Math Unit Portfolio

Methods II

April 3, 2009

Teacher Portfolio
Artifact Cover Sheet

ACEI STANDARD #: 2.3 Mathematics

2.3 Mathematics—Candidates know, understand, and use the major concepts, procedures, and reasoning processes of mathematics that define number systems and number sense, geometry, measurement, statistics and probability, and algebra in order to foster student understanding and use of patterns, quantities, and spatial relationships that can represent phenomena, solve problems, and manage data.

Element A: Candidates demonstrate multiple ways to explore and present number concepts.

Element B: Candidates facilitate K-6 students to be focused, coherent and resourceful in the use of appropriate problem solving tools, including mental arithmetic, pencil and paper computation, a variety of manipulative and visual materials, calculators, computers and electronic information resources.

Element C: Candidates analyze their own mathematical preconceptions, misconceptions, and error patterns and construct ways to correct their own learning.

NAME OF ARTIFACT: Methods Math Project – Lesson Plan Example

TYPE OF ARTIFACT: One Lesson Plan from within the Math Project

Brief description of artifact:

The students were instructed to collect data by filling in a nutrition journal. The children wrote down the calories, sodium, and fat found in the foods they eat and wrote them down on a chart. This required the students to read and use nutrition labels, and be able to recognize the different parts of a nutrition label to collect their data. Then, as a class, the data was used to introduce the students to line graphs as a way of visually representing their data. The students used computers to find nutrition facts about foods that did not have a label, and used calculators to generate their total caloric intake for each day.

Brief description of how artifact demonstrates ACEI Standard 2.3:

This lesson fulfills ACEI Standard 2.3 because it introduces the children to line graphing which is used to manage the data they collected in their nutrition logs. It discusses quantities, by asking the students to add their calories together to find their total caloric intake. It also asks the students to collect data and helped them discover a new way to represent said data. The children learned what uses graphs have, how to set one up, how to draw one, and finally how to place their data onto a graph.

For whatever nutrition information the students could not find, we used problem solving and looked up the missing information online through the use of nutritiondata.com. This opened the children's eyes to new resources that were available to them, and many of them seemed more comfortable with the project once they realized there would another way of going about retrieving the material.

Attached is the assignment that generated this artifact, one lesson plan from within the project, and the artifact assessment rubric completed by a Keene State College instructor.

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Standards

M:DSP:4:3 **Organizes and displays data** using tables, line plots, bar graphs, and pictographs to answer questions related to the data, to analyze the data to formulate or justify conclusions, to make predictions, or to solve problems.

M:DSP:4:1 **Interprets a given representation** (line plots, tables, bar graphs, pictographs, or circle graphs) to answer questions related to the data, to analyze the data to formulate or justify conclusions, to make predictions, or to solve problems.

When approaching this unit, it is important to understand what the state standard are actually requiring the teacher to accomplish. In fourth grade students are expected to be able to collect data and organize the data by creating graphs, line plots, and bar graphs and be able to take pre-constructed graphs and analyze them to answer questions(nheon.org/frameworks). It is expected that fourth graders have had some experience with graphing and collecting data prior to the fourth grade. According to the NCTM, all children from pre-kindergarten through high school should be able to "Understand numbers, ways of representing numbers, relationships among numbers, and number systems" (NCTM, 2004). This applies to their prerequisite knowledge that is constantly being built upon throughout their education. The National Council of Teachers of Mathematics, also claims that all third through fifth graders should "represent and analyze patterns and functions, using words, tables, and graphs" (2004). This means that students should be able to create a graph using their own collected data, as well as be able to look at a graph and be able to recognize the numbers that the graph represents.

This is a crucial skill for all people to learn because in so many situations graphs and charts are used to represent data; but often times, whoever made the graph or chart, is doing so to give weight to their claims, and often manipulate the graphs so that the

information on it looks different than it actually may be. This is seen frequently in line graphs that talk about global warming. People who claim that global warming does not exist often use graphs that with the time frame being incredibly huge, so that the temperature changes do not look as drastic. Though there is nothing wrong with the way in which the creator set up the graph, people who do not know how to read a graph properly would not understand that this graph represents an enormous amount of time. It is important that teachers know this, so that they can properly explain to their students how graphs work, and show them various ways in which the same data can look. For example, if someone were to use the average temperature for the past 200 years to make a line graph, it would look a lot different than a graph that graphed the exact high temperature of the past 200 days.

Another common misconception found with graphing often thought by students, is that one can have different increments on the different axis. This habit often means that the data is stretched out and the lines in a line graph and is a misrepresentation of the information.

Also, by having the students graph their own data, they are practicing their adding skills by adding all of the data parts per day together to make each point on the graph. This is practicing their adding of whole numbers which NCTM states as a clear standard for all students in elementary school, and more specifically for third through fifth graders.

To meet these standards in teaching, it means a lot of integrated lessons, and using multiple ways of approaching math. The NCTM in a survey of fourth and fifth graders, most students said that they liked math and that they thought of it as a necessary and practical skill ~~for them~~ to learn. To keep their interest in math sustained throughout the

middle grades, it is suggested that multi-unit integration be used to teach it. This way the students see the practicality behind the math itself, and receive a more interesting and engaging way of learning the information. This means as a teacher, one should try to connect the material to as many different really life uses as possible.

Nutrition and Graphing Research

To teach this lesson, one needs to have a basic knowledge of two subjects: that of nutritional needs of children, and line graphs. It is important to understand the nutrition that children need because, though almost the same, some of the rules that apply to adults do not necessarily apply to children. For example, people often think that because children are smaller that they do not need the same amount of calories as adults. This however is not always true. As discovered, it has been found that most children between the ages of 5 and 8 need roughly 1,400 to 1,600 calories, which is the same amount that is recommended for most adult women. People often forget that children are growing at very fast rates and have a great deal of brain development going on, and therefore they need more calories (Kovacevic,2008).

It is important to teach children how to make healthy nutrition choices early on in their childhood because studies show that they will be more likely to make better food choices in the future. Incorporating the use of nutrition labels into this lesson is important because it is the way in which people obtain information about the food they are eating. Without knowing how to read these nutrition labels, the information on them is virtually useless. Parents and students who understand how to use nutrition labels and their daily value measurements will, in general, lead much healthier lives, and make healthier decisions (BCM, 2004).

Eating healthy is an important necessity in our lives, which many people do not know how to do – especially children. Many children are not taught how to eat well, and many do not understand the health risks in not doing so. There are ten claims that science has proven true, that relate to the way we eat. The first claim being that having the recommended amount of calcium helps prevent developing osteoporosis later in life. Since, cancer cells often develop in fat cells, having a high fat content can be linked to cancer. Also, ingesting a great deal of foods high in

saturated fats and cholesterol has been proven to be key components in heart disease. On a positive note, eating fruits and vegetables and other high fiber foods has been known to reduce the risk of cancer as well as heart disease. Soluble fibers found in foods like oatmeal, as part of low cholesterol and fat diet is proven to reduce the risk of heart disease. These are all incredibly common illnesses found in the United States. Teaching children which foods are better for them maybe help them live longer, healthier lives (Kurtzweil, 2004).

