Science Unit 1- Plan
Food and Nutrition
5th Grade

Unit Time Frame:
September 15, 2014 to November 14, 2014

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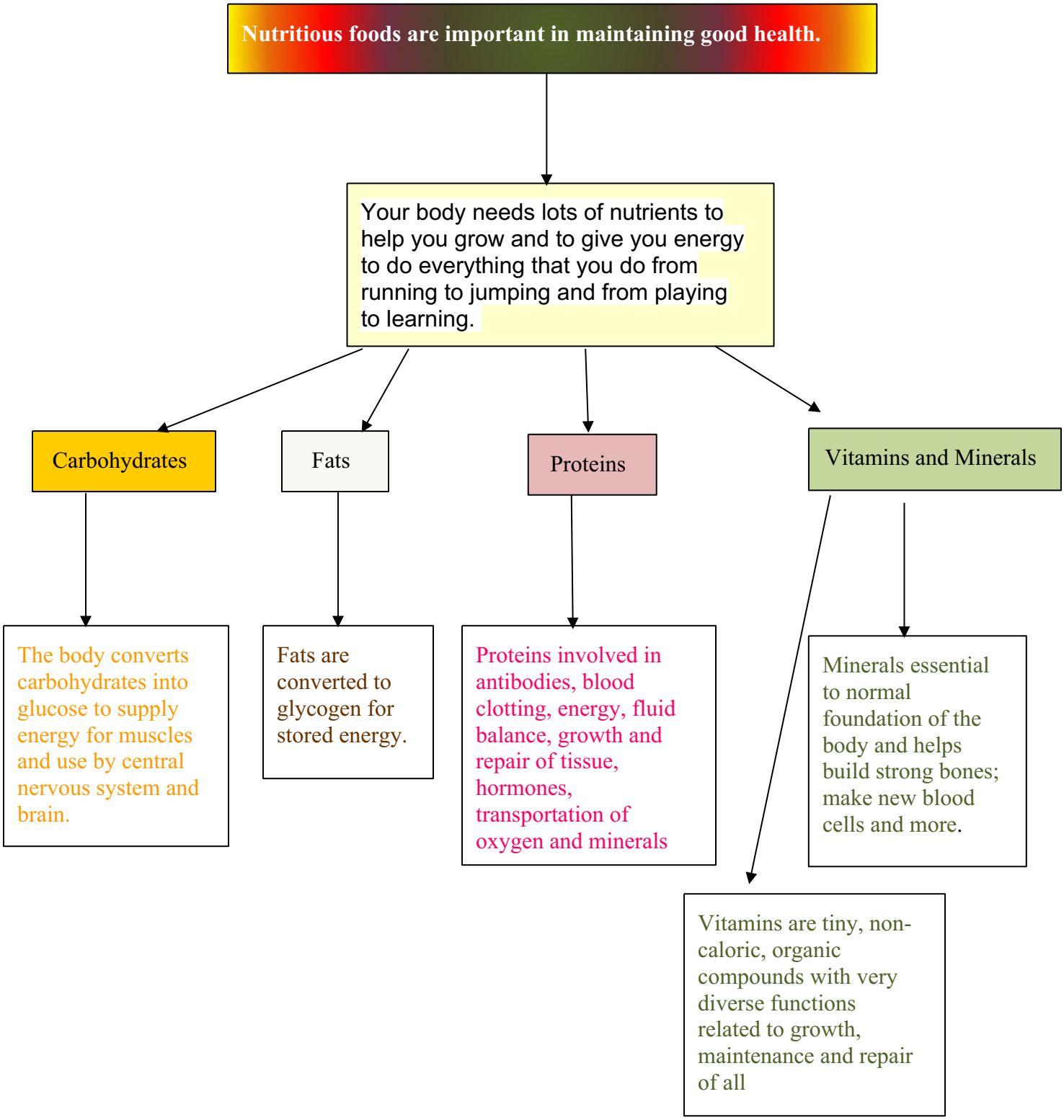
Conceptual Flow



Science Unit 1
Food and Nutrition
Grade 5
Marking Period 1

Unit Overview

Humans are like other organisms in that we need food to survive. Food is the fuel that powers us. Humans are part of food chains (and food webs) and, as such, are dependent on plants and other animals for our survival. Once we eat those foods we must be able to break them down in our digestive system in order to extract nutrients they contain. Knowing which nutrients the body needs and what properties in our diet as well as which foods contain those nutrients are all important for maintaining our health.

