



COURSE 3:

Food Production, Nutrition and Health

NEXT BEST RESTAURANT



**food and
nutrition sciences**

PREPARATION FOR TOMORROW





CONTENTS

Project Overview	3
------------------------	---

Lessons

Days 1-3: Where was the murder victim's last meal?	4
Day 4: What are food trends?	7
Day 5-6: How do you know if the resources you find on the Internet are reliable?	10
Day 7: How are current food trends categorized?	13
Day 8: What are common food trends in our local grocery store?.....	15
Day 9: How does the government regulate food claims on labels?	17
Day 10-12: How do you know if food claims are accurate or misleading?	19
Day 13: (Project Roll-out) Do you understand the project?	24
Day 14-15: What does the data say about trends in the food industry?	26
Day 16: What is a target market?	29
Days 17-21: How is an Opportunity Analysis created?	31
Days 22-23: Why is your restaurant going to be the most successful?	39

Culminating Project

Project 4: The Next Best Restaurant Extension	41
Culminating Project Overview	41
Culminating Project Days 1-7: What is the complete journey digested macromolecules take? Where do they come from and where does their journey end?	42

Appendices

Appendix 1: Daily Bell-Work Journal	50
Appendix 2: Daily Exit Tickets	51
Appendix 3: Project Management Log: Team Tasks	52
Appendix 4: Hold That Mini-Burger	53
Appendix 5: Credible Source Writing Lab	54
Appendix 6: Product Label Analysis	55
Appendix 7: Nutrient Claims on Food Labels	56
Appendix 8: Health Claim Presentation Rubric	58
Appendix 9: Success Story: eCreamery.....	59
Appendix 10: Essential Question.....	61
Appendix 11: Nebraska Restaurant Industry at a Glance	62
Appendix 12: What's Hot: 2013 Chef Survey.....	64
Appendix 13: SWOT Analysis	76
Appendix 14: New Business Planning: Is Your Business Plan Feasible?.....	77
Appendix 15: Peer Presentation Evaluation and Rubric	78
Appendix 16: Opportunity Analysis Rubric	79
Appendix 17: Murder and a Meal	80
Appendix 18: The Digestive System	86
Appendix 19: Culminating Project	96
Appendix 20: Credible Video Source Lab.....	97
Appendix 21: Group Digestion Detailed Overview	98
Appendix 21: Carbohydrates	99
Appendix 21: Proteins.....	100
Appendix 21: Lipids.....	101
Appendix 21: Farm to Flush Presentation Rubric.....	102
Appendix 22: Grocery Aisle Gotchas	103

Project Overview



CONCEPT/DESCRIPTION

- 1-3** Murder and a Meal – two day activity with tests to detect the presence of carbohydrates, proteins, and lipids in a crime solving simulation.
- 4** Students define food trend.
- 5-6** Students determine how to identify reliable resources.
- 7** Students review Project Management Log. Students categorize food trends.
- 8** Students define health claim.
- 9** Students explain the role of the government in regulating food claims.
- 10-12** Students determine the accuracy of food claims and present their findings to their peers.



CONCEPT/DESCRIPTION

- 13** Engagement Scenario: Students determine the scope/meaning of the project.
- 14-15** Students conduct a SWOT analysis and identify the potential for business opportunities.
- 16** Students define target market.
- 17-21** Students create the components of the Opportunity Analysis. Students create a sample menu including health claims and nutritional information (calories and fat). Students prepare final report and presentation.
- 22-23** Students present their Opportunity Analysis reports.



Key Question of the Day:

Where was the murder victim's last meal?



Estimated Time

Three 50-minute class periods



Learning Objectives

As a result of this lesson, students will be able to:

- Categorize food items from a menu as protein, lipid, or carbohydrate
- Perform lab tests to test for presence of macromolecules
- Utilize lab results to deduce macromolecules present in stomach contents, therefore, determine which restaurant a murder victim ate their last meal.