The second part of this lesson that requires good background knowledge is that of line graphing. Line graphs are often used to represent the relationship between two different variables visually, one variable being independent, the other dependent. The independent variable, being the one that changes in consistent increments regardless of the situation; the dependent variable changes depending on the independent variable. In most cases, the independent variable is the year, or day, and the dependent variable is the data that is being plotted on the graph. "A line graph is most useful in displaying data or information that changes continuously over time" (Lew, 2000). Having this information is valuable because without having a thorough knowledge of the concepts, the concepts cannot be properly conveyed to the students.

Micro-Teaching Summary

When I showed a shortened version of this lesson to my classmates, I felt like it was very difficult to explain every single point in the project without taking far too long. I also was very tired that morning and so I know I was somewhat scatter-brained during my presentation, which I think might have added a little confusion. I think what most surprised me about my feedback was how many people told me I should not ask the children to look at what they are eating at home. I felt as though a lot people had kind of put words into my mouth by telling me that I need to be careful because I could shame some of the children for not being able to eat well. I know I had said I would make a cheat sheet for the children with all kinds of foods on it, good and bad, but I thought it was clear that I was simply talking as a peer at that point, and not pretending that they were my students. I also received a lot of comments that said I should throw out my whole lesson, and instead, make a menu for the children to choose what they would like to eat and then say, "This is what you would have eaten". I liked this idea, but at the same time, I felt as though it is not as useful in their life because it's not an accurate representation of what they are eating. Upon discussing this idea with my cooperating teacher, she completely disagreed and said the children have already been taught a lot about nutrition and that they know that there are good foods and bad foods.

I felt that most of my comments were about not hurting the children's feelings, and being careful as to how I approached this topic, which I completely agreed with. One of my major concerns with teaching this lesson was that the children would start counting their calories all the time, and start managing their weight. What I did in hopes of preventing that, is I simply left out their daily recommended caloric intake. I did not change too much though. I felt like watering down the information too much, by leaving out major points, such as healthy foods and

unhealthy foods, would have been a disservice to the children, because essentially, it would be a lie. I think there is a fine line between being careful and being dishonest. I feel that it would a disservice to the children if I told them Easy-Mac was as good of a food choice as an apple. Therefore I did not change very much within my lesson, I just made sure that I was wording everything very carefully, and I never mentioned a single thing about weight gain or weight loss.

Annotated Bibliography

How do the daily values found on food labels compare to the nutritional recommendations for children? (2004, April 2). Retrieved March 21, 2009, http://www.bcm.edu/cnrc/consumer/archives/percentDV.htm

This article is great, and listed all the important details about teaching children their bodies' daily nutritional needs. It has in depth graphs of caloric needs for children from the ages of 2 to 18.

Kovacevic , K. (n.d.). *Information on basic nutritional needs for children*. Retrieved March 21, 2009, http://www.sheknows.com/articles/807145.htm

This is an article that gives parental advice on how to ensure that children get the required amount of each food group, and explains the needs of their growing child.

Kurtzweil , P. (n.d.). *Food label makes good eating easier*. Retrieved March 21, 2009, http://www.bcm.edu/cnrc/consumer/archives/foodlabels_teens.htm

This article talks about the importance of people being able to read food labels, and lists the 10 major health claims that have been proven my scientists.

Lew , T. (n.d.). *Line graphs*. Retrieved March 21, 2009, http://www.mcwdn.org/Graphs/LineGraph.html

This is an article discussing the way in which line graphs are used and how they are set up. It gives many examples, and also describes why line graphs look the way they look.

Line graphs (n.d.). Retrieved March 21, 2009, http://www.mcwdn.org/Graphs/LineGraph.html

This is a very brief article giving a definition of a line graph, and the most common uses of line graphs.

Outcomes and Assessments

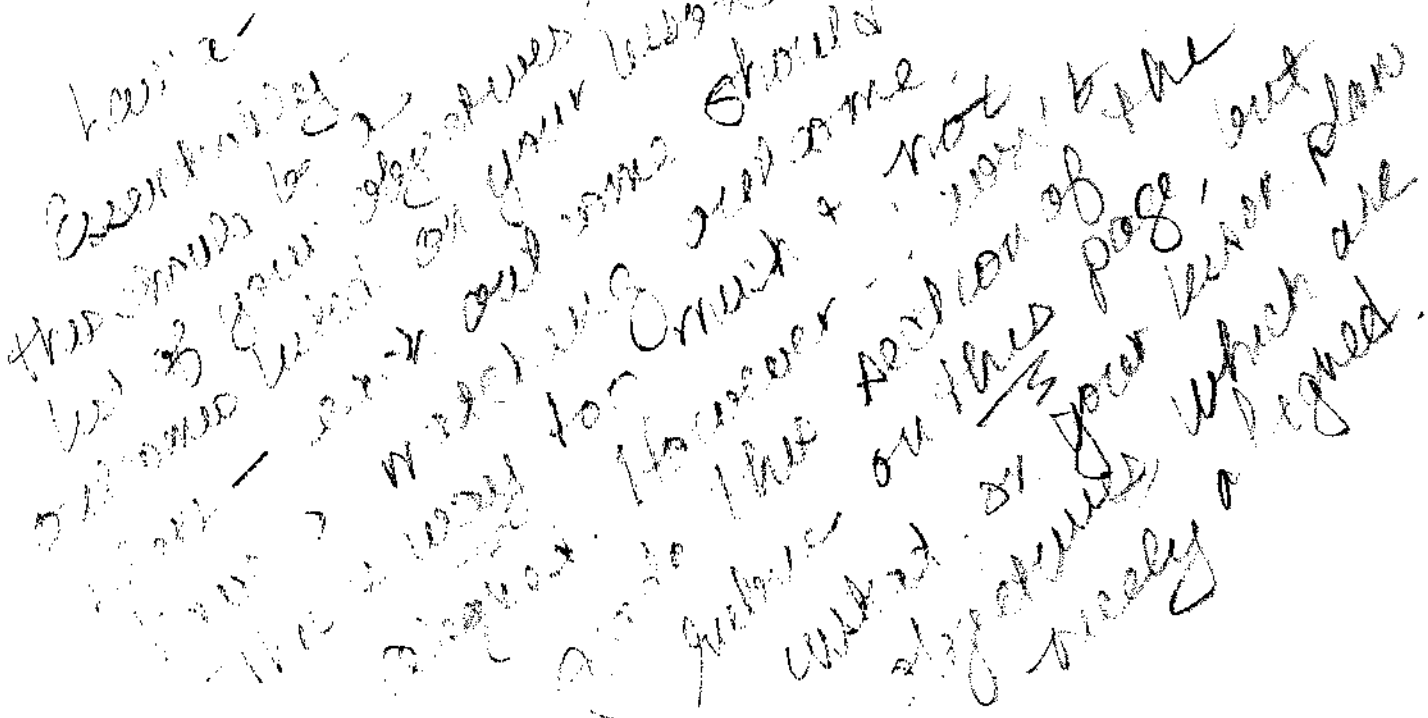
For this Nutrition/Math lesson, there are several desired outcomes. The lesson is intended to be an extension of their human body and nutrition lesson that will hopefully give them a more personal look at healthy eating. The hope is that the lesson will be important to them, and fun for them because it connects to their own, personal, lives. The following is a list of the desired outcomes:

- For students to practice collecting fairly complicated data that connects to their personal life.
- To review their knowledge of nutrition and healthy eating.
- To discuss and practice how to read and use a nutrition label.
- To reflect on their lifestyle habits and to help them make healthy informed decisions about the foods they eat – providing they have the choice.
- For students to ~~practice carr~~ying, ~~and addition~~ by add~~ing~~ their calories together to ~~find the~~ caloric intake.
- Students ~~should be able to~~ complete the nutrition log and ~~will be~~ responsible for bringing it ~~back to~~ class.
- Students will learn ~~how to~~ set up a graph and the important details of setting up a graph.
- For students to have drawn a line graph using their collected data.
- Students should ~~know how to~~ read a line graph.

