



Lesson Plan

Unit 2: Lesson 2 of 2

Product Specification and Compliance

Created: 08/2022 by the National FFA Organization

This lesson will introduce students to food product specifications and how to recognize if food products are in compliance with regulations.

Student Learning Objectives:

After completing these activities, students will ...

1. Describe food compliance regulations.
2. Develop food labels that are *not* in compliance with current regulations.

Suggested Grade Level:

Grades 9 and 10 (This lesson is written so instructors can scale up or down based on class needs.)

Suggested Time: 60 minutes (*Time requirements may vary based upon student understanding and class schedule.)

Resources/References:

1. Website: <https://dpi.wi.gov/school-nutrition/usda/product-information/specifications-faq> (site with frequently asked questions regarding food specifications)
2. Website: <https://www.ams.usda.gov/selling-food/product-specs#Fruits> (USDA site listing all food specifications)
3. Website: <https://www.fda.gov/safety/recalls-market-withdrawals-safety-alerts> (how to enroll to receive information about safety alerts/recalls)

Equipment and Supplies Needed:

1. 1 box cornflakes
2. 1 box Rice Krispies
3. 1 bag white rice
4. 1 bag brown rice
5. 1 jar grape jelly
6. 1 jar strawberry jelly
7. For Activity 1: two to four sets of digital scales, various foods in original packaging (crackers, soup, soft drinks in plastic bottles, apple sauce in a jar, uncooked macaroni in box, any outdated boxes of food you can find, etc. Be sure to have enough food items in original packaging (with labels) for each student (1 item/student).
8. Internet, projector/computer
9. Student computer/internet access
10. A copy of the "Unit 2 Student Assessment" for each student. NOTE: Teachers will need to set up "stations." See directions for set-up of exam on the exam "Answer Key."
 - a. Items needed for Unit 2 Assessment:
 - i. 1 jar applesauce
 - ii. 1 jar pasta sauce
 - iii. 1 box Total Cereal
 - iv. 3 kitchen digital scales (1/station)

Lesson Preparation:

1. Bell ringer: For each of the listed items, swap contents; use both items for this lab.
 - a. Cornflakes box with Rice Krispies in it (Simply swap cereal bags and use both boxes of cereal for this lab.)

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- b. White rice with brown rice in it (Swap contents; be sure to tie off/close bags of rice before allowing students to handle them.)
 - c. Grape jelly with strawberry jelly in the jar (Again, simply swap contents. Use both jars of jelly.)
 - d. Be sure to seal all contents before placing on student desks.
2. Unit 2 Assessment: See directions for set-up of the exam on the exam "Answer Key."

Vocabulary:

1. USDA food specification
2. Compliance

Cross-Curricular Connections:

Technology	Engineering
Students will use various technology sources to secure information.	Students are challenged with determining what is wrong with select food items.

Virtual Instruction Ideas:

This lesson can be modified for online/virtual instruction, but communication with the instructor is key for success in this lesson. This lesson requires hands-on activities; students need access to supplies if learning remotely.

Student Activity Sheets:

Direct access to student activity sheets without lesson plan or answer key for easy upload to a learning management system or printing for classwork.

<https://ffa.box.com/s/2w5bcm9ejk82rbjuvjryxk4bdy8kn5m> (Word)

<https://ffa.box.com/s/bh82xr9i982hjvtmt57oa9bcde4k9lk8> (PDF)

<https://ffa.box.com/s/zxgtdqgynosljk73bpcu1lt55i0lvxw> (Non-Designed)

<https://docs.google.com/document/d/1VTtSBcOV4SpIIZc6GzNmZhch4Ja47UyyILEdjUeaTwA/copy> (Google)

These Activities are Aligned to the Following Standards:

FFA Precept

- FFA.PL-A.Action: Assume responsibility and take the necessary steps to achieve the desired results, no matter what the goal or task at hand.
- FFA.PL-C.Vision: Visualize the future and how to get there.
- FFA.PG-J.Mental Growth: Embrace cognitive and intellectual development relative to reasoning, thinking and coping.
- FFA-CS-M.Communication: Effectively interact with others in personal and professional settings.
- FFA-CS-N.Decision Making: Analyze a situation and execute an appropriate course of action.