Unit Rational

The Food and Nutrition Module emphasizes the development of observation and description skills and building explanations based on experience. It begins with hands-on investigations, and then moves towards abstract ideas related to those investigations.

Enduring Understanding:

1. **Students will understand …..**
2. that food serves as an energy source for humans and other organisms.
3. the significance of calories in regards to energy supply.
4. The organization of foods and food groups.
5. the different components of food and calories
6. that food intake relates to growth, health, energy, and strength.
7. That nutrition your diet effects your health.
8. how to use available resources to calculate nutritional content of foods

Unit Essential Questions:

1. Why do we need food to survive?
2. What significance do calories serve in regards to the body?
3. What foods make up the food pyramid?
4. What are the main nutrients that foods contain?
5. What nutrients in food are essential to our survival?
6. Why is variety of foods important? (Why is following the food pyramid important)?
7. How can low levels of some nutrients be detrimental to our growth, our health and our strength?

Knowledge:	***Skills:***
Students will know…. • Indicators can be used to determine, fat, sugar and acid contents in foods. • Carbohydrates, proteins, fats, and vitamins as components of food. • Contents of food nutrition labels and guides. • How to gather information about food products to become informed consumers • The importance of nutrition as it relates to their energy needs as a living organism and the effects the different foods can have on a person along with the importance of a variety of foods.	***Student will be able to ….*** • Use indicators to test for acid, vitamin C, sugar and fat in foods • Relate the results of investigations and experiments to the amount of chemicals in foods. • Apply mathematics in the context of science • Aquire vocabulary associated to nutrition/ • Use scientific thinking processes to conduct investigations and build explanations: observing, communicating, comparing, organizing, and relating. • Plan hypothetical lunches based on nutritional information.

Evidence of Understanding:	
Assessments Pre- Assessment Notebook and Journal Entries Writing Prompts Performance Assessments Reading Prompt Teacher Observations/Anecdotal Notes • Assess ability to hypothesize orally and in writing • Assess ability to draw conclusions from experimentation • Observations of small group activities • Student and teacher rubrics to assess collaboration with others Homework Checkpoint Assessments I-Check Assessments • Unit Assessments	***Assessment Due to District for Analysis*** **Pre Assessment** **Notebook Entry – Investigation 1 and 3** **I-Check -2** **End of Unit Assessment**

Preconceptions /Misconceptions
Myths
• Fat is bad and should be eliminated from the diet • Sweets can't make you fat • Sugars are bad for your teeth, not your health. • Skipping meals will help me get fit. • Juice is better than soda. • You don't need to eat healthy if you exercise. • I'm healthy so it doesn't matter what I eat. • If it says "healthy" on the label, it is. ***List other that you discover in your class:*** _____ _____ _____ _____

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Before beginning unit administer pretest. (Week of 9/15/2014) Check that all materials are available, usable, and ready

NOTE: Review STUDENT FOOD ALLERGY information and the list of foods used in the FOSS® Food and Nutrition module.

See the Materials Folio pp. 1-5 and Investigation 1: The Fat Test, Part 1, Step 5 of "Getting Ready."

Materials

The Foss kit comes with most of the supplies that are needed to teach the unit. Be aware that the classroom teacher or school site must supply a few items. These are indicated in the materials list for each part of the investigation with an asterisk (*). Here is a summary of those items.