Required Materials

- See [Appendix 17](#)– Murder and A Meal
- All students with Gloves, Apron, and Goggles

SETUP

Lipid test station

- Test tubes (one for each lab group)
- Gallon Distilled water
- 2 Eye droppers
- Sudan III stain
- Test liquid (stomach contents)

Protein test station

- Eye dropper
- Test liquid (stomach contents)
- Biuret reagent solution

Sugar test station

- Gallon Distilled water
- Test liquid (stomach contents)
- Eye dropper
- Benedict's solution
- Test tube (one for each lab group)
- Hot water bath (40-50 °C)
- Beaker
- Burner/stove to heat beaker of water
- Thermometer

Starch test station

- Test tubes (2 per lab group)
- Lugol's Iodine
- Corn starch – as a known starch for comparison
- Gallon distilled water
- Eye dropper
- Test liquid (stomach content)

OPENING

DAY 1

- Bell Work- Read through Murder and a Meal on Day 1.
- Teacher – Reads or goes over the scenario and expectations of each day.

DAY 2

- Teacher- goes over station locations and models procedures. One person from each team will test for one of the macromolecule, so each is being tested by a member of the team. The students will share the results of their tests by the end of class and report on Table 1 and Table 2.
- Ask for questions to check for understanding of the labs.

DAY 3

- Teacher- Read through the expectations of the Lab Analysis write-up expected from each student. Makes sure the students title Table 2 and follow the discussion format for the write-up

MIDDLE**DAY 1**

- Students use sources to research ways to test for proteins, lipids, and carbohydrates (starch, glucose). Students will obtain teacher approval for the tests selected.
- Teacher- the approved tests are as follows: lipid- Sudan III test, protein- Biuret reagent solution test, carbohydrate (glucose)- Benedict's solution, carbohydrate (starch)- Lugol's iodine
- Teacher circulates

DAY 2

- Students in groups of three will each take on the testing of one macromolecule.
 - › Protein testing station
 - › Lipid testing station
 - › Carbohydrate testing station (both glucose and starch)
- The results of each test will be shared by each team member and reported on Tables 1 and 2

CLOSING

- Day 1: ***What is the significance of testing for each macromolecule?***
- Day 2: ***Based on your team's testing of macromolecules in the stomach contents, what conclusions can you make?***
- Day 3: ***What macromolecule test(s) provided the most significant results for you to format your discussion write-up in the Lab Analysis?***

TEACHER NOTES

To make the "stomach contents", blend the following materials:

- Corn (not sweetened)
 - Beans
 - Potato
 - Noodles
 - Vegetable oil
- ✓ **TEACHER TIP!** To make stomach contents, 1/3 of a potato, spaghetti (if you use gluten free it will have about half the protein that regular spaghetti has) and oil. Boil it together than use a blender to blend it together with more water. Let the stomach contents settle before letting your students sample it. If you refrigerate it be sure to let it sit out for an hour or two so the tests will react quickly.
 - ✓ **TEACHER TIP!** Mix and refrigerate the positives (albumin, glucose, and starch) in advance to save time that day. They can be stored in the refrigerator for up to a week.
 - ✓ **TEACHER TIP!** Test your mixture before-hand. It should only have starches and lipids. I put the contents in a beaker and made the kids "handle" it. They loved and hated it! The ultimate goal is to show that the last meal was "Vincenzo's Ristorante"

**Need more information? Visit these sites for ideas ...**

- Food Chemistry, http://www.sciencecompany.com/sci-exper/food_chemistry.htm
- Testing for Lipids, Proteins, & Carbohydrates, <http://seplessons.ucsf.edu/node/362>
- Food Chemistry Testing, <http://www.scribd.com/doc/3371524/Food-Chemistry-Testing-SUGAR-STARCH-ETC>



Key Question of the Day:

What are food trends?



Estimated Time

One 50-minute class period



Learning Objectives

As a result of this lesson, students will be able to:

- Define food trend.