Assessment:

- Students will be given a chart which they will be expected to fill out while collecting their nutrition facts.
- During the lesson time, I will ask students about calories, sodium, and fat, and what they remember from their nutrition unit with Mrs. Martin.

- To prove the knowledge of nutrition labels, I will ask the students to help me identify the parts of a nutrition label. Each student will be asked to read specific information from different nutrition labels.
- During the interviews I will ask the students how they felt about their project, and what they learned about their own lives through doing it.
- The students are familiar with carrying, but through adding the calories together per day, they will have the chance to practice carrying and addition.
- The students will be expected to complete their nutrition journal at home, and will have the opportunity to look up information they can not find, but will be responsible for having their nutrition journal in class, and completed.
- The students' ability to graph their information will be assessed by the completion of their own graphs.
- Each student will have a copy of their own graphed information that I will collect and review to see that they completed it properly.
- I will know whether or not the students understand how to read their graphs by asking them to analyze their graphs and ask them to tell me what the graphs tell them.



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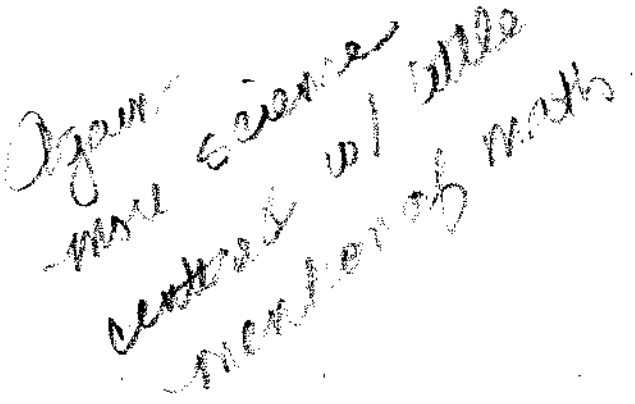


LESSON PLAN FORMAT

Name: Laura Blouin Date: 3/12/09 Grade Level: 4

Subject: Data Collecting Topic: Nutrition

Purpose: To teach the children how to collect data, read a nutrition label, and how to take care of themselves.

Curriculum Standard: M:DSP:4:3 **Organizes and displays data** using tables, line plots, bar graphs, and pictographs to answer questions related to the data, to analyze the data to formulate or justify conclusions, to make predictions, or to solve problems.

Objective(s): Given the knowledge of how to read a nutrition label, the children will read these labels and record the data for the food they eat.

Materials Needed for Learning Experience:

Teacher:

- Handout "cheat sheet"
- booklet chart
- 4 Example nutrition labels (for practice)

Anticipated Length of Learning Experience: 30 minutes

Student Grouping: Whole class

Prerequisite Knowledge:

Teacher:

- Knowledge of a nutrition labels
- The recommended number of calories and grams of sodium and fat for a 10 year old child.

Student:

- Knowledge of a nutrition labels
- The recommended number of calories and grams of sodium and fat for a 10 year old child.

Procedure:

- First I will tell the students that we are going to revisit nutrition and collect data using nutrition labels.
- Then I will ask the students what they think we use nutrition labels for. They should say something like, "To see how much fat is in what you're eating, how much salt is in it, how many calories, how healthy it is...etc."
- I will explain that each of them will need to go home and look at the food they eat and write down the sodium, fat and calories in a log that I will be passing out.
- Then I will tell the children that if they eat something and it doesn't have a nutrition label, and it is not on the "cheat sheet" that is in the back of the booklet,

then simply write down the food and how it was cooked, i.e. baked, fried, steamed, boiled etc, and we will take time to look it up online as a class.

- Then I will model how to fill out the log by handing a student a box with a nutrition label on it and ask them to find the calories, sodium or fat on it, and tell me how much that food has in it. I will give each student a chance to pick out one thing on one label so I can make sure that they all know what they're looking for.
- Then I will explain that it is very important that they keep on top of their logs because the information will be important for the following Monday, when we will look up what information we couldn't find, and then graph our results as a class.

Assessment: How will you know how to adjust your teaching to meet the immediate needs of the students? How will you know the lesson's objectives have been met? How will the student know a skill or concept has been learned or knowledge gained?

1. **Formative:** By using physical nutrition labels in class and asking the students to answer my questions I will be able to tell whether or not they understand the concept of reading the labels. It will also tell me that they know what they are looking for and that they were paying attention during the lesson.

2. **Summative:** The nutrition logs will serve as a hard copy of their understanding as well as their homework responsibility.

Child Guidance:

Proactive Considerations:	Reactive Considerations:
-I will demonstrate how to read the nutrition labels by reading labels in class and asking them to show their knowledge as well. -I will also demonstrate how to fill out the logs so that they will know how to do it on their own. -I will tell the children before we start the lesson that I will need everyone to be quiet and to pay attention because they are going to need to remember this for when they're doing it on their own. -They will be asked to tell me one of the three things we'll be looking at, using actual food labels. Each student will be expected to tell me one thing on the label.	-If students do not remain quiet during the lesson, I usually start by looking at the guilty party to show them that I know its them, or I "shh" to everyone in general. Then if that doesn't work, then I start saying "there's some chatter over here, and there shouldn't be", then When that doesn't work, I address the individuals directly and tell them to stop, if they do not stop, then I will keep them in for recess (which is the teacher's policy) to write a letter explaining to their parents, which must be signed, why they're in for recess.

Needs for Lesson Participation:	Modification Required:
-Students will need to activate their prior	-I will ask the students to tell me what they know

knowledge of nutrition, and nutrition labels. -The make it more interesting I decided to let the children read the labels for me to prove to me that they know where they are supposed to look on the label. +During this part of the lesson it will need to be done quickly so that the students who are not having their turn do not get too distracted and out of control.	about reading food labels, and ask them to tell me what sodium is, and what calories are. This should get them to start thinking back to a couple weeks ago when they were learning nutrition. -When I start the label reading activity I will try the "force field" silence activity. This is where I act like a nerd, and say that when I push the button and make the sound, they should be silent. If they do not respond to this, which they may not because they might be a little too "cool" for it, I will revert back to the "give me five" thing.

