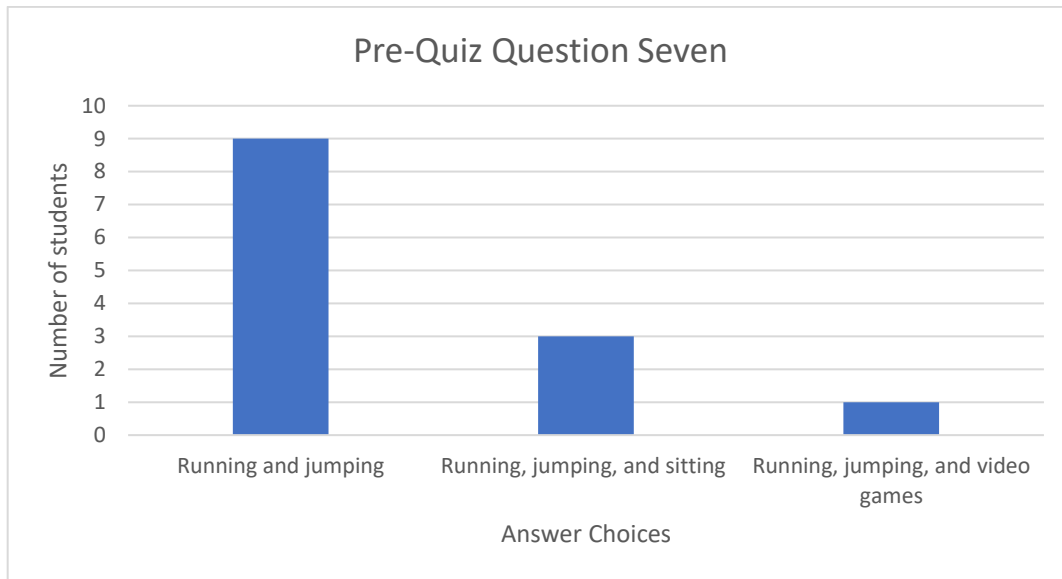
Correct answer: Eating breakfast-85% answered correctly



7. Circle the pictures where the kids are being active



Correct answer: Running and jumping rope-69% answered correctly

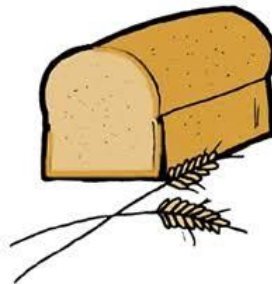


8. Which food gives energy and helps us feel full?

A.



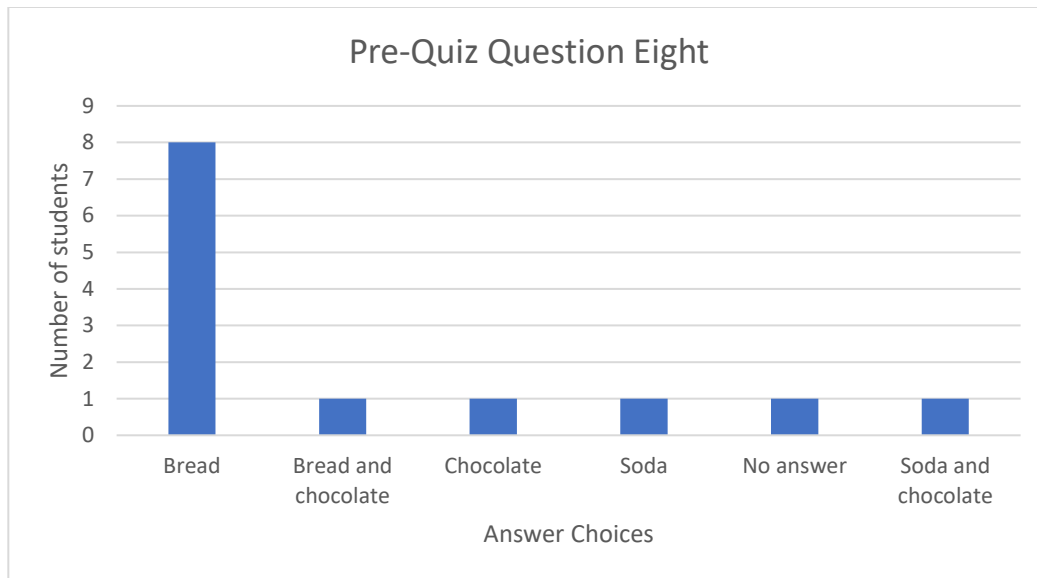
B.



C.



Correct answer: Bread-62% answered correctly



The results of this pre-quiz are extremely beneficial for me as I plan the lessons for the next several weeks. The students struggled with question one and four, which focused on fruit and protein. Therefore, I will be sure to spend extra time throughout club time to emphasize the importance of protein in the diet, as well as finding ways to incorporate pictures from previous weeks into the current lesson, such as bingo cards.

On the other hand, the students scored very highly on question three, five, six, and seven. The students were very familiar with vegetables and what plants need in order to grow. Therefore, I plan to spend more time with fun experiments and activities rather than a long lesson. Also, the students are very knowledgeable about the importance of eating breakfast in the morning and types of physical activity. I am glad that I will not have to spend as much time on these topics, as we lose a week in this session due to Thanksgiving break. Therefore, I plan to include the lesson about physical activity in week four with grains. I am eager to see how this group of students will respond to the activities and lessons, and I hope that I am able to increase their knowledge about nutrition and healthy living.

After the quiz, I wanted the students to get up and move again after sitting for about ten minutes. Therefore, we used the MyPlate dice I created to let out some energy before the lesson. The kids loved the activities, and they even switched the arm circles to chicken wings when the dice landed on protein. I am glad this group of students enjoyed this game, and I plan to use it again in future weeks when the kids need to let off some energy.

After what happened in the last round of clubs, I decided not to bring real fruit to show the students, instead, I created picture magnets that I was able to pin on the whiteboard. The students were eager to learn and they all were very attentive. At the end of the lesson, I had the students make a fist, and I encouraged them to consume enough fruit to fit in two fistfuls. One student even mentioned to me that she cannot leave her house for school unless she eats a banana at breakfast.

The previous students in club really enjoyed coloring; therefore, I decided to incorporate a coloring sheet into the lesson this time. I used Team Nutrition's Banana for Fruit worksheet. This worksheet included eight pieces of fruit for the students to color, as well as space for them to write the first letter of the fruit's name. I let the students work on the worksheets for about ten minutes, and in the meantime, I set up the supplies for the game.

The final activity of this club session was a sorting activity for the students. I placed various colored plates/circles around the room and gave each student a black and white photo of one of the fruits we learned about today. One by one I had each student tell me the name of the fruit and place it on the correct colored plate. We completed the activity twice and then during the last five minutes, I reviewed with the students the major points from today. Overall. These thirteen students seem much more eager to learn, and I am excited to create a curriculum to help them learn about nutrition and healthy living while also having fun.

Comparison Between Round One and Round Two

Lesson Two: All About Vegetables

Remained the same	Energizer: Pass it On UNO Style Celery food coloring experiment Penny and ketchup experiment Game: Pin the vegetable
Removed for Round Two	
Additions to Round Two	Ten-minute recess before classroom activities

Journal Two: November 8, 2017

This week I began club outside due to the extremely nice weather. The students were excited to play on the playground and chase each other around the soccer field. I allowed the students to play outside for ten minutes before we headed back in the classroom for the lesson.

After returning to the classroom, I asked the students if they would like to start with an energizer or simply go straight into the lesson. The group voted for the energizer, so I placed the various MyPlate categories into a bag and drew them out one by one and had the students complete a stretch or exercise depending on what section of MyPlate was drawn. The students really enjoyed this energizer and it allowed them to get the rest of their extra energy out before the lesson.

Prior to starting the lesson, I began the setup of the celery experiment. During the last round of clubs, the setup of the experiment kept the students engaged and more willing to participate throughout the session, so I decided to start early again. This time, I only used one jar and blue food coloring to minimize the mess created by the project. After placing the celery in the jar, I put it in the back of the room and told the students we would check on its progress at the end of club.