NASDCTec

- AGPA01.01 Design and implement procedures and plans that demonstrate application of food processing principles to manage quality control in the food product and processing industry.
- AGPA01.04 Identify and apply food processing, handling, and storage factors to demonstrate their impact on product quality and safety.

AFNR Cluster Skills

- CS.03. Examine and summarize the importance of health, safety and environmental management systems in AFNR workplaces.

Common Core – Reading: Informational Text

- CCSS.ELA-Literacy.RI.9-10.8 Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is valid and the evidence is relevant and sufficient; identify false statements and fallacious reasoning.

Common Core – Writing

- CCSS.ELA-Literacy.W.9-10.2 Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content.

Common Core – Speaking and Listening

Name: _____

- CCSS.ELA-Literacy.SL.9-10.1.A Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.
- CCSS.ELA-Literacy.SL.9-10.4 Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.

Common Core – Science & Technical Subjects

- CCSS.ELA-Literacy.RST.9-10.9 Compare and contrast findings presented in a text to those from other sources (including their own experiments), noting when the findings support or contradict previous explanations or accounts.
- CCSS.ELA-Literacy.RST.9-10.3 Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks, attending to special cases or exceptions defined in the text.

Common Core – Literacy in Science & Technical Subjects: Writing

- CCSS.ELA-Literacy.WHST.9-10.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments, or technical processes.
- CCSS.ELA-Literacy.WHST.9-10.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
- CCSS.ELA-Literacy.WHST.9-10.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.

Common Core – Math Practices

- CCSS.MATH.PRACTICE.MP1 Make sense of problems and persevere in solving them.
- CCSS.MATH.PRACTICE.MP3 Construct viable arguments and critique the reasoning of others.
- CCSS.MATH.PRACTICE.MP6 Attend to precision.

National Standards for Financial Literacy

- Buying Goods and Services, Benchmarks: Grade 12, Statement 7 Governments establish laws and institutions to provide consumers with information about goods or services being purchased and to protect consumers from fraud.

AFNR Career Ready Practices

- CRP.02. Apply appropriate academic and technical skills. Career-ready individuals readily access and use the knowledge and skills acquired through experience and education to be more productive.
- CRP.04. Communicate clearly, effectively, and with reason. Career-ready individuals communicate thoughts, ideas and action plans with clarity, whether using written, verbal and/or visual methods.
- CRP.05. Consider the environmental, social and economic impact of decisions. Career-ready individuals understand the interrelated nature of their actions and regularly make decisions that positively impact and/or mitigate negative impact on other people, organizations and the environment.
- CRP.06. Demonstrate creativity and innovation. Career-ready individuals regularly think of ideas that solve problems in new and different ways, and they contribute those ideas in a useful and productive manner to improve their organization.
- CRP.07. Employ valid and reliable research strategies. Career-ready individuals are discerning in accepting and using new information to make decisions, change practices or inform strategies.
- CRP.08. Utilize critical thinking to make sense of problems and persevere in solving them. Career-ready individuals readily recognize problems in the workplace, understand the nature of the problem, and devise effective plans to solve the problem.
- CRP.11 Use technology to enhance productivity. Career-ready individuals find and maximize the productive value of existing and new technology to accomplish workplace tasks and solve workplace problems.

Partnership for 21st Century Skills

- Critical Thinking and Problem Solving
- Flexibility and Adaptability
- Implement Innovations
- Information Literacy
- Productivity and Accountability
- Think Creatively

Name: _____

Lesson Plan:

1. Bell Ringer:

- a. Have the following items randomly distributed or lying on student desks as students enter the classroom. Have students take out a blank sheet of paper and a writing utensil.
 - i. Cornflakes box with Rice Krispies in it (Simply swap cereal bags and use both boxes of cereal for this lab.)
 - ii. White rice with brown rice in it (Simply swap contents. Be sure to tie off/close bags of rice before allowing students to handle them.)
 - iii. Grape jelly with strawberry jelly in the jar (Simply swap contents. Use both jars of jelly.)
- b. On the board, write the following:
 1. Get out a clean sheet of paper. Put your name on it.
 2. Travel around the room to find six different food items. For each food item, record on your paper what is wrong with the item.
 3. Return to your seat when you have found all six items and made notes about each. Sit quietly.
- c. Allow students to complete the activity on their blank sheets of paper. Once all students are seated, move into the lesson introduction.