Reflection:

This part of the lesson went very well. The children we interested and engaged and seemed fairly excited about the prospect of this project. The only thing they seemed to have a problem with was that they were going to have homework on a Friday when they typically don't. Once I explained that it would not take them very long, they were okay with it. They seemed excited about graphing the results. This class is particularly responsive to hands on activities.

The only problem I did have with this portion of the lesson was that some students simply did not fill out the nutrition journal. A few of them had written foods down, that have nutrition labels, but did not complete the process by looking at the nutrition label and writing the facts down. For example, some children had Trix cereal written down but no nutrition information. So my cooperating teacher asked me if I wanted to talk about it to the children, and ~~so~~ I kind of made up a quick lesson on the spot, and reminded them they need to check the labels.

For the food that did not have nutrition labels and that were not on the attached nutrition guide, we spent sometime on the computers looking up their foods on Nutritiondata.com. We also used calculators to add the calories together to find our daily caloric intake. In general I think the lesson went well, although not having enough computers for all the students made it really difficult.

Name: Laura Blouin Date: 3/18/09 Grade Level: 4

Subject: Graphing Topic: Nutrition

Purpose: To introduce the concept of collecting data and graphing it.
Curriculum Standard: M:DSP:4:3 **Organizes and displays data** using tables, line plots, bar graphs, and pictographs to answer questions related to the data, to analyze the data to formulate or justify conclusions, to make predictions, or to solve problems.

Objective(s): After collecting the data for filling out their logs, the students will graph their own data on graph paper and attaching it to their nutrition logs

Materials Needed for Learning Experience:

Teacher: Graph paper, their own nutrition log completed and filled out.

Student: Ruler, pencil, colored pencils, graph paper

Anticipated Length of Learning Experience: 50 minutes

Student Grouping: We will do this lesson as a whole class.

Prerequisite Knowledge:

Teacher:
-Knowledge of line graphs

Procedure:

1. Ask the students to pull out their logs, and ask how this project went for them. Then ask if anyone has some food that did not have a nutrition label and send them out to the computers to look up the nutrition label on Nutritiondata.com. About 15 minutes
2. Once all the students have looked up the foods that did not have a nutrition label we will regroup and add our calories together for each day.
3. Then I will pass out graph paper and rulers and tell them that we are going to make a line graph using the data from the nutrition data we collected. I will ask the students if they know what a line graph is and I will have someone come up to the board and show me what they think it looks like. Then I will explain that we are going to graph our results and make a line graph.
4. I will show the students how to set up a graph for our data on the white board. I will graph my own data, and each student will graph their own data. I will explain that they need to keep the increments on the graph consistent otherwise the graph will have misleading data. I will give the students time to set up their graphs and I will walk around and help them set them up. This should take about 10 minutes.
5. I will ask the students to pull out their colored pencils and then I will graph my first three days showing the students that each day is its own point on the graph connected with one line to show the shift.
6. Then I will ask the students to graph their data, and I will walk around helping students who need it.
7. After everyone has graphed their data I will ask everyone what their graphs showed them. Did they eat a lot more calories one day than the others? Did it stay fairly consistent the

whole week long? If someone did eat a lot more on certain days, ask if they did something special that day? (i.e. If we did this project over Christmas break, we'd probably see a couple of jumps because of the large dinners etc.)

Assessment: How will you know how to adjust your teaching to meet the immediate needs of the students? How will you know the lesson's objectives have been met? How will the student know a skill or concept has been learned or knowledge gained?

1. **Formative:** I will ask the students to contribute their knowledge of graphs during the lesson, and while I am walking around I will be able to see how they have understood the data and I will ask students to help me place the points from my data on the graph on the board.

2. **Summative:** I will collect their learning logs at the end of the lesson and check through them to make sure that everyone understood how to graph the data.

Child Guidance:

Proactive Considerations:	Reactive Considerations:
-I will walk the students through the graphing process step by step, showing them each step as we go. - I will not ask the students to pull out their colored pencils until we are about to use them, and I will not pass out their rulers or graph paper until we have come to that part of the lesson. -If I notice that a student has been particularly quiet I will ask them if they have any questions or anything they'd like to contribute.	-With this lesson, I will not be able to allow students to call out or be distracting in anyway. There is a student who is constantly being disrespectful and disruptive and turning around during the lesson and I will have to tell him to take a time out if he can not follow the direction like everyone else. I think perhaps I might even separate him from the group and giving him his own study area for the lesson. He tends to want to talk to the people around him. -I will use any one of the attention getting techniques that I have. -If students are confused by the lesson, then I will re-explain what I am asking them but in a different way. If it seems that only one student is having trouble I will let the rest of the class work on their graphs and work with that individual student.

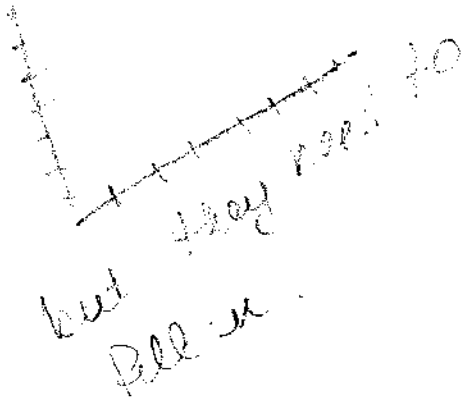
Reflection:

Today I taught the graphing portion of the math unit. As a class we graphed our caloric intake per day so we could see the different amounts of calories we take in per day. None of the children had ever made a line graph before them and so this was a good opportunity to introduce them to something new.

We had been working on completing our nutrition journals for almost two weeks and because some of the children did not do their homework the first time, and my original observation time was postponed, I gave them extra time to complete it, and they all were finished on the 26th. I asked the children to leave their nutrition journals at school and in their desks, and then on Monday, I reminded them to make sure their

nutrition journals we at school, and if not, to bring them back to school. Of course not all of them remembered, and I though I expected it somewhat, it still threw me off a little bit. I told those two children they could graph my information just so they had the practice, but only one of them did it. What I found frustrated me most was that they did not seem to want to try any of them because it meant they would still need to put in their own effort. In my follow-up discussion with Dr. McLoughlin she suggested that I have back up information to give them that way they would be able to do the activity. I like this idea, and I think it does solve the problem, and I will definitely use this idea in the future. Though I think when I do use it in the future, there will have to be some sort of penalty, that will vary based on grade level, that way it is fair to the children who were responsible and who did their homework.

I think a majority of the students understood this lesson, though I think what hurt the lesson was that is was little rushed. I had planned to take more time with the children, but they had a special directly after. I think almost all the student could benefit from maybe having another, less guided lesson, on the same thing. This way, the can really prove they know how to look at data and create a line graph. I found that the students had the most trouble with setting up their graphs and connecting the dots sequentially. I had not really though there would be much conflict with that so I think I could modify my assessment slightly to address the student's competency in this area.



Rationale for Choosing Too Much

For the introduction of this lesson, I chose the book Too Much, by Linda T. West because it describes a young boy who loves food so much that he eats absolutely everything, and his health is becoming at risk. This book, uses rhyming to convey the importance of eating healthy and making healthy decisions about foods so that children grow up to be strong and healthy. The story does not discuss dieting, but it discusses having a well rounded diet of all the food groups, and even goes as far to say that you do not need to completely cut out the sweet treats, but simply have less of it.