Next, I introduced students to various types of vegetables using picture magnets I created. I also showed students that some vegetables grow above ground, while other grow below, as well as discussing their health benefits. The students seemed to understand that vegetables, such as carrots, have Vitamin A which can help our eyes and skin the most, and they constantly repeated this message as well as asked questions about it.

Before playing the game, I decided to implement the second activity of the day, the penny and ketchup experiment. I showed all the students my old, rusty penny before I placed it

in the bag of ketchup. I asked the students to guess what would happen, but they were all not sure and very eager to learn. I quickly squished the penny around in the bag full of ketchup and very soon it was bright and shiny again. The students were so excited and several asked how they can do the experiment at home.

With about ten minutes left, I set up the pin the vegetable game on the board. I created a landscape with soil, roots, and plants with stalks in the air. Then one by one, I handed each student a vegetable magnet and had him/her come up to the board and tell me the name and pin it on the board where it grows. The students really enjoyed this game and it was a great way to remind students of the vegetables they were unfamiliar with, such as cauliflower and squash.

Finally, as the students were cleaning up from the game, I brought the celery experiment forward for the students to observe. They were all blown away that the celery leaves were turning blue. I showed the students the roots of the celery and allowed them to trace the blue through the roots to the stem. Once again, this experiment was a huge hit amongst the students.

As a final recap for students, we reviewed the importance of consuming vegetables and I encouraged students to try the experiments at home and show their families what we learned today.

Comparison Between Round One and Round Two

Lesson Three: MyPlate and Protein

Remained the same	Ten minute recess Game: Grocery store bingo
Removed for Round Two	Energizer: Frozen Vocabulary
Additions to Round Two	Energizer: MyPlate Dice (utilized in week one) Team Nutrition's Worksheet: Protein Foods Sorting

Journal Three: November 15, 2017

This was a great club session! The weather was beautiful, so the students spent the first ten minutes outside. It is great to see the students of various grades interacting and playing with one another. After ten minutes, we went inside and I utilized the MyPlate dice from week one again. I rolled the dice a few times and the students completed various exercises and stretches depending on the category rolled.

Next, I jumped into the lesson by asking students about various types of protein and why we need to eat protein. The students were eager to share their opinions and they were all actively participating. I pinned the examples of protein onto the board and shared the benefits of consuming protein. I really stressed the importance eating protein in order to build strong muscles. One student raised her hand and mentioned that her family is vegetarians, but she eats a lot of eggs, beans, and peanuts. I was so impressed by her diet, and I was happy to be able to explain to the students that you do not have to eat meat, but can find protein in other foods.

After the lesson, I gave the students the option of completing the worksheet or playing the game first. The majority of the students voted to complete the worksheet first. I utilized Team Nutrition's protein worksheet because it tested the students' knowledge of protein and the lessons I just provided. I did not have scissors and glue for the students; therefore, I simply had them color the food from the protein category. The students really enjoyed this activity and I am glad that I was able to implement this activity this round of clubs.

Finally, for the last ten minutes of club we played grocery store bingo. This was a great activity for the students because it was a review of the previous two weeks. The bingo card had fruits, vegetables, and protein and students worked in teams of two. Once again this was a great activity for the students and they were actively engaged.

This round of club sessions will be a little bit different because I lose one week to Thanksgiving vacation. As a result, I will only have six weeks with the students and will need to combine lessons. The students in this round of clubs scored great in terms of the question related to what plants need to grow. Therefore, I will combine this lecture with grains and we will not need to grow any plants given that many students were in gardening club last session. I have also decided to combine the lesson about breakfast with dairy in week five. Finally, the last club session will focus on physical activity and the students will take the post quiz at the end. I am excited to see how the students will do on the post quiz. I feel like this group of students are much more engaged than the first group. I have also noticed that I am more comfortable teaching and timing the lessons.

Comparison Between Round One and Round Two

Lesson Four: MyPlate and Grains/Physical Activity

Remained the same	Ten minute recess Grains Lesson Game: Variation of red light/green light
Removed for Round Two	Energizer: As If Physical activity game: MyPlate obstacle course (found in lesson seven round one)
Additions to Round Two	Physical activity lesson (Due to no clubs the week of Thanksgiving)

Journal Four: November 29, 2017

After a week off from club, I was excited to see all of the students. Club ran smoothly and although I combined two lessons into one, the students were very attentive and seemed to really enjoy the activities. We began with a ten-minute recess outside and then headed into the classroom.

I opted not to use an energizer because the students were all running around outside and playing a form of tag they had recently learned in P.E. class. Therefore, I started the lesson by asking the students about their Thanksgiving celebrations. It was interesting to hear about each student's unique gatherings, such as one student mentioning that his family eats barbecue each year.

I began the lesson by asking students if they could name types of grains. One student mentioned wheat and another cereal. I went on to show the students the various pictures I created of grains. Before I even had the chance, one student raised his hand and mentioned that grains are good for you because they lower your risk of heart disease. He said that heart disease runs in his family, so they eat a lot of healthy grains. I was so excited to hear this and encouraged the other students to consume whole wheat and I mentioned the other health benefits.

Next, I switched over and started talking about physical activity. I made sure to emphasize that kids should be active for sixty minutes a day. I gave them numerous examples of activities they can use to be active and encouraged them to try a new one at recess the next day.

After the lesson, the students packed their things and we headed outside to the basketball court to play my version of red light green light. The students absolutely loved this game and we played about three times. To make it a little simpler for this group, I decided to only use grains and protein. Therefore, if I mentioned a grain the students could move, but a protein signified the

red light. After about ten minutes, I asked the students if they would like to have free time or continue with the game. The vote was half and half, so I let the students who wished to keep playing the game stay on the basketball court and others had about ten minutes of free time on the playground. Overall, this was a great club session and I am excited to teach the students about dairy next week.

Comparison Between Round One and Round Two

Lesson Five: MyPlate and Dairy

Remained the same	Energizer: Over, under, around and through Dairy lesson Milk experiment
Removed for Round Two	Ten minute recess outside (due to weather) Game: Relay boards
Additions to Round Two	MyPlate Word Search

Journal Five: December 6, 2017

Due to a drastic change in the weather, we did not go outside to start club. Instead, I used the energizer as a way for the students to release some extra energy. They thoroughly enjoyed this energizer, especially the over activities, such as an action to step over a puddle of peanut butter. After this activity, I asked the students to tell me about their weeks, however; it quickly became story time about each student's elf on the shelf, which was really exciting to see how each family celebrates the holiday season differently.

Next, I jumped right into the dairy lesson and displayed the various food pictures of dairy on the board. It was fitting that the afterschool snack today was yogurt. I made sure to highlight the importance of milk in allowing us to build strong bones. After the lesson, I gave each student the word search, which contained words from all five MyPlate categories. I gave the students about ten minutes, and they really enjoyed this activity, especially the second grade students.

After cleaning up the materials from the word search, I asked each student to make a semicircle in the back of the room for the dairy experiment. The students absolutely loved this activity and I repeated it several times with various color combinations. They did get a little loud at times because they were so excited, but I was happy to see that they were all so engaged. I am excited to see the post-quiz results from this group next week, as well as ask the students their overall thoughts about Nutrition Science Club.

Comparison Between Round One and Round Two

Lesson Six: Breakfast and Healthy Snacks

Remained the same	Ten minute recess Game: Teamwork meals
Removed for Round Two	Energizer: Five corners MyPlate crossword puzzle
Additions to Round Two	Post-quiz

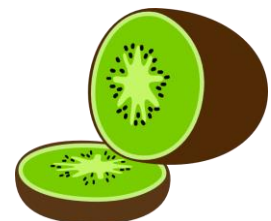
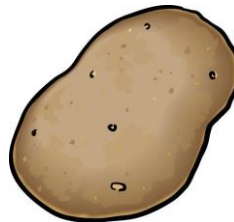
Journal Six: December 13, 2017

Today was the last day of Nutrition Science club with the second group. We began the lesson outside with a ten-minute recess. The kids enjoyed the break and it is nice to see students from various grade levels playing games together. After recess, we headed inside and I gave the students the option of playing five corners or simply beginning the lesson. They opted to begin the lesson. I talked with the students about the importance of eating a healthy breakfast each morning, as well as healthy snacks throughout the day. I encouraged the students to consume three food groups at breakfast and two food groups at snack time.