2. Introduction:

- a. Ask students, "What notes did you make about the six items you found?" Allow students to answer (wrong contents, swapped out, etc.). Ask, "What would you do if you got home from the store and discovered something similar with the food you just purchased?" "Is it safe to eat?" (no, because you do not know the ingredients; you could have an allergy, etc.)
- b. Say to students: *How do we keep all food under compliance (following all rules and regulations from for the product) so that we know what is being produced and what is inside the containers/boxes of food that we purchase? What you just experienced is an example of "product specification and compliance." Does anyone know what that means?* Answer: The food product follows all rules and regulations for the food product as well as meets quality standards for the appearance and delivery. This ensures a high quality product that is safe for consumption.
- c. Instruct students to take notes (may be done on their current lab paper). Tell students, *The United States Department of Agriculture (USDA) sets specifications for our food. This is known as USDA Food Specification. It is a list of requirements that vendors/food producers must follow to supply the United States with food. Standards included are related to quality, appearance, delivery methods, weight, pH, color, viscosity, fill level, etc. Food production companies and vendors must stay in compliance with regulations, which means they must follow and abide by the regulations.*
- d. Ask students, "So why did I have the food items out that I did when you came in? How does that relate to our topic today?"
- e. Move into Activity 1.

3. Activity: Tell students, *We are going to do another activity that is similar to what we did when you entered the classroom. However, this time you are going to be the ones creating food items that are NOT in compliance. Remember, this may include but are not limited to determining if the products are within the net weight, product sizing requirements, pH, color analysis, viscosity, fill-level tolerance, packing specifications, etc. How do we find all the information that SHOULD be in and on a food item?* (Class should say "read the label" or "on the packaging.")

- a. Give each student the worksheet titled "Creating Food Product Specification Issues." Read directions and helpful tips with them. Ask for questions. Allow students to take items off the front desk that you have provided for them to use. Also be sure digital scales are available for use at this point.
- b. Allow students to work on the activity and trade papers with a classmate when finished.
- c. Move to the Follow-up in this lesson once Activity 1 is complete. Teachers may wish to collect student activity sheets.

4. Follow-up:

- a. The purpose of this Follow-up section is to dig deeper into "food product compliance." Project the following website on the board or screen: <https://www.fda.gov/safety/recalls-market-withdrawals-safety-alerts>.
- b. Say to students, *How do you think people are notified about accidental non-compliance in foods?* (news sources, social media, online, etc.) *We can sign up to be notified of all recalls/notices via this website.* (Show link to students.)

Name: _____

- c. Have students visit the site. *Take a few moments and explore the recalls. On a piece of clean paper, record the following* (Write the following on the board):
 - i. What food item is most commonly recalled? Any idea why?
 - ii. What food item surprised you with a recall? Why?
 - iii. What was the most odd/unique food recall? Briefly describe it.
 - iv. This will be your exit ticket for today. Please add the following to it before turning it in as you leave class:
 1. What is food compliance?
 2. Why is food compliance important?
 3. What does food specification mean?

5. **Optional – Extended Learning Opportunities (Not factored into time requirement):**

- a. Allow time for students to research one food item of their choice on the following website:
<https://www.ams.usda.gov/selling-food/product-specs#Fruits>.
- b. Direct students to pick one food item and create a list of what they feel are the most important specifications set by the USDA.

6. **Exit Ticket:**

- a. Students will turn in their completed Follow-up activity.
 - i. Answers to additional Follow-up/Exit Ticket questions:
 1. Anyone involved in any step of food production must follow specific guidelines when producing, handling or packaging food items. Biological, chemical and physical hazards are all considered when keeping food in compliance.
 2. The purpose is to help keep consumers safe by holding all companies accountable for how they produce, package and distribute food. Consumers must know what ingredients are found in food prior to consuming it to prevent potential health issues.
 3. Standards relating to quality, appearance and delivery of food products

7. **Unit 2 Student Assessment:**

- a. **Once you have completed Lessons 1 and 2 in Unit 2, students are ready to take the Unit 2 Assessment.** NOTE: This assessment requires preparation work prior to students taking the exam. Allow a minimum of 45 minutes for students to take the Unit 2 Assessment.