The story also has potential for many different activities that could connect to my lesson. For instance, I could use a Venn diagram for the children to use to compare how they and Luke eat. I could also potentially make a list of all the things that Luke eats in the story, and break the children up into groups, and have them go onto a computer and look up the nutrition information for all the things that Luke ate. Then we could regroup and, as a class, share the data we found, and add it all together. (If I were to do this activity, I would not have them complete the nutrition journals). We would look up the daily recommended caloric intake for a boy Luke's age and graph his caloric intake, compared to his recommended caloric intake, using a bar graph.

I think this story is a more fun and interesting way to learn about nutrition and the importance of eating well and making good food choices. I think the moral of the story is important too, because being healthy does not mean being skinny; and I think that is a common misconception within the United States, and this book makes it clear that that is not the case. It encourages children to eat their favorite foods, but to balance it out by making healthy food choices as well. I think this is an invaluable lesson that children should be taught as early as possible so that they know to make healthy choices in their adult life.

Name: Laura Blouin Date: 3/18/09 Grade Level: 4

Subject: Nutrition Introduction/Math Unit Topic: Healthy Eating

Purpose: To introduce the children to nutrition and collecting data using nutrition labels and connecting the material to literacy.

Curriculum Standard: M:DSP:4:3 **Organizes and displays data** using tables, line plots, bar graphs, and pictographs to answer questions related to the data, to analyze the data to formulate or justify conclusions, to make predictions, or to solve problems.

Objective(s): After reading the story Too Much, by Linda T. West, the students will demonstrate their knowledge of the story and the importance of eating healthy, by writing a reflection on why they think the main character's eating habits were such a problem.

Materials Needed for Learning Experience:

Teacher: The book Too Much

Student: Paper and pencil

Anticipated Length of Learning Experience: 30 minutes

Student Grouping: Whole group for the read aloud, and then individual work for the student reflections.

Prerequisite Knowledge:

Teacher: knowledge of what is means to eat healthy, knowledge of the story, and the moral of the story.

Procedure:

1. Students will need to gather on the rug and sit audience style facing me. I will introduce them to the concept of nutrition and what it means to eat healthy.
2. I will read them the story Too Much by Linda T. West, and I will ask them, what they think the story is about judging by the picture. (Students should say something like "it's about overeating, eating bad foods, being over-weight).
3. At the end I will ask the students to tell me why the main character Luke, needed to slow down and be more careful in the way he ate. (Answers will vary, but they all should say that it's because he ate too much, and too much of it was unhealthy etc.)
4. I ask students to tell me why it is important that we have a balanced diet. (Answers should be along the lines of, because our body needs a bunch of different things to make it strong)
5. I will delve into the different categories of food. I will discuss, grains, dairy, vegetables, fruit, meat and fats, and I will talk to them about the appropriate serving size of each.
6. If there is extra time, and this first portion of the lesson goes quicker than expected, then, students will reflect on their own eating habits, and think about how they eat compared to Luke, in the story.

Assessment:

1. **Formative:** The major form of assessment in this lesson is formative, as most of their knowledge will be determined by who answers questions, and how they answer questions.

2. Summative: I will ask the questions that I have stated in the lesson plan and I will use the answers to these questions as a major form of assessment. However, if there is extra time, and the students end up writing their reflections, then I will also have that form of assessment as well.

Child Guidance:

Proactive Considerations:	Reactive Considerations:
-I will ask students to remain quiet during the reading, and that if there is a question and it is an appropriate time to stop then I will call on them. - I will not allow students to call out of turn and any student who does, which is a fairly frequent occurrence in this class, I will not answer their question, and I will say, "I am going to call on so-and-so because they raised their hand quietly, and patiently before they shouted out the answer". -There will be a class discussion on the book and on the nutritional information as well. -I will allow for each question to have more than one answer, and whoever raises their hand, maybe have a chance to express their opinion and thoughts on the question.	-Students who do not raise their hands quietly will not be called on, because it discourages other students from practicing their manners and classroom rules. - If students become too antsy after the story, I will ask the students to stand up, and do some quick, fun, silly exercise with me for the sake of letting out some excess fidget energy. Then we will return to the nutrition discussion. -At certain points within the lesson, I will stop and ask the students "Are you on the bus?" which is a way of asking them if they get it. The students will then give me thumbs up or down, and those who have their thumbs down I will try a different form of explaining the material.

Needs for Lesson Participation:	Modification Required:
-A few of the students have trouble sitting still and not shouting out the answers to my questions without being called on. -The nutrition part of the lesson has the potential to be very dry and boring.	-This is where the silly exercise comes into play. The idea is that, if they have a chance to wiggle a little bit, and get it out their system, then they will hopefully be calmer throughout the rest of the lesson. -To engage the students during the nutrition portion of the lesson, I will have pictures, and charts for them to see, and I will ask students to vote on certain things like "whether a cup of grains will be more or less filling than a piece of chocolate". The students enjoy these types of games within their lessons.

Need 2 APA refs. (your book, your website, your standards)

Math Lesson: Pre-Interview

1.) What have you learned about Nutrition?

I learned that there are good foods and bad foods, and that we should eat fruits and vegetables because they are good for us.

2.) Do you know where to find the nutrition information for your food?

On the nutrition label

3.) How much attention do you pay to what you eat?

Uhh....not too much.

4.) Have you ever done any graphing before?

Not really

5.) Have you ever counted your calories before?

No

6.) Is there anything that makes you feel nervous about this upcoming lesson?

No.

Math Lesson: Mid-Interview

1.) What do you think of this nutrition project so far?

Good, it's interesting.

2.) Was completing your nutrition journal easy or hard for you?

Kind of in between

3.) Were you surprised when you looked at what you were actually eating?

Yeah

4.) What have you learned through doing this project so far?

To eat healthy

5.) Was there anything that could have been made clearer to you?

No

Math Lesson: Post-Interview

1.) Had you ever seen a line graph before?

No

2.) Had you ever made a line graph before?

No

3.) How did the lesson go for you?

Good

4.) Do you feel confident that you now understand how to make a line graph?

Yes

5.) Was there any part of the lesson that was tricky for you?

No

Interview Summary

I interviewed the same student throughout this lesson. This particular student is average academically, but due to multiple family events that required him to leave school often, he is very far behind. I was not entirely surprised at his answers when interviewing him. When I questioned him he often gave me one word answers, or answered with gestures. I am not sure if he was uncomfortable, having a rough day, or just not particularly interested in the interviewing process, but this student is very chatty in general, so it seemed strange that he would not share more with me.

What I found most interesting was the post-interview with this child. When I asked him the question "Was there any part of the lesson that was tricky for you?" he answered "No"; but in fact, during the lesson, he had raised his hand said that he did not understand how to set up the graphs, so I had to go back and try it another way. I thought it was interesting that he would tell me that he was stuck in class during the lesson, and in front of his peers, but in private, after the lesson was over, he would not admit to having trouble, even though he knew his name would not be on this, and no one in the class would ever see it.