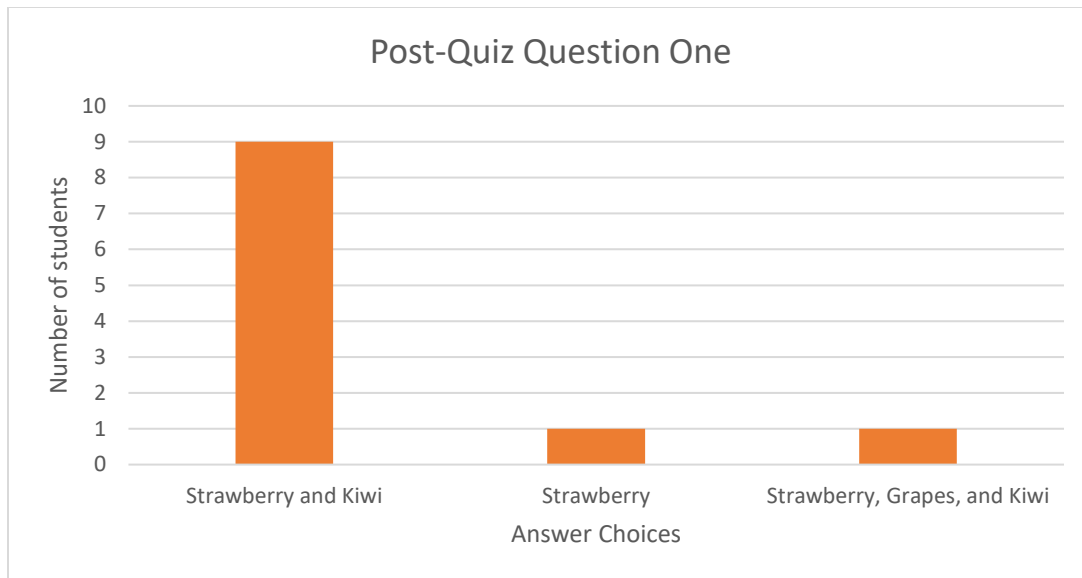
After the lesson, I had the students pair up and I gave them a pile of food picture magnets. First, I asked the students to create a breakfast using three food tiles. Although I got some interesting combinations, including peanut butter, cereal, and celery, I was happy to see the students thinking about utilizing three different food groups. Then, we repeated the activity with snack ideas.

After several rounds of teamwork meals, I gave the students the post-quiz. The students enjoyed taking the quiz again. Eleven students completed the quiz today, which is two less than the pre-quiz, but I will compare the results in my round two evaluation.

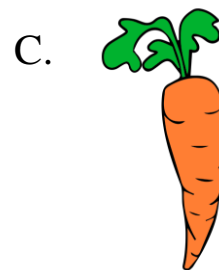
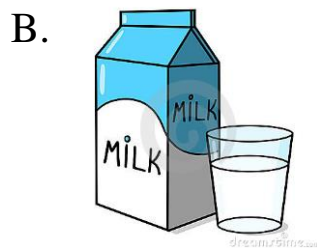
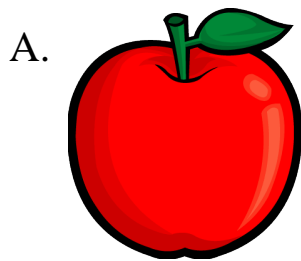
1. Circle the fruits



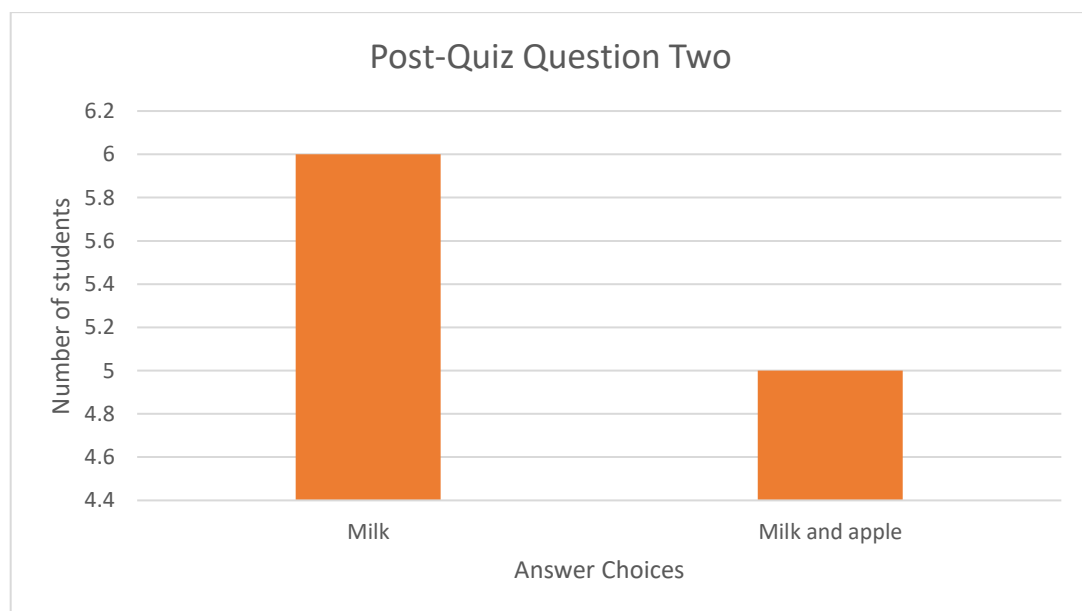
Correct Answer: Strawberry and kiwi-82% answered correctly



2. Which food helps give us strong bones?



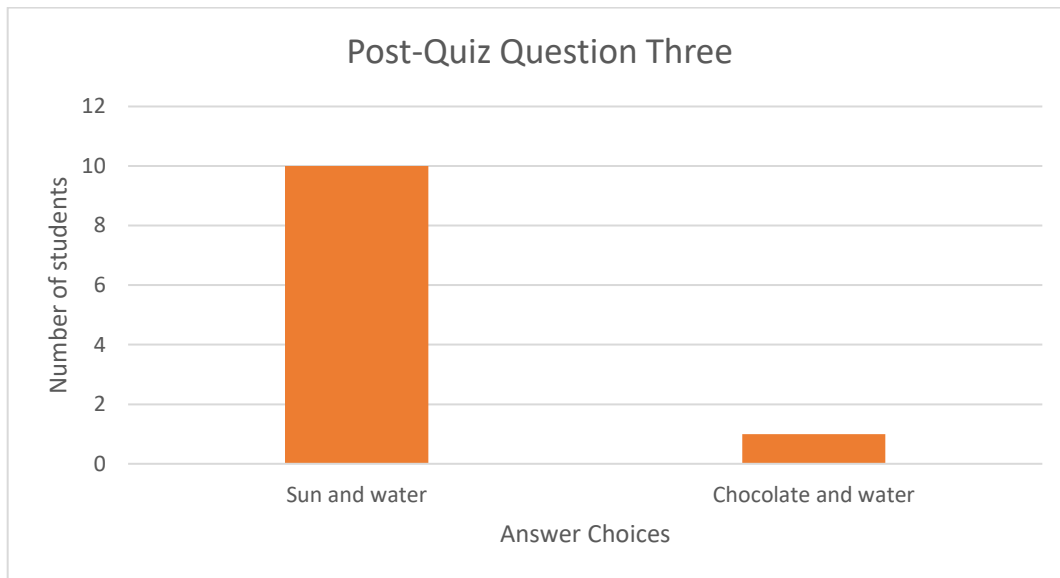
Correct answer: Milk-55% answered correctly



3. Circle the items that can help plants grow in a garden?

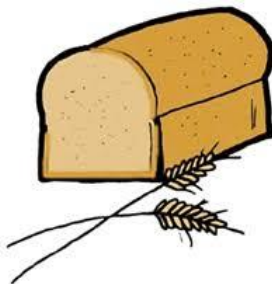


Correct Answer: Sun and water- 91% answered correctly

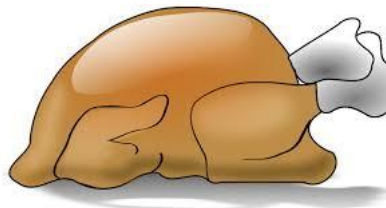


4. Which food helps us build strong muscles?

A.