Investigation 1: The Fat Test	Investigation 2: The Sugar Test
Flip Chart or chart paper * balance gram piece 5 piece brown paper 13 cm x 13 cm cardboard tray 30 cm x 40 cm with wax paper quarter sheet of acetate paper steel spoon student sheets #2 called Food and Nutritional Journal For the class: food samples * teacher sheets #3 Food Labels salad oil, few milliliters * cardboard try with wax paper large piece of brown paper 26 cm x 26 cm permanent marker circle template dropper craft sticks notebook paper * transparent tape * box of tissues * paper towels * gram piece assessment for investigation 1	Flip Chart or chart paper * zip bags, 1 liter syringe, 50 ml container, 1 liter thermometer, Celsius journals student sheet #7 Cookie Labels For the class: Box of animal crackers * cup of sugar* cup of flour * spoons, 5-ml volume tubes permanent marker containers, ½ liter, with lid pitcher (optional) Thermos, coffee pot, or ice chest to maintain hot water * soda bottles, 2-liter * bakers dry yeast hot water, 40-50 degrees Celsius * paper towels * *Supplied by teacher
Investigation 3: The Acid Test	**Investigation 3: The Stars**
Flip Chart or chart paper * reaction bottle, 120-ml rubber stopper, 1 hole syringe, modified for the acid test 2 containers, ½ liter container, 1-liter spoon, 1-ml student sheets #10 called Acid Test For the class: vinegar, 1 liter * can of silicon spray 16 sticky notes water* paper towels* pitcher bucket* Assessment Investigation 3	4 student sheets #13-14 What is Food? 4 student sheet #15 Lunch work Sheet 4 student sheets #16-17 Nutritional Information For the class: 20 food packages * 20 food posters pins or tape * Student sheet #18 Response Sheet-Free Lunch Assessment Investigation 4

Standards Addressed in Unit 1

New Jersey Common Core Standards

5.1 Science Practices	All students will understand that science is both a body of knowledge and an evidence-based, model-building enterprise that continually extends, refines, and revises knowledge. The four Science Practices strands encompass the knowledge and reasoning skills that students must acquire to be proficient in science.
Strand A	**Understand Scientific Explanations: Students understand core concepts and principles of science and use measurement and observation tools to assist in categorizing, representing, and interpreting the natural and designed world. Who, what, when, where, why, and how questions form the basis for young learners' investigations during sensory explorations, experimentation, and focused inquiry**
5.1.4.A.1	Fundamental scientific concepts and principles and the links between them are more useful than discrete facts.
5.1.4.A.2	Outcomes of investigations are used to build and refine questions, models, and explanations.
Strand B	**Generate Scientific Evidence Through Active Investigations: Observations and investigations form young learners' understandings of science concepts.**
5.1.4.B.1	Building and refining models and explanations requires generation and evaluation of evidence.
5.1.4.B.2	Tools and technology are used to gather, analyze, and communicate results.
5.1.4.B.3	Evidence is used to construct and defend arguments
5.1.4.B.4	Reasoning is used to support scientific conclusions.
Stand C	**Reflect on Scientific Knowledge: Interacting with peers and adults to share questions and explorations about the natural world builds young learners' scientific knowledge.**
5.1.4.C.1	Scientific understanding changes over time as new evidence and updated arguments emerge.
5.1.4.C.2	Revisions of predictions and explanations occur when new arguments emerge that account more completely for available evidence.
Strand D	**Participate Productively in Science: Science practices include drawing or "writing" on observation clipboards, making rubbings, or charting the growth of plants.**
5.1.4.D.1	Science has unique norms for participation. These include adopting a critical stance, demonstrating a willingness to ask questions and seek help, and developing a sense of trust and skepticism.
5.1.4.D.2	In order to determine which arguments and explanations are most persuasive, communities of learners work collaboratively to pose, refine, and evaluate questions, investigations, models, and theories (e.g., scientific argumentation and representation).
5.1.4.D.3	Instruments of measurement can be used to safely gather accurate information for making scientific comparisons of objects and events.
5.3 Life Science	**All students will understand that life science principles are powerful conceptual tools for making sense of the complexity, diversity and interconnectedness of life on Earth. Order in natural systems arises in accordance with rules that govern the physical world, and the order of natural systems can be modeled and predicted through the use of mathematics.**
Strand B	**Matter and Energy Transformations:** Food is required for energy and building cellular materials. Organisms in an ecosystem have different ways of obtaining food, and some organisms obtain their food directly from other organisms
5.3.4.B.1	Almost all energy (food) and matter can be traced to the Sun.
5.3.6.B.2	All animals, including humans, are consumers that meet their energy needs by eating other organisms or their products.
5.3.8.B.1	Food is broken down to provide energy for the work that cells do, and is a source of the molecular building blocks from which needed materials are assembled.