Day: _____ Name(s) [redacted]

	Fat	Sodium	Calories
	Fat	75 mg Sodium	100 Calories
	Fat	65 mg Sodium	50 Calories
	Fat	65 mg Sodium	40 Calories

Food List:

This is the journal of the student I interviewed. He did very well with completing the journal, and once I re-explained how to set up a line graph he did well with that as well. You can see where he made a mistake in graphing his data.

100
100
75
65
40
+ 65
545

100
100
200
400
50
40
+
890

Food Name(s) _____

	1.5 g Fat	190 mg Sodium	100 Calories
	B 4 g M 2 g Fat	B 200 mg M 40 mg Sodium	B 100 M 150 Calories
	0 g Fat	40 mg Sodium	300 Calories
	4 g Fat	100 mg Sodium	400 Calories

Food List:

11.5

200
190
40
40
+ 100
470

150
100
100
300
400
1,050

Food Name(s)

	5		89		800	
milk	2	Fat	16	Sodium	100	Calories
	5		100		200	
2%	2	Fat	55	Sodium	300	Calories
			400		500	
		Fat	200	Sodium	300	Calories
			1,000		400	
		Fat	500	Sodium	1000	Calories

Food List:

25

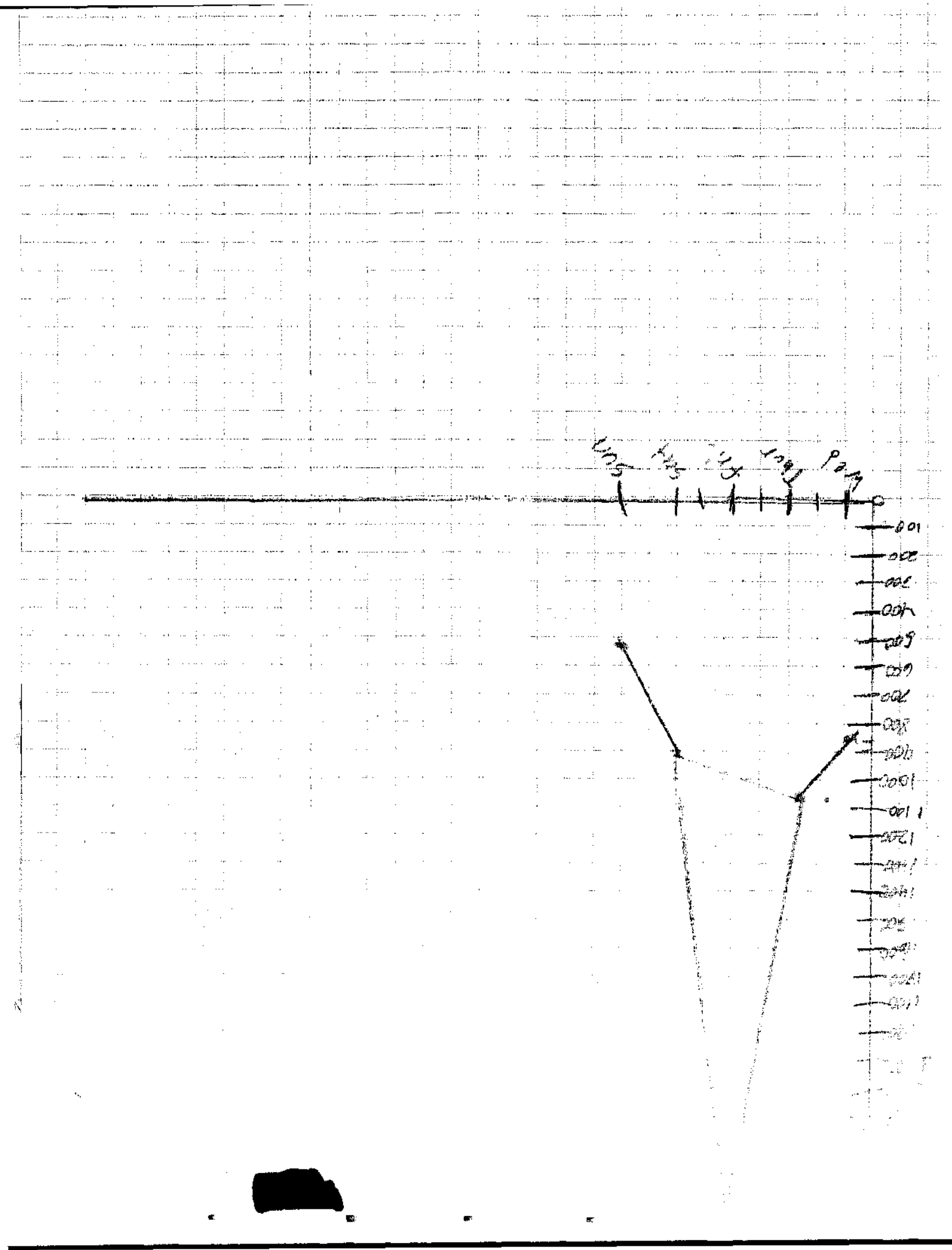
1,000
400
500
200
55
100
89
16
1,600

2
1,000
300
500
300
400
800
100
3,400

Food Name(s)

	Fat	Sodium	Calories
	0g Fat	400mg Sodium	200 Calories
	3g Fat	400 Sodium	300 Calories
	4g Fat	700mg Sodium	400 Calories
Food List:	7g	1,500	900

Food Name(s)			
	1.5g Fat	19mg Sodium	100 Calories
	Fat	Sodium	Calories
	09 Fat	400 Sodium	200 Calories
	11g Fat	768mg Sodium	268 Calories
Food List:	12.5	1,187	568



[redacted]

MONDAY, 3/23

		FAT (g)	SODIUM (mg)	CALORIES
Breakfast	blueberry pop tart	5	190	200
	4 oz. milk	2	60	65
Lunch	school lunch - taco shell with	4	82	98
	cheese sauce	5	360	60
	8 oz. 2% milk	4	120	130
Dinner	McD's HM crispy snack wrap	16	780	260
	water	0	0	0
Snack	wheat bread with peanut butter	17	310	260
	Capri Sun juice pouch	0	15	70
	pudding	3	130	120
	TOTAL:	56	2047	1263

Though this student journal is typed and complete, it took two weeks, and two copies of the original journals, and a note home before the journal came back completed and the student outright told me, that her mom did it for her. On the positive side, she did very well on the graphing.