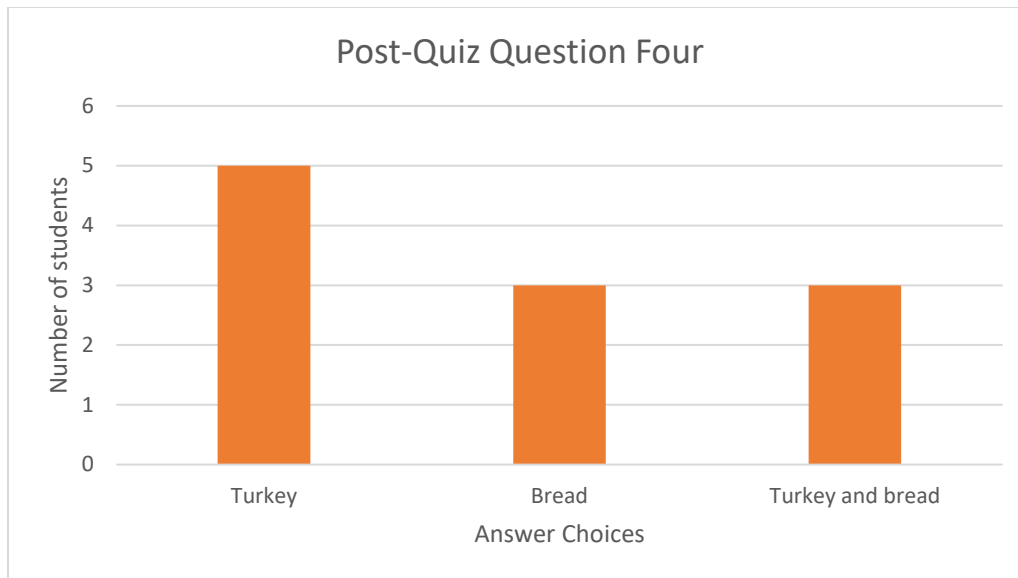
B.



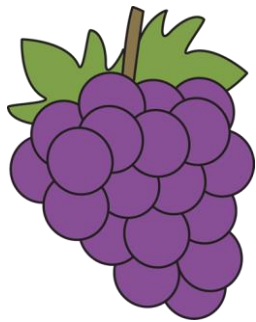
C.



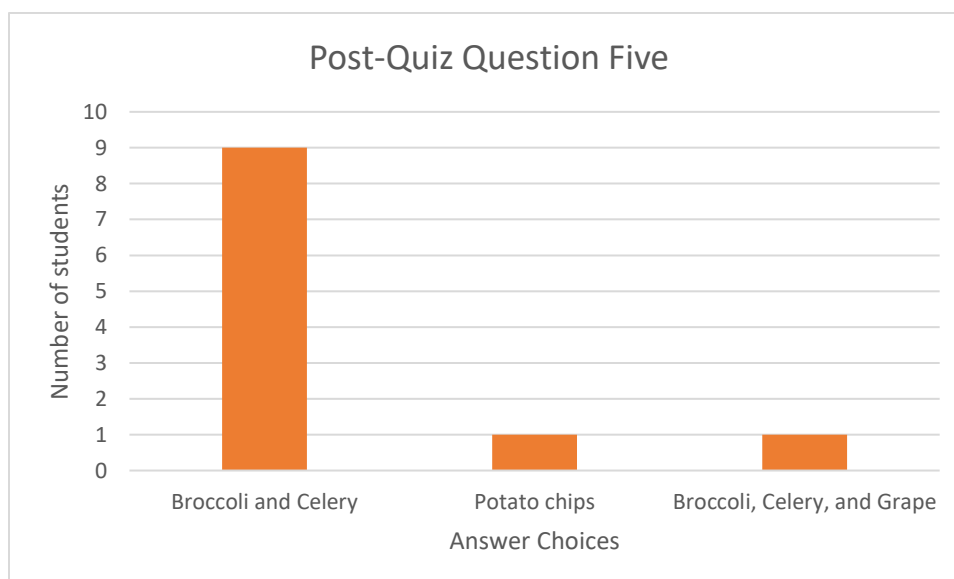
Correct Answer: Turkey- 45% answered correctly



5. Circle the vegetables



Correct answer: Beet and celery-82% answered correctly



6. What is the best way to start your day?

A.



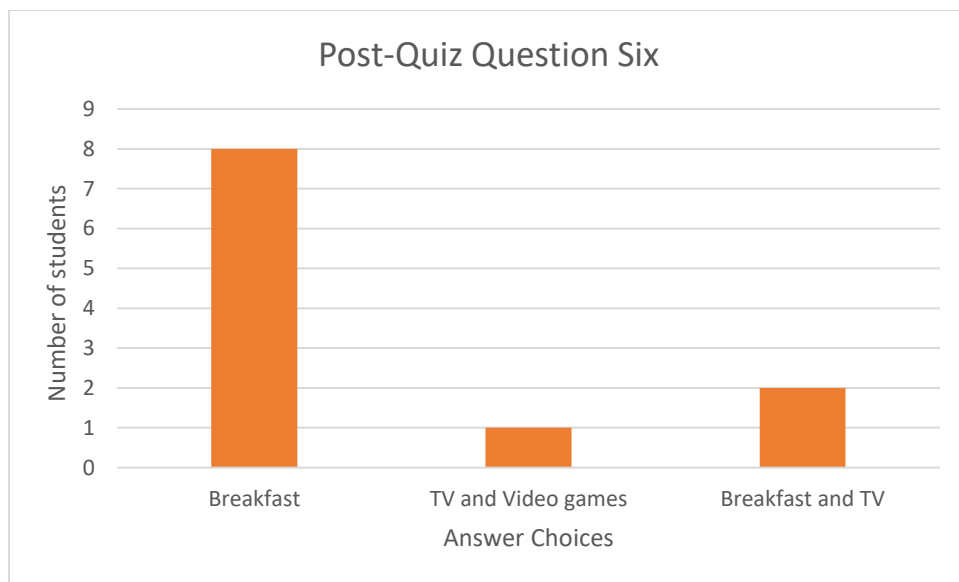
B.



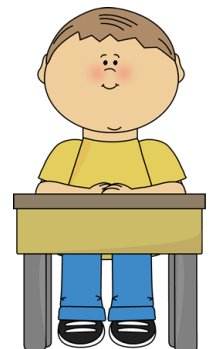
C.



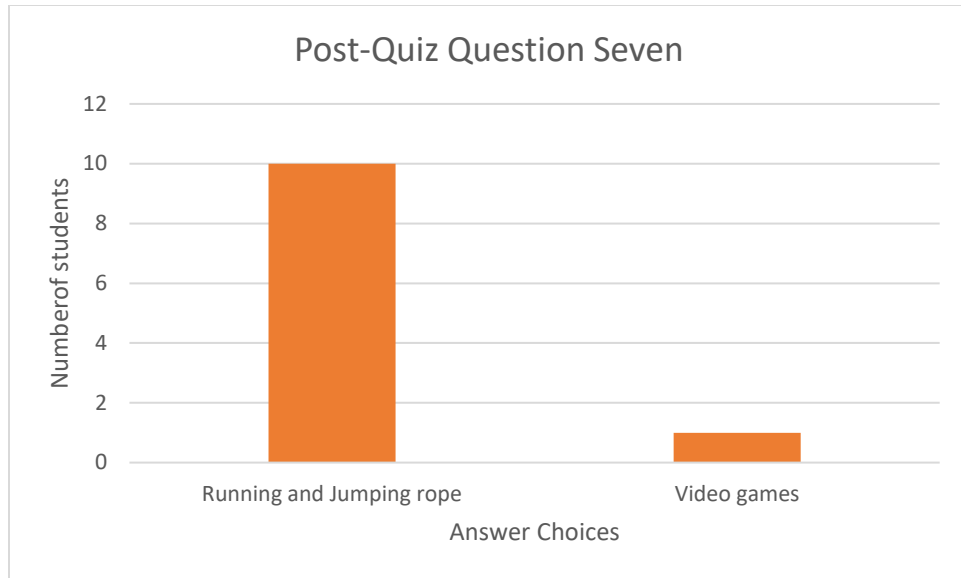
Correct answer: Eating breakfast-73% answered correctly



7. Circle the pictures where the kids are being active



Correct answer: Running and jumping rope-91% answered correctly

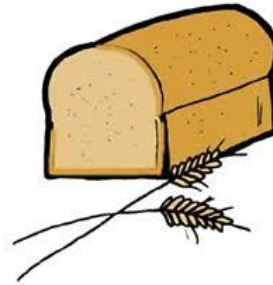


8. Which food gives energy and helps us feel full?

A.