Next Generation Science Standards

Performance Expectations

NGSS Science and Engineering Practices

- *Analyzing and interpreting data* from tests of an object or tool to determine if it works as intended. Represent data in tables and various graphical displays (bar graphs, and pictographs) to reveal patterns that indicate relationships.
- *Systems and System Models:* A system can be described in terms of its components and their interactions.
- *Energy and Matter:* Energy can be *transferred in various ways and between objects.*
- *Cause and Effect: Cause and effect relationships are routinely identified, tested, and used to explain change.*
- *Scale, Proportion, and Quantity: Natural objects exist from the very small to the immensely large. Standard units are used to measure and describe physical quantities*, such as weight, time, temperature, and volume.

Disciplinary Core Ideas

- **LS1.C**: Organization for Matter and Energy flow in Organisms: Food provides animals with the materials they need for body repair and growth and the energy then need to maintain body warmth and for motion.**PS1.A** Structure and Properties of Matter: Matter of any type can subdivided into particles that are too small to seem but even the matter still exits and can be detected by other means.
- **PS3.D**:Energy in Chemical Process and Everyday Life: The energy released from food was once energy from the sun that was captured by plants in the chemical process that forms plant matter (from air and water.)
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Cross Cutting Concepts

- *Systems:* Defining the system under study—specifying its boundaries and making explicit a model of that system —provides tools for understanding and testing ideas that are applicable throughout science and engineering. Systems in t he natural and designed world have parts that work together.
- *Patterns:* Patterns in the natural world can be observed, used to describe phenomenon, and used as evidence. Patterns of change can be used to make predictions.
- *Cause and Effect, Mechanism and Explanation:*Events have causes, sometimes simple, sometimes multifaceted. A major activity of science is investigating and explaining causal relationships and the mechanisms by which they are mediated. Such mechanisms can then be tested across given contexts and used to predict and explain events in new contexts.

Common Core State Standards

CCSS: English Language Arts	
Reading Informational Text	
RI.5.1	Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text.
RI.5.2	Determine two or more main ideas of a text and explain how they are supported by key details; summarize the text.
RI.5.1	Explain the relationships or interactions between two or more individuals, events, ideas, or concepts in a historical, scientific, or technical text based on specific information in the text.
CCSS: Writing-	
W.5.1	Write opinion pieces on topics or texts, supporting a point of view with reasons and information
W.5.2	Write informative/explanatory texts to examine a topic and convey ideas and information clearly
CCSS: Speaking and Listening:	
SL.5.1	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grade 5 topics and texts*, building on others' ideas and expressing their own clearly.
SL.5.2	Summarize a written text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally
SL.5.3	Summarize the points a speaker makes and explain how each claim is supported by reasons and evidence.
CCSS: Mathematics	
5.MD.A.1	Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real world problems
5.MD.B.2	Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Use operations on fractions for this grade to solve problems involving information presented in line plots.

<table>
<tr><th colspan="2">Overview Investigation 1
The Fat Test</th></tr>
<tr><td colspan="2"><u>Summary</u>
Students conduct investigations with common foods to discover fat. They determine relative amounts of fat in foods by controlling variables in the fat test. The students estimate the percentage of fat in various foods and learn nutritional information about saturated and unsaturated fats.</td></tr>
<tr><td><u>Core Conceptual Ideas</u>
• Brown paper can be used to indicate fat content in foods.
• Fat is a nutrient found in many foods.
• Foods can contain different kinds of fats, saturated (solid at room temperature) or unsaturated (liquid at room
• We eat food for energy to move, to think, and to run the systems that keep us alive.
• Food comes from plants and animals.
• Food is made from six groups of chemicals called nutrients.</td><td><u>Performance</u>
• Use a balance scale to weigh food samples
• Set up food samples to be tested
• Execute fat test
• Record data from tests
• Analyze results and evidence from tests
• Communicate observations and results
• Interpreting data and building explanations.
• Gathering and organizing data.</td></tr>
<tr><td><u>New Vocabulary</u>
Fat, food, nutrient</td><td><u>Language Development</u>
Greasy, pulverized</td></tr>
<tr><td><u>Assessments</u>
Pre-Assessment
Science Notebook Entries
Student Sheets
Reading Prompts
I-Check 1
Observation and Anecdotal Notes</td><td><u>Assessments Due to the District for Analysis</u>

Pre-Assessment</td></tr>
</table>

Investigation 1 Part 1& 2:
"The Fat Test"

Summary

Students conduct investigations with common foods to discover fat. They determine relative amounts of fat in foods by controlling variables in the fat test.