Required Materials

- Computer with access to YouTube
- Video: <http://www.youtube.com/watch?v=zygFwbzbK4Q>
(This video discusses current food trends, however should this information become outdated or link inactive, simply find any video that discusses current food trends)
- Flip charts for the students
- Markers
- Writing surface for the teacher (white board, flip chart, PowerPoint slide, etc.)
- Weekly Bell-Work journal – [Appendix 1](#) - One for each student
- Daily Exit Ticket – [Appendix 2](#) – One for each student
- Project Management Log – [Appendix 3](#) – One for each student



Bell-Work

- Provide students with the weekly Bell-Work sheet ([Appendix 1](#))
- **“We have all been guilty of giving into the latest popular trends. List one trend you have followed and explain why you were interested in being a part of that trend.”**

OPENING

5 minutes

(Designed to **prepare** students for learning. Students are prepared for learning by activating an **overview** of the **upcoming** learning experience, their **prior knowledge**, and the **necessary vocabulary**.)

- What are trends? Give examples
- Read the Bell-Work question and solicit responses from the students. The teacher should share a trend that he/she has been guilty of following as well. Make sure students explain why they have followed different trends. Capture student responses on a writing surface.
- Possible answers may include:
 - › Fashion trends: skinny jeans, boys wearing girls pants, short shorts, braided hair, nail polish prints, neon colors
 - › Social media/tech trends: cellphones, iPods, ear buds/headphones, Twitter, Facebook, YouTube videos, flash mobs
 - › Game trends: Apps, portable game systems
 - › Movie/Book trends: Twilight, Harry Potter, Hunger Games, zombies, vampires
 - › Cars – hybrids, SUVs
- The point to be made: **“There are always new trends in our society, and almost every aspect of life has been influenced by some type of trend.”**
- The Bell-Work should lead into a discussion and activity about food trends.

MIDDLE

40 minutes

(Designed to provide a **structure** for learning that actively promotes the **comprehension and retention** of knowledge through the use of **engaging strategies** that acknowledge the brain's limitations of **capacity and processing**.)

- Have this definition posted somewhere in the room, but keep it covered until you are ready to reveal it to the class. Definition of trend: According to Merriam-Webster dictionary, trend is defined as the following: Trend (noun) – 1. a line of general direction or movement; 2a. a prevailing tendency or inclination; 2b. a general movement; 2c. a current style or preference; 2d. a line of development
- Explain the different meanings of the word trend and tie it back to the examples the students shared that you captured.
- Break students into their teams (of three) for this project. Allow students to select a team name. Give each group a piece of poster paper and a marker to create their team nameplate, which will be displayed in the classroom.
- Distribute the project management log and instruct students that they will document all class activities, notes, progress, and web resources on this log.
- Depending on how the discussion progressed, students may or may not have mentioned food trends. If they do, refer back to the trends mentioned by the students as a way to introduce the video about food trends. If they don't mention food trends, explain that aside from what they mentioned, there are all types of trends including trends in the way that we eat. Then show the following YouTube video about food trends: <http://www.youtube.com/watch?v=zygFwbzbK4Q>
- Following the video, ask students for their reactions to the video.
- Give each team a flip chart and markers
- In teams of three (this will be the same team students are in for the duration of the project), students will brainstorm food trends that they have seen in the grocery store, in restaurants, locally, nationally, globally – any trends they can think of related to food
- Students will list the trends on the flip chart
- Have the teams hang their posters around the room when they are finished brainstorming. When the class is done, conduct a “Gallery Walk” where the class can rotate and read the trends on each poster.
- As students return to their seats, lead a discussion about what the students listed on their flip charts.
 - › Possible responses could include:
 - » Organic
 - » Raw foods
 - » Local
 - » Antibiotic free meat
 - » GMOs
 - » Probiotics
 - » Greek yogurt
 - » Antioxidants
 - » No preservatives
 - » High fiber
 - » Trans fats
 - » Gluten free
 - » High fiber/protein
 - » Cupcake shops
 - » Frozen yogurt
 - » Smaller portions
 - » Healthier food at fast food restaurants
- Explain that **“even in the food industry, there are trends that come and go over time, but these trends tend to influence our eating decisions – what we buy, where we eat, how we prepare our food, etc.”**

CLOSING

5 minutes

(Designed to promote the **retention of knowledge** through the use of engaging strategies designed to **rehearse** and **practice skills** for the purpose of **moving knowledge into long-term memory**.)