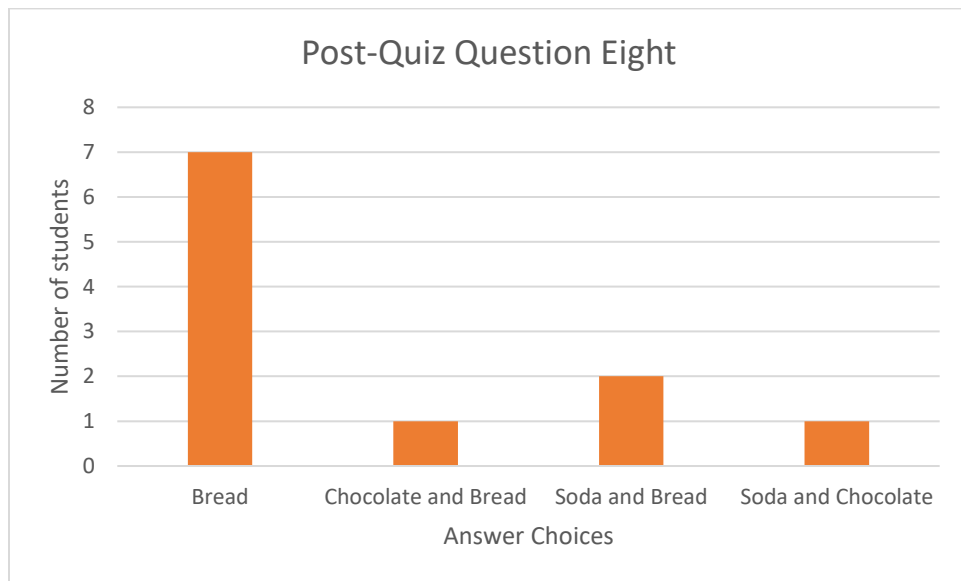
B.



C.



Correct answer: Bread-64% answered correctly



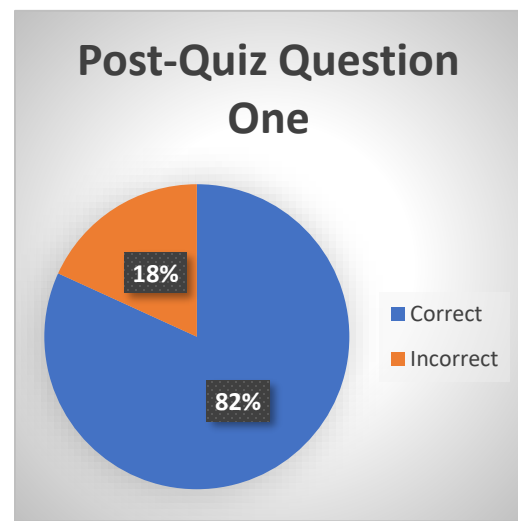
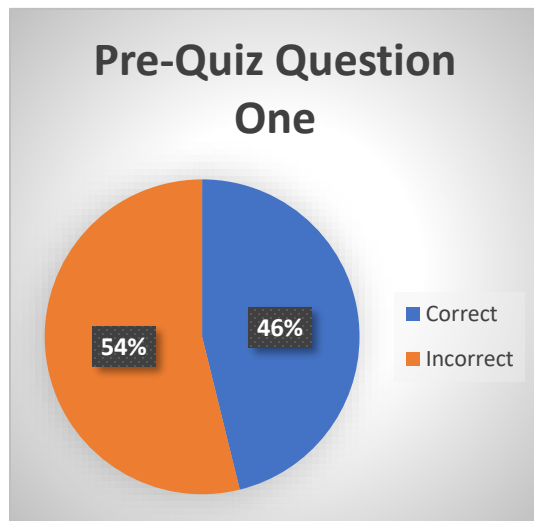
After completing the quiz, I let the students draw pictures on the back of their quizzes for the remainder of the time. While they were drawing, I asked about their favorite part of club, as well as what they did not like. Several students mentioned that they enjoyed the experiments and word searches. Others mentioned the games with the food magnets were really fun. On the other hand, a few students mentioned that they did not like the “lesson” portion of club, while others wished we spent more time outside.

In the next section, I will compare the results from group two’s pre-quiz to the results of the post-quiz. I really enjoyed working with this second group and I hope they were able to improve and learn something new.

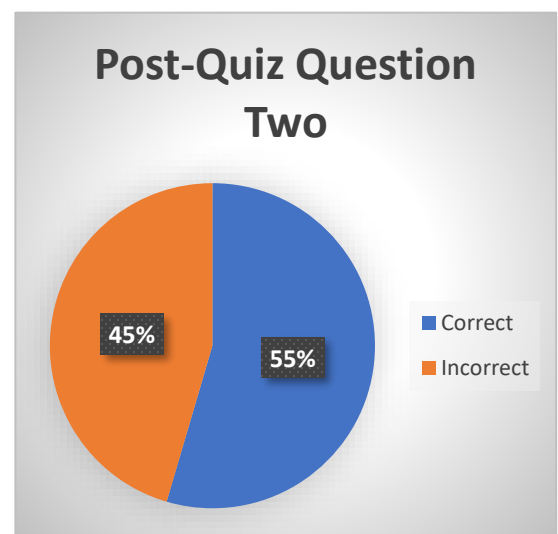
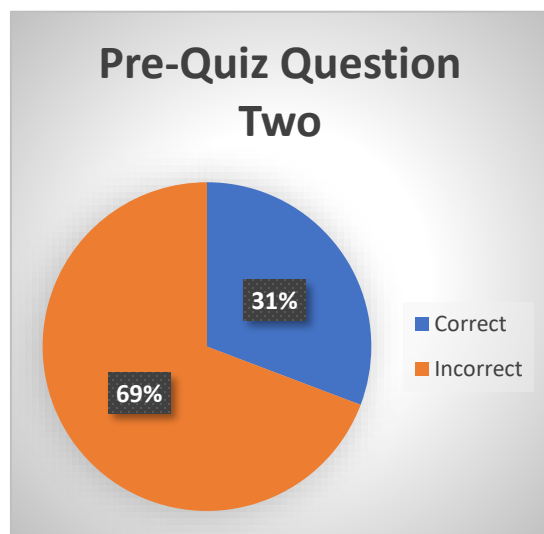
Round Two Reflection

The second round of the Campbell Elementary After School Nutrition Science Club: Fun with Food was an even better experience for me. I was able to connect with this second group of students much better than the first group, and I hope that my lessons will have an impact on their nutrition and health choices in the future. Over the course of six weeks, I taught thirteen kindergarteners through second grade students about the importance of MyPlate food categories and healthy living. I used my experiences from the first round of clubs to create a curriculum that would benefit the students as much as possible. At our first club session, I had the students take an eight-question quiz, and then each week we focused on a different MyPlate food category or health lesson. Each topic was included on the pre-quiz and then the same exact quiz was given to the students at the last club session. Once again, two students were absent at the final session, so I only have eleven post-quiz responses. Therefore, I have created pie charts for each question to show the change in the students' responses. Even after implementing the curriculum twice, there is still room for improvement in order to help the students understand the information.

