**New York State Health Education Learning Standards**

**Standard 1 – Personal Health and Fitness**

Elementary Health Education

1. Students will understand human growth and development and recognize the relationship between behaviors and healthy development. They will understand ways to promote health and prevent disease and will demonstrate and practice positive health behaviors.

*Students*:

* possess basic knowledge and skills which support positive health choices and behaviors
* understand how behaviors such as food selection, exercise, and rest affect growth and development
* recognize influences which affect health choices and behaviors
* practice and support others in making healthy choices

Elementary Family and Consumer Sciences

1. Students will use an understanding of the elements of good nutrition to plan appropriate diets for themselves and others. They will know and use the appropriate tools and technologies for safe and healthy food preparation.

*Students*:

* understand the importance of nutritious food and how it contributes to good health, make simple nutritious food choices, and assist with basic food preparation

**New York State Math Standards – Grade 4**

**Problem Solving Strand**

Students will build new mathematical knowledge through problem solving.

4.PS.1 Explore, examine, and make observations about a social problem or mathematical situation

4.PS.3. Interpret information correctly, identify the problem, and generate possible solutions

Students will apply and adapt a variety of appropriate strategies to solve problems.

4.PS.13 Work in collaboration with others to solve problems

Students will monitor and reflect on the process of mathematical problem solving.

4.PS.20 Determine what information is needed to solve a problem

4.PS.21 Discuss with peers to understand a problem situation

4.PS.23. Verify results of a problem

4.PS.25 Determine whether a solution is reasonable in the context of the original problem

**Reasoning and Proof Strands**

Students will make and investigate mathematical conjectures.

4.RP.3 Investigate the use of knowledgeable guessing by generalizing mathematical ideas

**Learning Objectives:**

Students will be able to:

* Graph their estimations of daily caloric intake and calculated daily caloric intake.
* Use “Calories Used Table” to learn the effect of their actions on their calorie intake.
* Use previously acquired math skills to determine the amount of calories consumed/burned by an average Nathan’s Famous Hot Dogs Contestant.
* Assemble a daily food plan for themselves based on newly acquired knowledge of daily nutrition needed and using supplemental caloric information.

**Materials:**

* Internet source (http://www.active.com/fitness/calculators/calories.htm)
* “Calories Used Table” handout
* One small slip of paper per student
* Tape
* Pencil
* Packet listing a variety of foods (with listed calories count)
* Class graph
* Food plan worksheet
* Nathan’s Famous Hot Dogs informational sheet (contestants, calories of food)

**Set/Implementation Procedures:**

*Students will come to the rug to open a discussion about Nathan’s Famous Hot Dogs. “Over the past few weeks we have been talking about the importance of Coney Island in the history of New York City. Over the past few days, we have been talking about the foundation of Nathan’s Famous Hot Dogs and how this is still a very big business in Coney Island today that calls people from all over the world! One of the reasons that Nathan’s is so big is because of their Hot Dog Eating Contest that has been going on for 96 years this July 4th, so since 1916! People can qualify to be in this contest from 13 states, only taking the best of the best in hot dog competitors. Can anyone raise their hand and tell me how many hot dogs they think both a man and a woman (separately) can eat in 10 minutes? Right now, the record for most hot dogs and buns eaten in 10 minutes is* ***62*** *in the men’s category, and* ***40*** *in the women’s category! That’s a lot of hot dogs. Little do these people know, however, that hot dogs, especially in that amount, are not good for your health, especially when we look at the number of calories you are supposed to consume, or eat, every day. Calorie intake is different for everyone, depending on whether you are a boy or a girl, your height, weight, and if you are active during your day.*

* “If I tell you that if I consider my height, weight, gender, and activity each day, I should be eating no more than 2,300 calories per day. So now what we are going to do is write on these little slips of paper what you all think your calorie limit should be per day depending on your height, weight, gender, and activity each day. This can be an estimate, and you can work with a friend to figure it out if you would like. When you are done, take a piece of tape and plot your estimate on your slip of paper on this class graph. Later on, when we check our actual calorie limit, whoever gets the closest will earn a prize!
* Once you are done estimating, I will give you this “Calories Used Table” and a worksheet with information about the Nathan’s contestants. You’re going to have to do some math here. Follow the directions to figure out how many calories the contestants would burn and consume if they spread the contest out over an hour. Does anyone have any questions? Let’s get started!”
* The students will work in small math groups at their tables to figure out the worksheet. When each group is done, I will call them over to figure out their calorie limit per day on the computer. From here, they will be expected to use the packet of foods (with listed calories count) to determine what they want to eat in order to reach their limit (or close). From here, the will use the sheet to determine when they will eat what during the day. The worksheet will prod them to answer questions such as:
  + What might happen if I eat a lot more than my calorie limit?
  + What might happen if I eat a lot less than my calorie limit?
  + What might happen if I go running for one hour and then eat 100 calories over my calorie limit?
* Once students are all finished with their worksheets and we run out of time for their development of their meals (which will be finished for homework), we will come to the rug to discuss our findings.
  + Turn and talk to a partner: what have you discovered about Nathan’s hot dog contestants and their calorie consumption?
* We will come back together and have a conversation surrounding why this is a bad lifestyle choice for these contestants, and discuss any realizations we have come to throughout our process for healthy food choices.
  + What are the risks for eating so much of something with a lot of calories?
  + What about the time frame in which they accomplish something like this? Is this a healthy choice? Why or why not?

**Differentiation:**

* Students with special needs will have differentiated worksheets and will work with an adult/paraprofessional and a differentiated group that enables their success (a group on the same level).
* Students may have Boardmaker depicted picture of foods with bigger numbers to highlight what is needed to complete their worksheet.
* Students may use a calculator if needed.

**Assessment:**

* Informal assessment including:
  + Thoughtful, contributing, and appropriate participation in whole group discussion
  + Thoughtful, contributing, and appropriate participation in turn-and-talks
  + Thoughtful, contributing, and appropriate questions asking in small and whole group discussion
* Formal assessment including:
  + Is student able to make caloric estimate for him/herself?
  + Does student complete worksheet task?
  + Does student use previously learned mathematical formulas to figure out answers?
  + Does student show work?