- Provide each student with the weekly Exit Ticket handout [Appendix 2](#)
 - ✓ **TEACHER TIP!** *“Today we explored popular trends in our culture and we started to explore trends related to our foods. We also learned the true definition of a trend. So based on what you have learned, it’s time for you to create your own definition of a food trend.”*
- Students will turn in their Exit Ticket for that day. They will respond to the following prompt:
“What is your definition of a food trend?”
- Collect the Exit Ticket for the day as students leave the classroom



Key Question of the Day:

How do you know if the resources you find on the Internet are reliable?



Estimated Time

One 50-minute class period



Learning Objectives

As a result of this lesson, students will be able to:

- Conduct research using the Internet.
- Collect resource information about food trends.
- Identify specific food trends predicted by experts.



Required Materials

- Computer
- Article – [Appendix 4](#)
<http://www.npr.org/blogs/>



Bell-Work

- Provide students with the weekly Bell-Work sheet – [Appendix 1](#)
- ***“How do you know if the information you are reading is coming from a reliable resource?”***

OPENING

5 minutes

- Read the Bell-Work question and solicit responses from the students.
 - › Possible answers may include:
 - » *The URL/website*
 - » *Authors*
 - » *The source (magazine, newspaper, news station)*
- Explain that there are resources that are not reliable and just because something is on the Internet, it does not always mean it can be trusted. Examples of non-reliable resources would include:
 - › .com sources that are not reputable
 - › Some .org sources which could be biased depending on the organization
 - › Date of the publication
 - › Lack of citations on the website – there should be citations to indicate where the information on that site came from
- The point to be made: ***“The Internet is a wonderful source of information, but as a researcher you have to be able to identify quality resources among the information that does not come from reliable sources.”***

MIDDLE

40 minutes

- ***“Yesterday we started to learn about food trends. Today we are going to continue defining food trends by conducting research that will help us identify specific trends in the food industry.”***
- Explain that the following are types of resources on the Internet:
 - › .edu – educational
 - › .com – commercial
 - › .mil – military
 - › .gov – government
 - › .org – nonprofit organization

- Explain that educational and government websites are the most reliable, some nonprofits can be questionable (it all depends), and commercial websites will require the most attention in order to determine if they are reliable.
- Distribute a copy of [Appendix 4](#) or the article you chose to have the students read. Be sure to discuss the source the article came from.
- Ask students to spend a few minutes reading the article. Students should highlight or underline the key words that indicate food trends.
- Once they read the article, ask students to share the food trends that they identified and discuss that those are just a few examples of food trends. There are many different types of food trends, and when they begin their research, they should be looking for all types of food trends.
- ***“Your goal is to create a list of as many different food trends as you can find. Be sure to include a description of the food trend.”***
- For all the information students record, they should also write the web address and the name of the resource.
- Use the remainder of the class period for students to begin their research.

CLOSING

5 minutes

- Provide each student with the weekly Exit Ticket handout [Appendix 2](#).
- Students will turn in their Exit Ticket for that day. They will respond to the following prompt:
“When searching for information on the Internet, which URL's tend to have the most reliable information?”
- Collect the Exit Ticket for the day as students leave the classroom.



Key Question of the Day:

(Continuation of Day 2) How do you know if the resources you find on the Internet are reliable?



Estimated Time

One 50-minute class period



Learning Objectives

As a result of this lesson, students will be able to:

- Conduct research using the Internet.
- Collect resource information about food trends.
- Identify specific food trends predicted by experts.



Required Materials

- Computer
- [Appendix 4](#) - Article: <http://www.npr.org/blogs/thesalt/2013/01/03/168536679/hold-that-mini-burger-restaurants-forecast-food-for-2013> (You may have to find a current article related to food trends for the current year)
- Flip chart or poster paper
- Markers
- Credible Sources Doc – [Appendix 5](#) – One for each student



Bell-Work

- Provide students with the weekly Bell-Work sheet – [Appendix 1](#)
- **“Let’s review! List something new you have learned about conducting Internet research OR something new you have learned about food trends.”**

OPENING

5 minutes

- Read the Bell-Work question and solicit responses from the students. Responses could include anything related to food trends or searching for information on the Internet. The idea is to review the key concepts from the previous day.