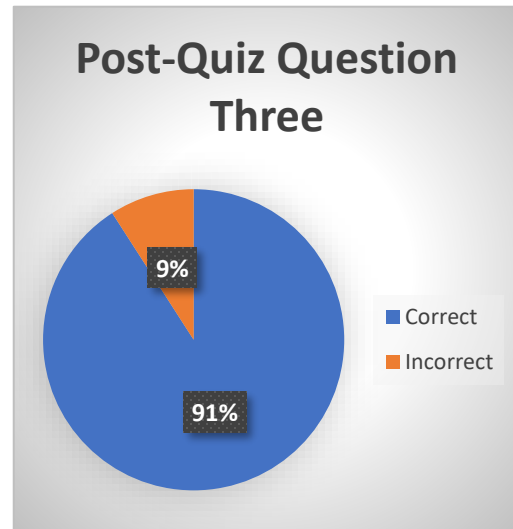
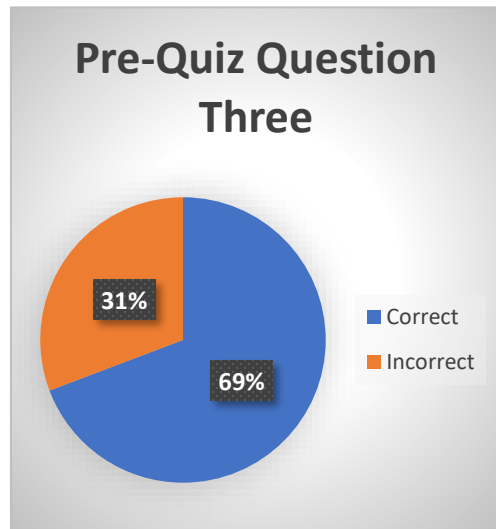
The first question tested the students' knowledge of fruits. The number of students who answered the answer correctly nearly doubled, so I am confident that the fruit lesson was a great start to the club. The students in the second round of clubs continually mentioned how much they enjoyed fruit rather than vegetables, so their familiarity with fruits prior to club was also beneficial.



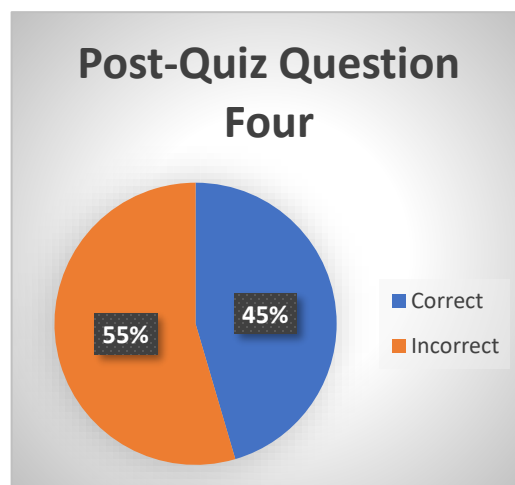
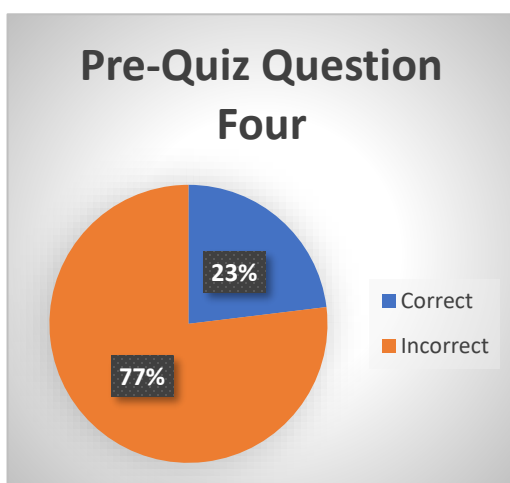
Question two was a reference to week five and the dairy lesson. The results of this question are not quite the improvements I was hoping for. Although the percentage of the number of students who answered the question correctly increased, there was not a significant increase. Thus, signifying that the dairy lesson was not as effective as it could be. This lesson could be improved by showing the students images of bones. I would show bones that are healthy and strong and bones with osteoporosis, in order to highlight the benefits of calcium on bone growth.



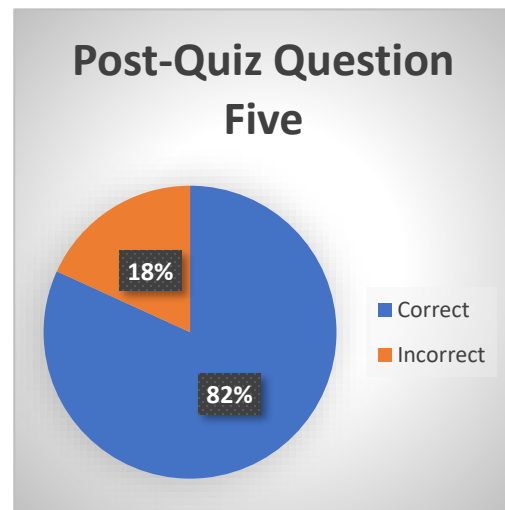
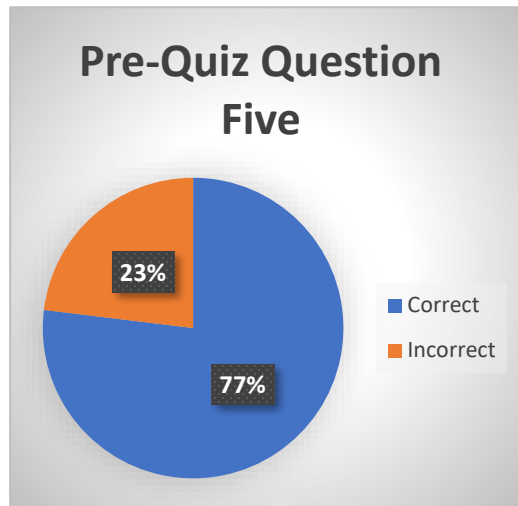
Question three asked the students to circle the items that can help plants grow in a garden. Many of the students in the second round came into club with knowledge on plants and gardening; however, I am very happy to see the increase in knowledge on this subject.



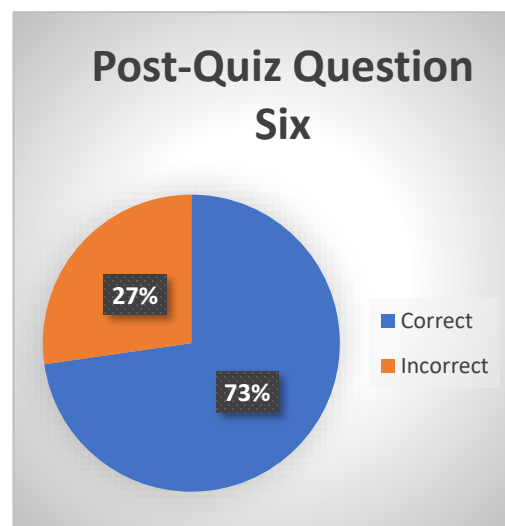
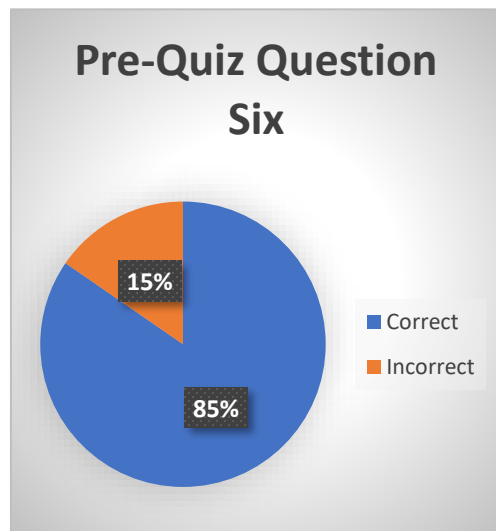
The fourth question refers to the curriculum from week three and asks students to identify the food that helps one build strong muscles. The number of correct responses nearly doubled, but I would still like to see improvement with this concept of protein contributing to muscle growth. This concept was difficult for students in both rounds of the club, which leads me to believe the question on the quiz should have been asked differently or the protein lesson needed to be implemented in a different way for the students.