Understandings

Brown paper can be used to indicate fat content in foods.
Relative amounts of fat can be determined by controlling variables in the fat test.
Foods can contain two kinds of fats, saturated (solid at room temperature) and unsaturated (liquid at room temperature).
Brown paper can be used to indicate fat content in foods.
Fat is a nutrient found in many foods.
Relative amounts of fat can be determined by controlling variables in the fat test.
Fat is a nutrient found in many foods.

Focus Questions

1. Why do we eat food?
2. Where does food come from and what is it made of?
3. Is there evidence that any of the food samples contain fat?

Teacher Preparations	Bodies of Evidence / Assessment Opportunities	Time Frame
-Read "At A Glance" TE -Read "-Background for the Teacher" -Read "Teaching Children About Fat" -Review " Materials", "Getting Ready" and "Guiding the Investigation" -View Teacher Prep video -Prepare materials **Note:** Student experience with weighing small (1 gram) sample sizes will influence the amount of time needed to prepare the 4 samples for each group. Using TWO FOSS Balances for every group will expedite the sample preparation	-Pre- Assessment -Notebook Investigation Entry - Reading:*Face the Fats & A Sweet Story* ***(estimated time for this reading is 30 minutes)*** -Writing Response -Journal Entry Student Sheet No. 5, 6 Response Sheet – The Fat Test -Student Observation/Anecdotal Notes	2 sessions 1 session = 90 minutes

Homework/Center Activities/Extra Practices

- Rising Readorium
- FOSS Digital Resources: eBook, Audio Stories
- Spelling City(vocab)
- Suggested websites
- Word wall activities
- Cross Curriculum Extensions
- FOSS Homeschool Connection
- Informational Text -Reading

On Going Human Body and/or Body Systems Project: Students work on a culminating project through-out the unit to be assessed at the end of unit.

<table>
<tr><th colspan="2"><u>Investigation 2</u>
<u>“The Sugar Test”</u></th></tr>
<tr><td colspan="2">Students observe that dry yeast becomes active (metabolizes) when mixed with warm water and a cookie. They discover that yeast needs sugar to become active, and produces gas (carbon dioxide) in the process. They will use yeast as an indicator to detect sugar. Students test foods and compare data to communicate discoveries.</td></tr>
<tr><td><u>Understandings</u>

• Sugar is a simple carbohydrate, which is a nutrient found in foods.
• Yeast can be used to indicate sugar in foods.
• Yeast needs sugar to become active.
• A product of yeast metabolism is carbon dioxide, the same gas produced by most organisms.
• Carbon dioxide is a colorless, odorless, gas in the atmosphere. It is given off by plants and animals.
• Metabolism is the process of breaking down food to yield energy to keep organisms functioning.
• A simple chemical used as an energy source by most life forms is called sugar.
• Carbohydrate refers to a group of nutrients that provide energy: sugar and starches</td><td><u>Performance</u>

• Observe and describe evidence of yeast metabolism.
• Organize and communicate results of experiments using yeast as an indicator of sugar
• Conduct controlled experiments.</td></tr>
<tr><td colspan="2"><u>New Vocabulary</u>
Yeast, indicator, metabolism, carbon dioxide, sugar, carbohydrate</td></tr>
<tr><td><u>Assessments</u>
Science Notebook Entries
Student Sheets
Reading Prompts
I-Check 2
Observation and Anecdotal Notes</td><td><u>Assessments Due to the District for Analysis</u>