MIDDLE

40 minutes

- Students will have the rest of the class period to complete their research. Each student should find at least five different food trends and resources.
- Students will use [Appendix 5](#) to collect information to determine if the sources they are using to find information are credible.
- When students are finished, in the same teams, they should compare the food trends they found and compile a master list by team. The list should be created as a poster using flip chart or poster paper and markers.
- These lists will become a class resource of food trends and Internet resources.

CLOSING

5 minutes

- Provide each student with the weekly Exit Ticket handout [Appendix 2](#)
- Students will turn in their Exit Ticket for that day. They will respond to the following prompt: **“Based on your research, list three new things you have learned about food trends.”**
- This prompt should give students an opportunity to compare their actual research to the information that they brainstormed to see if there are any similarities or differences in the food trends.
- Collect the Exit Ticket for the day as students leave the classroom.



Key Question of the Day:

How are current food trends categorized?



Estimated Time

One 50-minute class period



Learning Objectives

As a result of this lesson, students will be able to:

- Explain how food trends are developed.
- Identify food trends based on category.



Required Materials

- Post-It notes
- White board/chalk board/open wall space
- Poster paper
- Markers
- Chalk or white board markers
- Tape



Bell-Work

- Provide students with the weekly Bell-Work sheet – [Appendix 1](#)
- ***“Where do food trends start?”***

OPENING

5 minutes

- Read the Bell-Work question and solicit responses from the students.
- Possible answers may include (be sure to capture student responses on a flip chart or writing surface so that they can be referenced later in the lesson):
 - › Restaurants
 - › Cooking at home
 - › Cooking shows/Food Network
 - › Internet
 - › Cultural influences
 - › Economy
 - › Changes in society
- ***“These are excellent responses, and today we will find out if you are right.”*** The purpose of this Bell Work question is to get students thinking about how where food trends come from, since the lesson or the day will lead them to some of these answers. So, there will not be any specific answers to share.

MIDDLE

40 minutes

- ***“Over the past few days we have compiled two different lists of ideas about food trends – one based on your personal knowledge and experience as a consumer, and one based on research that you have conducted using the Internet.”***
- Students will be in the same teams they have been working with, they will take both of their lists of food trends from the past few days, and they will transfer the food trends from both lists to Post-It notes.
- Once students have condensed their lists onto the Post-It notes, they will then go with their teams to the area with the blank surface (white board/chalk board/wall) and begin to organize their food trends on the wall.

- The students should start noticing duplicated and should be grouping similar trends and duplicates together.
- Once all of the Post-Its are up, revisit the Bell-Work question, ***“Now that we can see all of our food trends grouped together, where did these food trends start? In other words, how did they originate?”***
- Keep the questions broad but try to guide the students so that they figure out on their own, how the food trends should be categorized. Examples of categories could include:
 - › Healthy/nutritious
 - › Convenience (easy packaging, food prep, on-the-go, frozen foods)
 - › Price (cheap vs high cost)
 - › Organic
 - › Raw foods
 - › Local
 - › Antibiotic free meat
 - › GMOs
 - › Probiotics
 - › Greek yogurt
 - › Antioxidants
 - › No preservatives
 - › High fiber
 - › Trans fats
 - › Gluten free
 - › High fiber/protein
 - › Cupcakes
 - › Small plates
 - › Burgers
 - › Frozen yogurt
 - › Smaller portions
 - › Healthier food at fast food restaurants
- Students can either write on the surface or if using a wall, make signs with these categories on them, and start moving their food trends into the appropriate categories. By the end of the class period, it should be visible how the food trends are grouped into categories.
- ***“Based on how these food trends are categories, think back to you Bell-Work responses. How do you think these food trends were developed?”***
- Take a picture of the final product, or ask a student to make a final list of the food trends organized by category.

CLOSING

5 minutes

- ***“Tonight for homework, your job is to go shopping either at home or at the grocery store. Bring in one packaged food product of your choice for tomorrow’s activity. If you go to the grocery store, try to take pictures and bring those in as well.”***
- Students will turn in their Exit Ticket for that day. They will respond to the following prompt: ***“How are food trends categorized?”***
- Collect the Exit Ticket for the day as students leave the classroom.