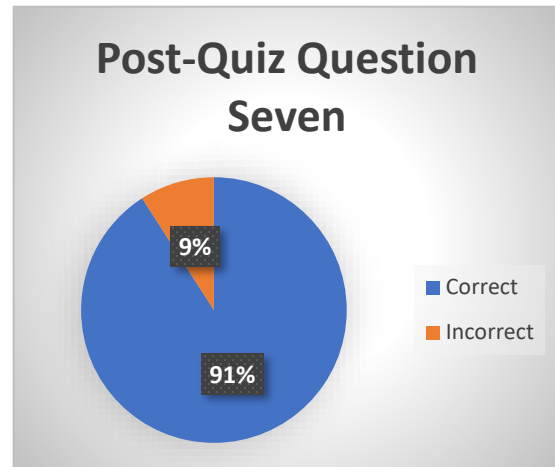
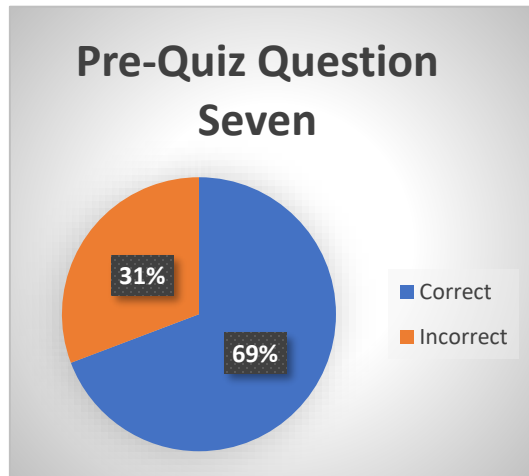
The fifth question asks students about the curriculum from week two by asking the students to identify the vegetables. The results of this question increased slightly, and I would love to see more improvement in the future. This lesson could be improved by more worksheets for the students on less known vegetables and their health benefits.



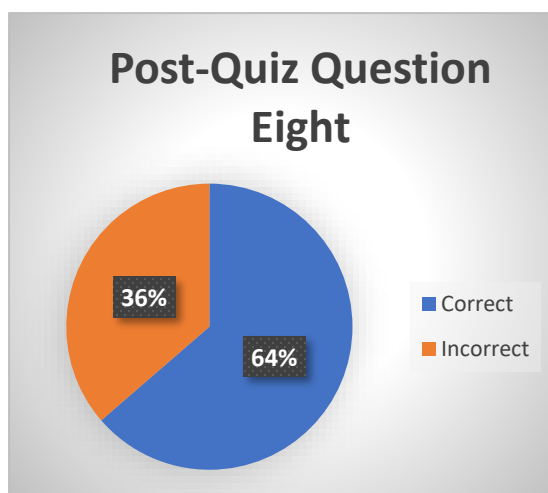
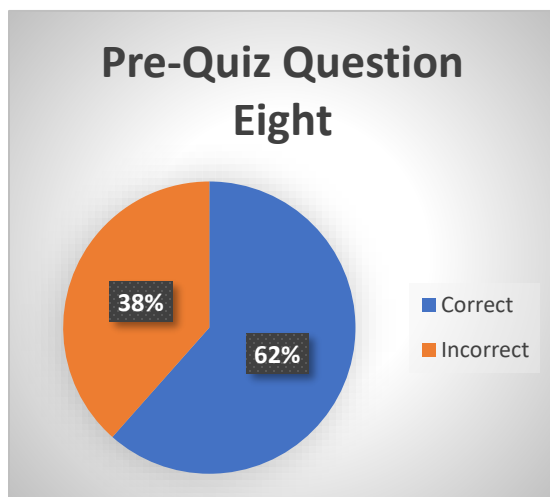
Question six asked the students about the best way to start the day. This is the only question on this round of quizzes that did not show an increase in correct answers. The second session of clubs was only six sessions, and I am afraid the combination of breakfast and healthy snacks on the last day of club was not beneficial for the students and learning this information.



Question seven tested the students knowledge on appropriate physical activity. I am extremely pleased with these results, especially after not seeing results with the first group. The first group did not have a physical activity lesson in the classroom, and I believe that actually teaching the students about physical therapy in the classroom was exactly what the students needed to understand physical activity.



Finally, question eight did not show much improvement with this round of students. This question asked the students about carbohydrates and energy. The last round of clubs showed the most improvement with this lesson, but unfortunately this round of students did not. Therefore, this lesson could be improved with more hands-on activities to ensure the students understand the relationship between carbohydrates and fueling the body.



Overall, the second round of clubs was an incredible experience. I felt much more comfortable in front of the students and implementing the lesson plan became less tedious as the weeks went on. I was also able to use my experiences with the first round of clubs to capture the students' attention as best as possible after school. This group of students was very engaged in the activities, and I am very happy with the results. The two rounds of students learned differently and certain topics resonated better with the various groups. This experience has helped me realize how each and every person learns differently, and it is crucial to teach topics in various ways to ensure everyone understands the material. There is always room for improvement, and I am excited to see how the Campbell Elementary after school staff use my curriculum or something similar in the future.

Conclusion

As a student majoring in Nutrition Science at the University of Nebraska-Lincoln, I knew that I wanted to make a lasting impact on others when completing my thesis, but for three years I had absolutely no idea how I was going to achieve my goal. However, shortly after I began volunteering with elementary students in Lincoln, I realized kindergarten through second graders would be my target audience for my thesis project. Although I am not an education major, I believed that creating my own afterschool club and writing a curriculum based on MyPlate would give me the opportunity to teach students about nutrition in a fun environment. I wrote the curriculum with hopes that in the future students would be able to think back on what they learned and make healthy choices, and after thirteen weeks with the students at Campbell Elementary, I am confident that I was able to plant a seed that will allow students to make healthy choices for themselves and their families in the future.

The first round of clubs was definitely a learning curve for me, especially as I learned to lead a room of elementary students. I quickly learned that students ages six to eight are black and white thinkers and I had to tailor my information down to a key sentence in order to ensure student comprehension. There were elements of my original curriculum that worked really well, such as the MyPlate dice and the carbohydrate red light green light. However, there were also activities that the students did not receive well, such as touching and feeling the fruit. The first group of students also taught me the importance of a ten-minute recess outside prior to club to release energy, as well as how to be flexible and change activities depending on the group's overall dynamic.

As a whole, the students in the first round of club showed an increase in knowledge in regards to MyPlate and healthy living; however, the students recalled information on certain

subjects better than others. Students in round one showed the most improvement in recognizing that carbohydrates are a good energy source. On the other hand, they showed little improvement in the question regarding what plants need to grow and showed a decrease in the number of correct responses in the question about physical activity. The results from the first round of clubs helped me restructure the curriculum in order to improve the learning experience for the second group of students.

I was much more confident leading club the second time around. I found it easier to command a classroom and capture the students' attentions. With the previous round under my belt I was ready to teach the second group; however, after the first week I realized this group of students was much different than the first. The students were verbal learners more than visual. I began to realize that in order to ensure my lesson plans were understood by all the students, I needed to incorporate both visual and auditory components to my lesson plans.

The second group of students also improved overall, but the topics that caused the students trouble were different from the first group. For example, students in the second round scored exceptionally well on the gardening and physical activity questions, but they failed to recall the importance of starting the day with a nutritious breakfast. They also struggled to recall that carbohydrates are a great energy source, the question that round one improved their knowledge the most.

Overall, there is still need for improvement. Both rounds of club struggled to grasp protein intake helps build muscle and this shows me that question on the quiz was not asked properly and the lesson needs to be changed in order to help the students truly understand the importance of protein in the diet. I would have also loved to see a larger increase in the number of correct answers regarding calcium and bone growth. I believe this lesson could be improved

by showing students images of bone with and without osteoporosis in order to emphasize the importance of calcium in bone growth as we age.

Finally, as I reflect on my personal journey throughout this project, I cannot help but smile. Each Wednesday the students brought me such joy. Their smiles, crazy stories, and nonstop energy will be missed, but they have also taught me valuable lessons that will be very important in my future as a physical therapist. First, this experience helped me gain confidence and leadership skills that will help as I continue onto graduate school and will need to report in front of faculty and colleagues. I also learned how to relay information to others in both a verbal and visual sense. I am extremely grateful for this, as I hope to be able to explain to patients my treatment plan, as well as the reason behind my course of action. Finally, the students at Campbell Elementary helped me learn how to be flexible and work on my toes. There were times throughout lessons that I would add or remove items depending on the students' reactions that day. This ability will definitely be important in the future as I care for patients whose pain levels fluctuate daily and their ability to perform certain exercises or treatments can change in a matter of seconds.

Overall, I am incredibly grateful for this experience and I hope that I was able to make as much of an impact on the students of Campbell Elementary as the impact they made on me.

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Lesson 3

Bananas for Fruit!

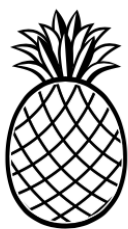
Activity

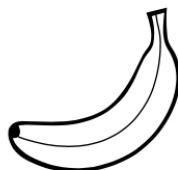
1

I love fruit! Color the fruits.