Name: _____

Aligned to the following standards: FFA.PL-A.; FFA.PL-C.; FFA.PG-J.; FFA-CS-M.; FFA-CS-N.; AGPA01.01; AGPA01.04; CS.03; CCSS.ELA.RI.9-10.8; CCSS.ELA.W.9-10.2; CCSS.ELA.SL.9-10.1.A; CCSS.ELA.SL.9-10.4; CCSS.ELA.RST.9-10.9; CCSS.ELA.RST.9-10.3; CCSS.ELA.WHST.9-10.2; CCSS.ELA.WHST.9-10.4; CCSS.ELA.WHST.9-10.8; MP1; MP3; MP6; Buying Goods and Services, Benchmarks: Grade 12, Statement 7; CRP.02; CRP.04; CRP.05; CRP.06; CRP.07; CRP.08; CRP.11

Creating Food Product Specification Issues

Directions:

Your task is to create five Food Product Specification questions with one food product. You will trade your paper (and food item) with a classmate to test each other's ability to complete this task.

- 1) The task here is to learn what to look for. What could be wrong? Unsafe? What could be different about the food product you are looking at? When you receive your food item, it will be to compliance. Your job is to do the following:
- 2) Make it NOT in compliance with some of the questions above. How are you going to do that? You may open, remove, add, etc. to your product.
- 3) Write 5 questions (you may use some of the above and questions of your own).
- 4) Write a key to your questions.
- 5) When finished, trade papers and your food item with a classmate. Classmates should record their responses to your questions.

Helpful Tips:

- 1) Select one food item. Study the nutritional label on the food item. What does it say? How can you alter the contents of the food item to make it different than what the label says? There will be no right or wrong way in this activity. This is simply a challenge to see what you can come up with.
Example: Perhaps the weight of the container is 6 grams. When you weigh it, it actually weighs 4 grams. Therefore, the item is not in compliance with the label/regulations. **Do not use this example.**
 - Brainstorm here:
- 2) Here are some ideas to help get you started with your food sample and questions:
 - 1) The sample meets proper, stated weight requirements. True or False
 - 2) The sample contains the proper labeling. True or False
 - 3) The sample should not be consumed due to it being unsafe. True or False
 - 4) The sample is filled to the correct level. True or False
 - 5) The sample is not in the appropriate packaging. True or False
 - 6) This sample has been enriched with ingredients. True or False

The serving size of this sample is correct. True or False

- 3) After you determine how you will alter your product, develop 5 questions to go along with your food item.
Example: Is the sample filled to the correct level? (It may be true, if it is filled to the brim.) Is the sample the correct weight? (False.) Is the sample safe to consume? (Depends on if anything else has been added. If so, no. If no, yes. If it does not appear to be the same product as the label states, it is not safe to consume.) When you trade papers, do not assume because the packaging is open that it is unsafe. Ignore that factor because we have to open products to alter them. In a factory, this may happen before the product is finished, therefore, making the product safe to consume unless it has foreign material in it, is not sealed, etc.

**Use the "My Food Product Is ..." worksheet to complete the above activity.

Name: _____

Aligned to the following standards: FFA.PL-A.; FFA.PL-C.; FFA.PG-J.; FFA-CS-M.; FFA-CS-N.; AGPA01.01; AGPA01.04; CS.03; CCSS.ELA.RI.9-10.8; CCSS.ELA.W.9-10.2; CCSS.ELA.SL.9-10.1.A; CCSS.ELA.SL.9-10.4; CCSS.ELA.RST.9-10.9; CCSS.ELA.RST.9-10.3; CCSS.ELA.WHST.9-10.2; CCSS.ELA.WHST.9-10.4; CCSS.ELA.WHST.9-10.8; MP1; MP3; MP6; Buying Goods and Services, Benchmarks: Grade 12, Statement 7; CRP.02; CRP.04; CRP.05; CRP.06; CRP.07; CRP.08; CRP.11

MY FOOD PRODUCT IS:

My 5 questions regarding Food Product Specification Compliance:

1)

2)

3)

4)

5)