I-Check 2</td></tr>
</table>

Investigation 2. ***Part 1 "The Sugar Test "***		
Students observe that dry yeast becomes active (metabolizes) when mixed with warm water and a cookie. They discover that yeast needs sugar to become active, and produces gas (carbon dioxide) in the process. They will use yeast as an indicator to detect sugar. Students test foods and compare data to communicate discoveries.		
Focus Questions 1. Which breakfast cereals contain the most sugar? 2. Which breakfast cereals contain the least sugar? 3. Which foods contain sugar and how can we determine the relative amount?		
Teacher Preparation	**Opportunities**	**Time Frame**
-Set up materials for the investigation -Read "Background for the Teacher", "Teaching Children about Sugar" -Watch Teacher Video Demo of Inv.2 - Review "Materials" and "Getting Ready" **-Collect empty food packages for Investigation 4: Free Lunch, Part 1: Free Lunch, Step 3, p. 9.** **- Consult the Materials section of the Teacher Guide p. 3 and p. 5 for the foods you will need for Investigation 1, The Fat Test** **-Send Letter Home to Parents: Teacher Sheet No. 1** **- www.fossweb.com – Check website forinteractive simulations, to write questions to a scientist, for teaching tips, and other websites to support teaching Food and Nutrition.**	-Notebook Investigation Entry - Student Sheet No. 7 - Student Sheet No. 8, 9 - Response Sheet – The Sugar Test - FOSS Reading :*Sugar Smarts?* ***(estimated time for this reading is 30 minutes)*** -Journal Entry -Teacher Observation/Anecdotal Notes -Homework (Suggestions) - Cross Curriculum Extensions - Rising Readorium -I Check 2 . .	3sessions
Homework/Center Activities/Extra Practices		
• Rising Readorium • FOSS Digital Resources: eBook, Audio Stories • Spelling City(vocab) • Suggested websites	• Word wall activities • Cross Curriculum Extensions • FOSS Homeschool Connection • Informational Text -Reading	
On Going Human Body and/or Body Systems Project: Students work on a culminating project through-out the unit to be assessed at the end of unit.		

<table>
<tr><th colspan="2">Overview Investigation 3
“The Acid Test”</th></tr>
<tr><td colspan="2">Summary
Students observe that acid and baking soda react to form carbon dioxide. They will use baking soda as an indicator of acid. Students test unknowns for acid and vitamin-C concentration. They discover a relationship between sour taste and acid concentrations.</td></tr>
<tr><td>Core Concepts:
The sour taste of foods is due to acid.
Baking soda and acid react chemically to form new products, one of which is carbon dioxide.
Baking soda can be used to indicate acid.
Indophenols can be used to indicate vitamin C, ascorbic acid.
The amount of gas produced in an acid-test reaction is an indicator of the concentration of the acid.
When baking soda is present in excess, the volume of carbon dioxide produced</td><td>Performance:
Observe and record data from acid tests.
Use scientific thinking processes to conduct investigations and build explanations.
Communicate and share data, thoughts, and observations.</td></tr>
<tr><td>New Vocabulary
Acid, chemical reaction, carbon dioxide, concentration</td><td>Language Development
Vinegar, sour milk, baking soda,</td></tr>
<tr><td>Assessments
Science Notebook Entries
Student Sheets
Reading Prompts
I-Check 3
Observation and Anecdotal Notes</td><td>Assessments Due to the District for Analysis

Notebook Entry 3</td></tr>
</table>

Investigation 3
Part 1& 2: The Acid Test

Summary

Students use baking soda as an indicator of acid. In a closed system, the volume of gas produced by the acid/baking soda reaction is related to the concentration of acid in the sample. Students test foods for general acid content and for a specific acid, vitamin C, using indophenol.

Focus Questions

1. How can baking soda be used as an indicator of acid?
2. What indicator is used to detect vitamin C?

Teacher Preparation	Body of Evidence	Time Frame
-Read "At A Glance" TE -Read "-Background for the Teacher" -Read "Teaching Children About Using Indicators" - Watch Video Demonstration of Inv. 3 -Review " Materials" "Getting Ready" and "Guiding the Investigation" -Prepare materials – www.fossweb.com – Check website for interactive simulations, to write questions to a scientist, for teaching tips, and other websites to support teaching Food and Nutrition. **Note:** Fresh citrus fruit is required for Part 2 (Lesson 20)	-Notebook Investigation Entry -Student Sheet No. 10 -Response Sheet – The Acid Test - Reading *Student Reading; Science Resource "Your Terrific Tongue", "Vitamins"* **(estimated time for this reading is 30 minutes)** -Journal Entry -Student Observation/ Anecdotal Notes	2 sessions

Homework/Center Activities/Extra Practices

- Rising Readorium
- FOSS Digital Resources: eBook, Audio Stories
- Spelling City(vocab)
- Suggested websites
- Word wall activities
- Cross Curriculum Extensions
- FOSS Homeschool Connection
- Informational Text -Reading

On Going Human Body and/or Body Systems Project: Students work on a culminating project through-out the unit to be assessed at the end of unit.

Investigation 3
Part 3. Vitamin –C Search

Summary

Students will test what kind of acid is in citrus fruits. There is one acid that is essential to health (ascorbic acid).