[redacted]

TUESDAY, 3/24

		FAT (g)	SODIUM (mg)	CALORIES
Breakfast	fried egg	7	94	90
	on wheat toast (1 slice)	3.5	345	110
	with approx. 1 tblsp. ketchup	0	190	15
Lunch	school lunch - baked chicken	10	99	275
	8 oz. 2% milk	4	120	130
Dinner	homemade pizza with tomato sauce, mozzerella cheese	12	440	172
	8 oz. iced tea	0	0	70
Snack	blueberry poptart	5	190	200
	sugar free pudding	3	130	120
	Capri Sun juice pouch	0	15	70
	Cadbury crème egg	5	20	150
	TOTAL:	49.5	1643	1402

[redacted]

WEDNESDAY, 3/25

		FAT (g)	SODIUM (mg)	CALORIES
Breakfast	blueberry pop tart	5	190	200
	4 oz. milk	2	60	65
Lunch	school lunch - 3 pancakes with syrup	10	99	279
	8 oz. 2% milk	4	120	130
Dinner	corned beef	10	1000	803
	potatoes	0	3	68
	carrots	0	45	27
	8 oz. iced tea	0	0	70
Snack	ice cream sandwich	6	140	200
	sugar free pudding	3	130	120
	Capri Sun juice pouch	0	15	70
	TOTAL:	40	1787	1962

[redacted]

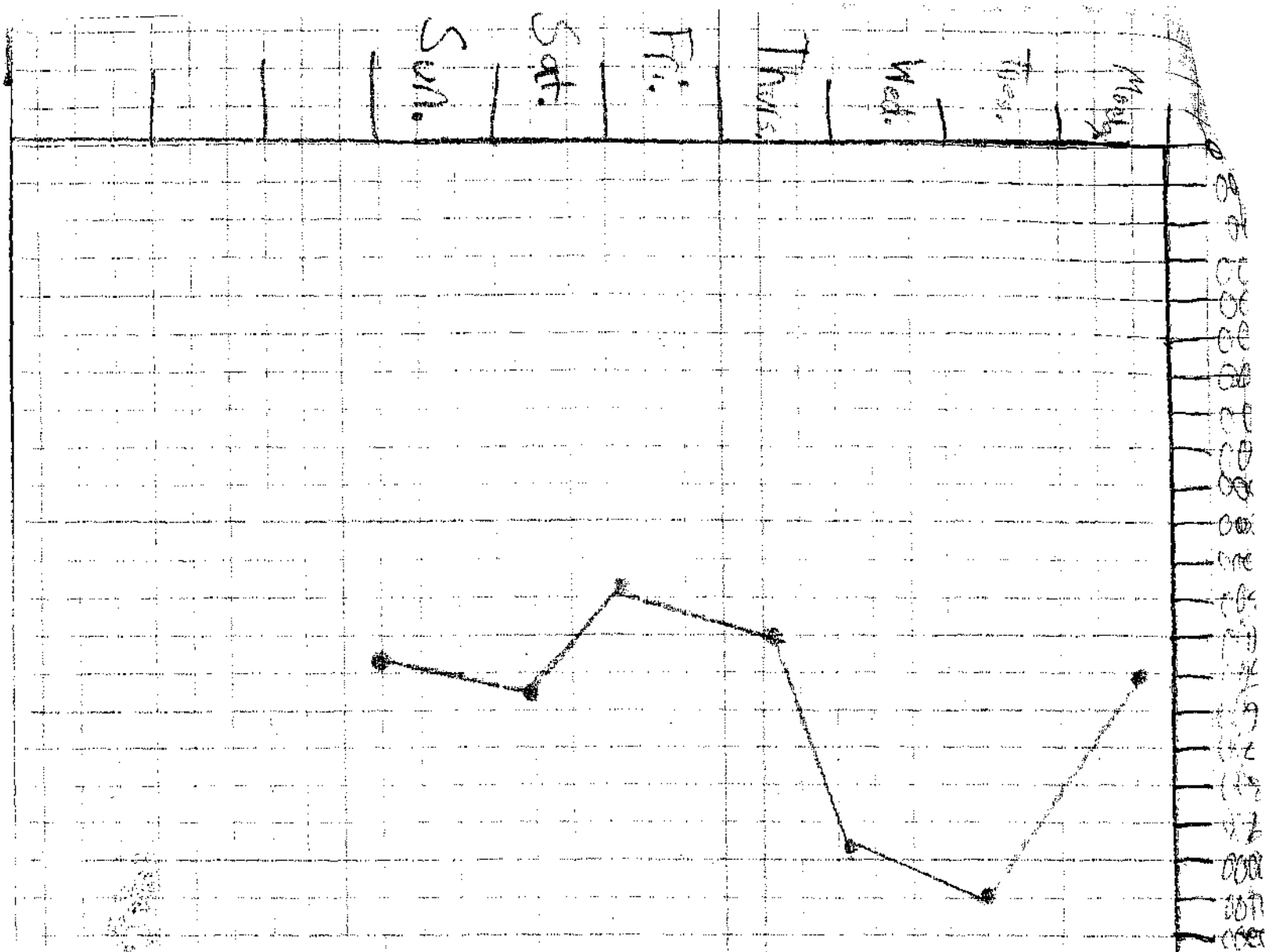
THURSDAY, 3/26

		FAT (g)	SODIUM (mg)	CALORIES
Breakfast	Cheerios	1	93	51
	4 oz. milk	2	60	65
Lunch	school lunch -- 1 slice pizza	24	880	530
	apple juice	0	10	114
Dinner	grilled steak	10	1000	803
	corn	0	0	37
	8 oz. iced tea	0	0	70
Snack	sugar free pudding	3	130	120
	Capri Sun juice pouch	0	15	70
	animal crackers	6	190	240
	TOTAL:	46	2378	2100

[redacted]

FRIDAY, 3/27

		FAT (g)	SODIUM (mg)	CALORIES
Breakfast	blueberry pop tart	5	190	200
	4 oz. milk	2	60	65
Lunch	cheese ravioli	12	180	320
	8 oz. 2% milk	4	120	130
Dinner	beef stir fry with broccoli, onions			
	baby corn, green peppers	10	115	240
	on rice	0	0	121
	8 oz. iced tea	0	0	70
Snack	Pringles	20	360	300
	Capri Sun juice pouch	0	15	70
	chocolate ice cream			
	TOTAL:	53	1040	1516



[redacted]

[redacted] Food Name(s) [redacted]

	Fat	Sodium	Calories
	Fat	Sodium	Calories
	Fat	Sodium	Calories
	Fat	Sodium	Calories

Fail :(

This student did not do so well with this assignment. Even after computer time, and after I looked up some of the foods on his list for him, he still did not finish.

It is obvious by his graph that I will need to re-teach this concept to him.

J. Thursday **Food Name(s)**

	Fat	3.62 730 180 Sodium	37 129 410 Calories
	320 87 Fat	150mg 302mg Sodium	149 7.99 Calories
	Fat	Sodium	Calories
	Fat	Sodium	Calories

Food List: 444 Fat 604 Sodium 461.19 Calories

J. Friday

Food Name(s)

	Fat	Sodium	Calories
	Fat	Sodium	Calories
	Fat	Sodium	Calories
	Fat	Sodium	Calories

Food List:

J. _____ Food Name(s) _____

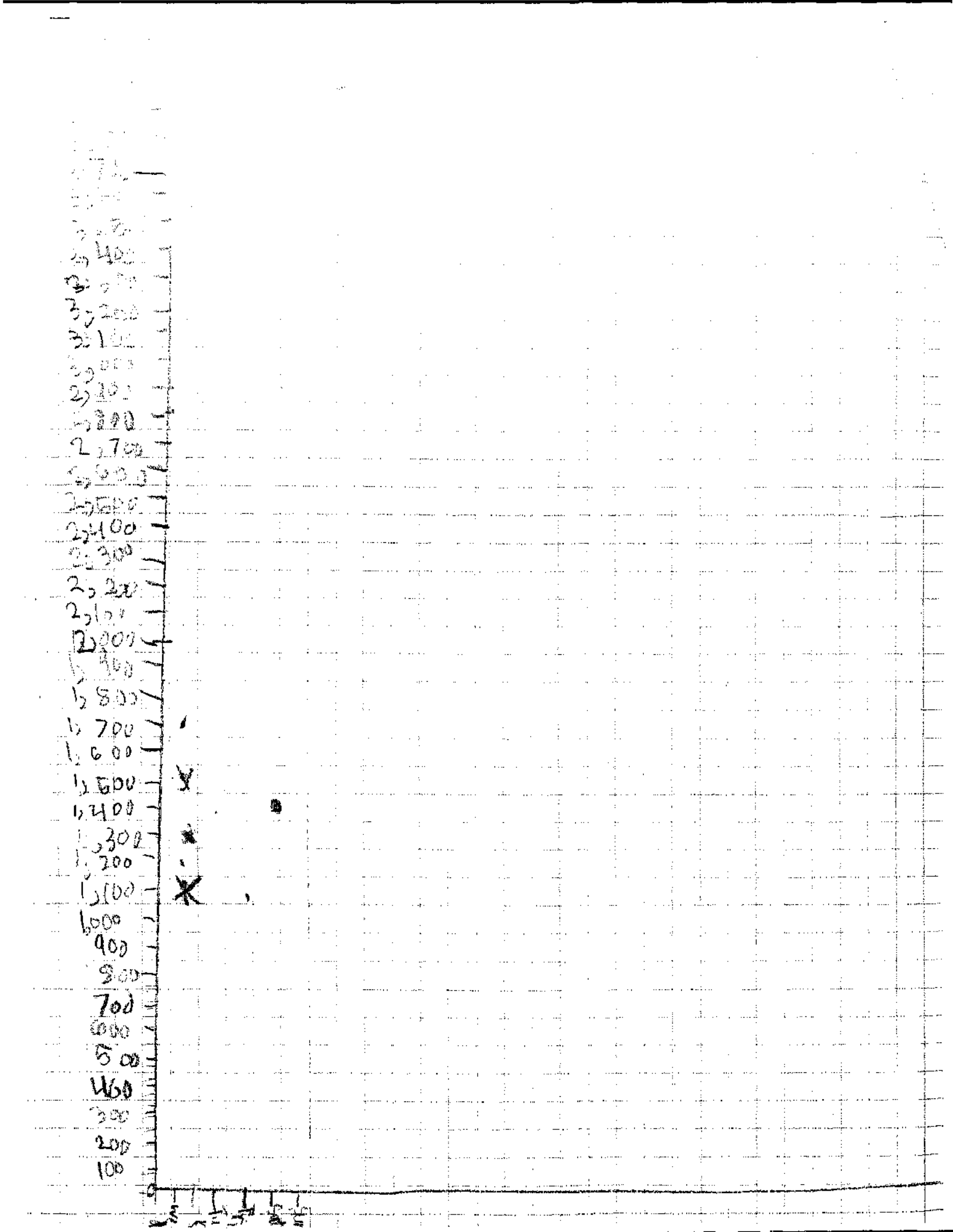
	Fat	Sodium	Calories
	Fat	Sodium	Calories
	Fat	Sodium	Calories
	Fat	Sodium	Calories

Food List:

Food Name(s)

	Fat	Sodium	Calories
	Fat	Sodium	Calories
	Fat	Sodium	Calories
	Fat	Sodium	Calories

Food List:



Nutrition Journal and Graphing Scoring

During the Journal portion:

Journal is complete with all food with labels filled in on time _____/ 20 points

Uses time on the computer to look up nutrition information wisely_____ /10 points

After computer time is given, the journal is complete _____ / 10 points

Worked quietly while adding the sections of their journals _____ /10 points

During the graphing portion:

Students have their journals for the graphing lesson _____ / 10 points

Students waited and listened for directions _____ /10 points

Students raised their hands and waited to be called on _____ /10 points

Students completed and turned in a graph of their calories _____ /20 points

TOTAL: _____**/100 points**

Final Reflection

Upon receiving that this math assignment was to be a unit I tried to think of something that the students had already learned that could be connected to math. I had spoken to my cooperating teacher and she had said she wanted to do something related to graphing and collecting data. Originally the data collection was to be for my science lesson, but as I did not yet know what the science assignment was, I could not guarantee that it would fit in. I did however think that I could work it into the math unit. The students had just finished a unit on nutrition and the human body, and therefore I thought it would be interesting, and hopefully a little fun to collect data using the nutrition facts from the food the children ate. When I ran this idea by my cooperating teacher she loved it. She said the children would love it too. I think they did, although before moving onto the graphing portion, I asked the children how they had felt during this process and some of them said it was frustrating when they could not find certain things, although I told them that we would look up any foods they could not find online as a class. I think this frustration came from feeling like they had not completely finished the assignment. In fact, one student who was absent when I handed out the lesson completed the whole thing and went online at home with his dad and looked up all the things he could not find. I had sent the packet home with his mother who works at the school and I know I said that whatever they could get done would be fine and if he could not complete the whole thing that I would give him extra time. I also said that anything that did not have a nutrition label we would look up together in class, and so they did not need to work about that as well. This student however came in the following Monday with the whole project complete and on time. I am not sure how I could get around this, besides doing the whole thing in school, and my cooperating teacher made it clear

that she wanted them to take the work home with them to enforce some responsibility on their part.

The graphing portion of my lesson went very well I thought. The only major issue that I had was that three of the students did not remember to leave the nutrition journals at school. I told them that they could look on with someone else, and graph their data, and one of them did it, and worked very well throughout the entire lesson. The other two however did not do so well. One student just did not do it, and the other took major convincing to copy down my graph that I was putting up on the board. Dr. Mcloughlin suggested that I have a back up journal with random nutrition information for them to graph instead, and I like this idea for younger grades but I feel like in fourth grade it teaches the other students that they do not need to be responsible for their homework. So I think in future I will use this idea, but there will have to be a grade penalty for not having their own work. I think I will also collect the students nutrition journals next time, that way I can see who is going to need a back up journal for the graphing exercise, as well as make sure that all the students will have their nutrition journals for the graphing project.

I feel as though my feelings towards mathematics instruction has changed from not being terribly confident in it because I had so little experience teaching math to, slightly more confident. I still have not taught many math lessons, but I did enjoy teaching this math lesson as an integrated unit. In general I notice that most of my lesson ideas are absolutely huge would take weeks to complete, but that is because they connect to almost all the different areas of the curriculum. I feel this is a strong suit, but also a weakness, because whenever I create smaller lessons, I feel as though I am not teaching it for a purpose – though this is not the case. I think my confidence in teaching math comes from working with the children on their math work books during the day and so I do a lot of informal math teaching with individuals, but not typically as a

formal lesson to the whole class. I think I would like to focus on teaching actual lessons during my student teaching so that I can become more familiar with it. Within the constructs of Methods II and the time limits we have it is extraordinarily hard to fit in extra lessons, but I think with more practice I could feel very confident in my ability to teach mathematics.