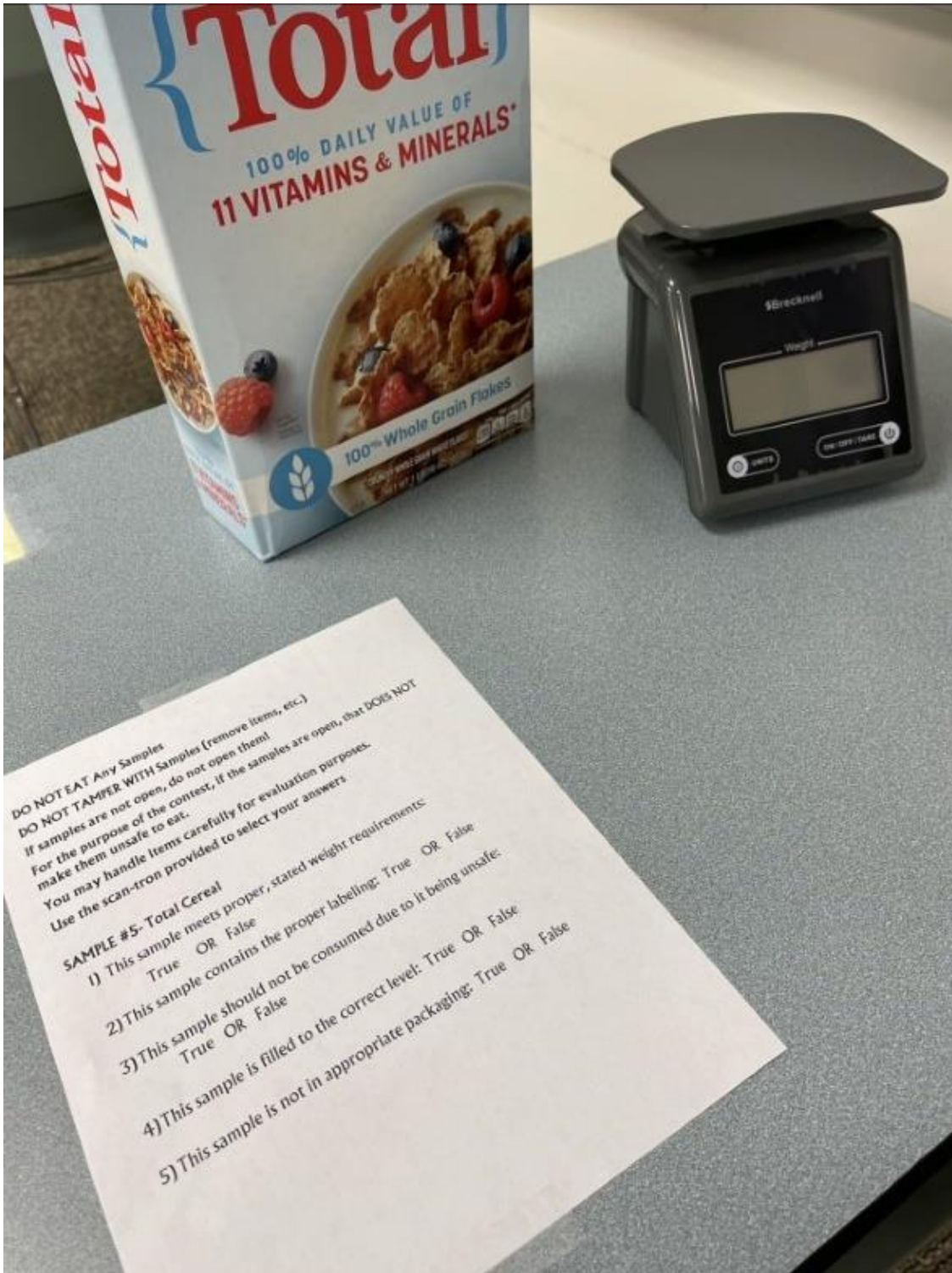
NAME OF CLASSMATE WITH WHOM I TRADED PAPERS: _____

Name: _____

Product Specification

Set-up Example

Name: _____



DO NOT EAT Any Samples
DO NOT TAMPER WITH Samples (remove items, etc.)
If samples are not open, do not open them!
For the purpose of the contest, if the samples are open, that DOES NOT
make them unsafe to eat.
You may handle items carefully for evaluation purposes.
Use the scan-iron provided to select your answers

SAMPLE #5- Total Cereal

- 1) This sample meets proper, stated weight requirements:
True OR False
- 2) This sample contains the proper labeling: True OR False
- 3) This sample should not be consumed due to it being unsafe:
True OR False
- 4) This sample is filled to the correct level: True OR False
- 5) This sample is not in appropriate packaging: True OR False