Understandings

Vitamin C is known as ascorbic acid and humans get it by eating it.
Humans cannot make vitamin C in their bodies.
Indophenols is an indicator for vitamin C.
Baking soda can be used to measure the relative concentration of acid in citrus fruits.
The sour taste of foods is due to acids.

New Vocabulary

Indicator, vitamin C, Indophenols

Teacher Preparation	Body of Evidence	Time Frame
Prepare materials for the week. *-Watch Teacher Video Demo of Inv.3 part 3* *- Review "Materials" and "Getting Ready"*	*-Notebook Investigation Entry* *- Reading Student Reading; Science Resource "The Scourge of Seafarers and Linus Pauling"* ***(estimated time for this reading is 30 minutes)*** *-Student Sheet No. 10 (from Part 1), 11 Response Sheet – The Acid Test* *-Journal Entry* *-Student Observation/Anecdotal Notes* *I-Check 3*	*1 sessions*

Homework/Center Activities/Extra Practices

- Rising Readorium
- FOSS Digital Resources: eBook, Audio Stories
- Spelling City(vocab)
- Suggested websites
- Word wall activities
- Cross Curriculum Extensions
- FOSS Homeschool Connection
- Informational Text -Reading

On Going Human Body and/or Body Systems Project: Students work on a culminating project through-out the unit to be assessed at the end of unit.

Overview Investigation 4 ***"Free Lunch"***	
Summary Students will explore concept of calories and discover how to read labels on packaged food for nutritional information. They will plan a hypothetical lunch based on nutritional information.	
Core Concepts: • Calories are a measure of the amount of energy in foods. • Labels on food packages provide nutritional information on carbohydrates, proteins, fats, vitamins, and calories. • Fats have more than twice as many nutritional calories as carbohydrates and proteins.	***Performance:*** • Observe and record data from findings. • Use scientific thinking processes to conduct investigations and build explanations. • Communicate and share data, thoughts, and observations. • Plan a hypothetical lunch based on nutritional information
New Vocabulary Calorie	***Language Development*** Nutritional value
Assessments Science Notebook Entries Student Sheets Reading Prompts I-Check 4 End of Unit Assessment Observation and Anecdotal Notes	***Assessments Due to the District for Analysis*** **End of Unit Assessment**

Investigation 4 ***Part 1 What Food Is It?***		
Students learn that foods often combine different kinds of nutrients. They guess the identity of lunch items from lists of ingredients. They assemble hypothetical lunches and analyze them in terms of their fat, carbohydrate, and protein content. They calculate the number of calories contributed by each nutrient group and assess the nutritional value of their lunches.		
Focus Questions 1. What does a nutritional lunch look like? 2. Is it important to think about where our food comes from when you are planning your diet? Why		
Teacher Preparation	**Body of Evidence**	**Time Frame**
-Prepare materials for the week. *-Read: Background for the Teacher* *-Read Teaching Children about Nutrition* *-Read Getting Ready and Guiding the Investigation* *-Watch Teacher Video Demo of Inv.4* *- Review "Materials"* *-Administer and Record information from assessments* *– www.fossweb.com/ – Check website for interactive simulations, to write questions to a scientist, for teaching tips, and other websites to support teaching Food and Nutrition*	*-Notebook Investigation Entry* *Student Sheets No. 13, 14, 15, 16, 17, 18,19,21* *Response Sheet – Free Lunch* *-Reading in ScienceResource "Food Labels and Health Eating, International Style?* ***(estimated time for this reading is 30 minutes)*** *-Journal Entry* *-Student Observation/Anecdotal Notes* *I-Check 4* *End of Unit Assessment*	*2 sessions*
Homework/Center Activities/Extra Practices		
• Rising Readorium • FOSS Digital Resources: eBook, Audio Stories • Spelling City(vocab) • Suggested websites	• Word wall activities • Cross Curriculum Extensions • FOSS Homeschool Connection • Informational Text -Reading	
On Going Human Body and/or Body Systems Project: Students work on a culminating project through-out the unit to be assessed at the end of unit.		