What letter does the name of each fruit start with?

Write the letter on the lines next to each fruit.





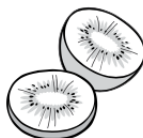












Appendix B

Campbell Elementary Nutrition Club Pre-quiz

Name: _____

1. Circle the fruits



2. Which food helps give us strong bones?

A.



B.



C.

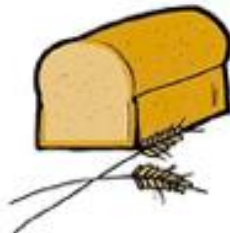


3. Circle the items that can help plants grow in a garden?



4. Which food helps us build strong muscles?

A.



B.



C.



Appendix B continued

5. Circle the vegetables



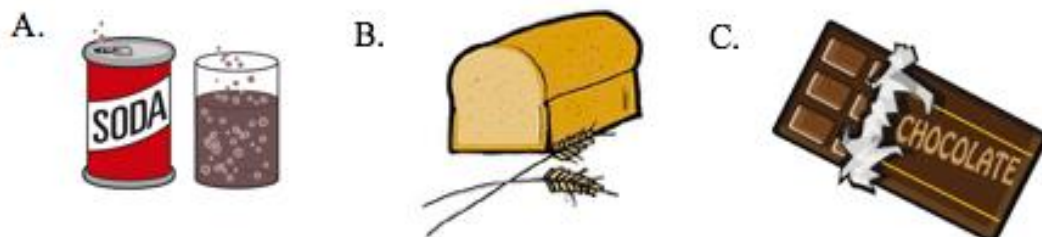
6. What is the best way to start your day?



7. Circle the pictures where the kids are being active



8. Which food gives energy and helps us feel full?





Lesson 1

Protein Foods Sorting

Activity

3

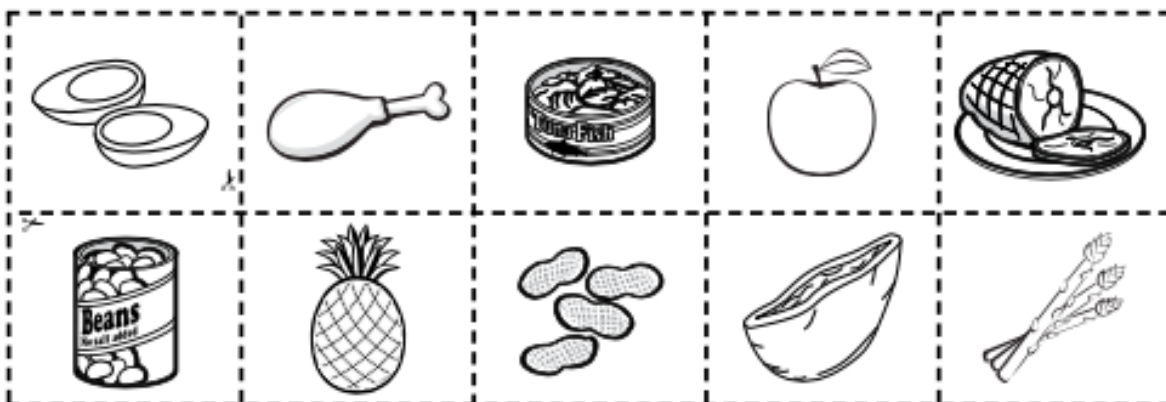
Help **Dean Protein** sort **protein foods**.

Color the foods at the bottom. Cut them out.










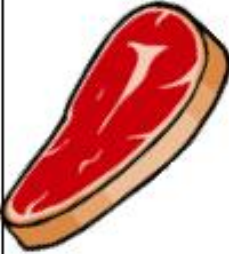





Paste **protein foods** into **Dean Protein's** cart.

Only paste foods that belong.

**Dean
Protein**



Appendix E

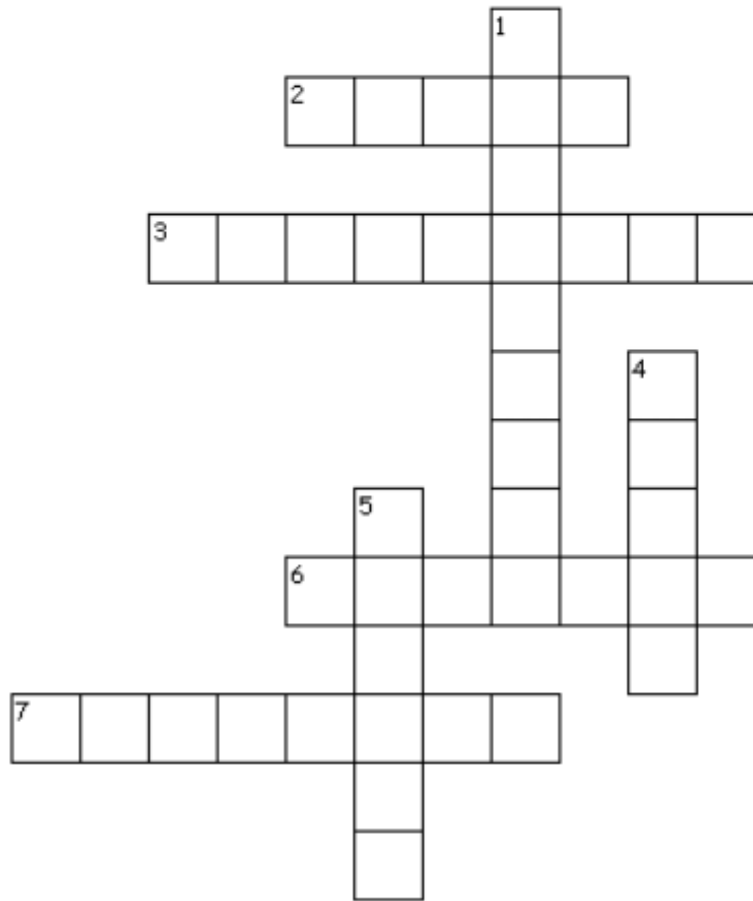
P	L	A	T	E
				
				
				

MyPlate Word Search

O Y U P J D E L D T O H T T D
U A R N A W P M I L K B Q O J
W J T E D H A G F V W U V P Y
U O R M L P R C H I C K E N W
O B R W E E G G Y F N Q V S A
O F K R Y A C T L O Q R Q C I
E U J I R G L G I M U W E H Y
R G T O R R A C N Z T L U E O
U S G P E P O Z E U P X S E J
R Q H V B C F E R P S E E S Z
E E E G E U I K A A U F J E H
G L D W U D E E B S C W U R U
G L P V L Y N B U U T V B K U
F M P C B I F D A A W W T C E
X E Q E P C H J I C E K G D V

BLUEBERRY
BREAD
CARROT
CELERY
CHEESE
CHICKEN
EGG
GRAPE
MILK
OATMEAL
PINEAPPLE
TURKEY

Appendix G



Across

2. This MyPlate category helps us build strong bones

3. This MyPlate food category includes food such as broccoli, corn, and squash

6. This MyPlate category of food helps us build strong muscles

7. We need 60 minutes of this per day

Down

1. The most important meal of the day

4. This MyPlate category includes foods such as bananas and grapes

5. This MyPlate category of food gives us energy and keeps us full

Appendix H

Campbell Elementary Nutrition Club Post-quiz

Name: _____

1. Circle the fruits



2. Which food helps give us strong bones?

A.



B.



C.

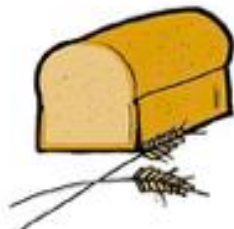


3. Circle the items that can help plants grow in a garden?



4. Which food helps us build strong muscles?

A.



B.



C.



Appendix H continued

5. Circle the vegetables



6. What is the best way to start your day?

A.



B.



C.



7. Circle the pictures where the kids are being active

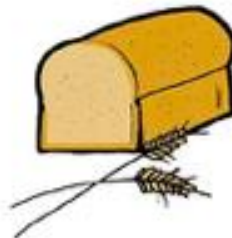


8. Which food gives energy and helps us feel full?

A.



B.



C.



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