Writing Prompts Overview

This guide is intended to support the collection of Body of Evidence Opportunities. A student's Body of Evidence should, at a minimum, include work form the listed prompts and in-class investigations that demonstrate a student's level of proficiency. The FOSS pre-assessment given at the beginning of the unit, the I-checks given after each investigation and Grade 5 DISTRICT Check point Assessment s given throughout the unit may also be included in the body of evidence.

Recommended Body of Evidence – Grade 5Food and Nutrition

Prompt 1: FOSS: Food and Nutrition: Investigation 1The Fat Test Part 1 Setting up the Fat Test
Science Notebook

4. Why do we eat food?
5. Where does food come from and what is it made of?
6. How can we tell how much fat is in a particular food?
7. How might you compare fat content of several foods?
8. Why would a sample of pure fat on a piece of paper be a good thing to have?

Prompt 2: FOSS : Food and Nutrition: Investigation 1The Fat Test Part 2 Reading the Fat Test
Science Notebook

9. Is there evidence that any of the food samples contain fat?
10. What does the size of the grease spot tell about the amount of fat in the food?

Prompt 3: FOSS: Food and Nutrition: Investigation 2 –The Sugar Test – Part 1: Yeast as an Indicator
(Science Notebook)

1. How can we test foods to determine how much sugar they contain?
2. What do you think the yeasts will need to break out of the resting state?
3. Can you think of q way to find out if one of the ingredients (flour, or sugar) is the food that starts the yeast metabolizing?

Prompt 4: FOSS: Food and Nutrition: Investigation 2 –Part 2 Testing Cereal
(Science Notebook)

1. Which breakfast cereals contain the most sugar?
2. How do you know which breakfast cereals contain the most sugar?

Prompt 5: FOSS: Food and Nutrition: Investigation 2 –Part 3 Testing Other Foods
(Science Notebook)

1. Which foods contain sugar and how can we determine the relative amount?
2. When yeast is mixed with water and flour, after an hour or more it begins to bubble. How can this be?
3. Why would a food company use one of the sweeter kinds of sugars in their products?
4.

Prompt 6: FOSS: Food and Nutrition: Investigation 3–The Acid Test --Part 1: Baking Soda as an Indicator
(Science Notebook)

1. How can baking soda be used as an indicator of acid?
2. Discuss results of test with class. What happened? Why? How far? Where did the gas go when you did the reaction in the cup?

Prompt 8: FOSS: Food and Nutrition: Investigation 3–Part 2 Acid in Fruit
(Science Notebook)

1. Which citrus fruit contains the most acid?
2. Did any of the juices have acid in them?
3. Which had the most acid?

4. What is the relationship between the amount of acid and the taste of the juice?
5. Based on taste, what other foods might have acid?

Prompt 9: FOSS: Food and Nutrition: Investigation 3–Vitamin-C Search
(Science Notebook)

1. Which fruit drinks have the highest concentration of vitamin-C?
2. What indicator is used to detect vitamin C?
3. What is the evidence that vitamin C is present?
4. What are some good sources of vitamin C?

Prompt 10: FOSS: Food and Nutrition: Investigation 4–Part 1 Free Lunch
(Science Notebook)

3. What does a nutritional lunch look like?
4. What is the major ingredient in the first item?
5. What is number two?
6. Turmeric is the ingredient found in the smallest quantity. What kind of food is made from these ingredients?
7. When your body metabolizes food, how many calories are produced from each gram of protein? From each gram of carbohydrate? From each gram of fat?
8. Why do you think parents are always telling their children to eat their vegetables?
9. How do you think you might change your eating habits as a result of what you learned in this investigation?
10. What is the best change you could make in your eating habits to improve your health?
11. Is it important to think about where our food comes from when you are planning your diet? Why?

Prompt 11: FOSS: Food and Nutrition: Investigation 4–Part 2 Choosing Your Own Investigation
(Science Notebook)

1. What questions can you think of in relation to your project?

Unit Resources

Content books-

- Foss Student Book with Unit
- See Reading Extensions in TE
- Foss Reading Supplemental Books

Foss Website: www.fossweb.com (additional resources and web sites found there)

Spelling City: www.spellingcity.com

United streaming

http://www.discoveryeducation.com//?ref=streaming&returnUrl=http%3A%2F%2Fstreaming%2Ediscoveryeducation%2Ecom%2Findex%2Ecfm

Brainpop (see if your school has license for this) http://www.brainpopjr.com/

Readorium

http://app.risingreader.com/