Key Question of the Day:

What are common food trends in our local grocery store?



Estimated Time

One 50-minute class period



Learning Objectives

As a result of this lesson, students will be able to:

- Define health claim.
- Differentiate between health claims on food products.



Required Materials

- Video: http://www.youtube.com/watch?v=W_tinmNcMB8 (This video discusses current food trends, however should this information become outdated or link inactive, simply find any video that discusses current food trends)
- Food packages
- Pictures of your local grocery store (it would be best to take pictures of a class of products such as yogurt or granola bars, where there are a number of the same product with a variety of health claims on the package)
- Computer, projector and screen (if you would like to show the images using the computer)
- Product Label Analysis – [Appendix 6](#)



Bell-Work

- Provide students with the weekly Bell-Work sheet – [Appendix 1](#)
- *“How are food trends displayed in the grocery store?”*

OPENING

5 minutes

- Read the Bell-Work question and solicit responses from the students.
- Possible responses may include:
 - › On packages or food labels
 - › Foods grouped together by meal category
 - › Highlighted with signs or advertisements
- *“Today we are going to find out.”*

MIDDLE

40 minutes

- Show this video: http://www.youtube.com/watch?v=W_tinmNcMB8 (you can find a more current video or ask students to determine if they noticed if any of the trends were true)
- Have a brief discussion about the video, which reviews previous concepts and introduces a few new pieces of information. ***“Do you believe that the trends they identified in the video were accurate? Have you seen any of these trends in action? Have you seen any of these trends in the grocery store?”***
- Ask the students to place their packages, along with the packages you brought in around the room.
- Give each student a copy of [Appendix 6](#). Have a “gallery walk” where students will walk around the room looking at the different packages. Students should complete this activity in their groups. While students are looking at the packages, they should be taking notes to write the specific health claims that are on the packages.
- During the “gallery walk,” have students create three lists, one list for claims they believe are health related, one list for claims they believe is nutrition related, and one list for food trends. Students will hold onto

these lists until later in the lesson. The food items can go into more than one list if they believe that is necessary.

- Then come back as a class and show the pictures from the grocery store. Point out that there are many products, such as yogurt, which are made by a variety of companies and have a variety of brand names, but also include a wide variety of claims and trends such as
 - › Greek yogurt (trend)
 - › Probiotics (health claim)
 - › Antioxidants (health claim)
 - › Low-fat or fat free (nutrition claim)
 - › Organic (trend)
 - › High protein (nutrition claim)
 - › High fiber (nutrition claim)
- Define health claim: According to www.medterms.com, a qualified health claim is a claim authorized by the US Food and Drug Administration (FDA) that must be supported by credible scientific evidence regarding a relationship between a substance (specific food or food component) and a disease or health-related condition. Both of these elements -- a substance and a disease -- must be present in a health claim, an example of an authorized health claim is: **"Calcium may reduce the risk of osteoporosis."**
- Define nutrition claim: a claim about the nutritive value of a food product.
- Now students will revisit their lists and determine if they categorized their lists appropriately based on the definitions. Then revisit the lists from the previous day to determine if those items have been categorized correctly.
- Discuss the results as a class.

CLOSING

5 minutes

- Ask the students to share a summary of what they learned today.
- ***"Remember our Bell-Work question, how are food trends displayed in the grocery store?"***
- Students will turn in their Exit Ticket for that day. They will respond to the following prompt: ***"What is the difference between a health claim and a nutrition claim? How do they differ from food trends?"***
- Collect the Exit Ticket for the day as students leave the classroom.



Key Question of the Day:

How does the government regulate food claims on labels?



Estimated Time

One 50-minute class period



Learning Objectives

As a result of this lesson, students will be able to:

- Explain the role of the government in regulating food claims.
- Describe the meanings of specific food claims.



Required Materials

- Article “Nutrient Claims on Food Labels” – [Appendix 7](http://www.clemson.edu/extension/hgic/food/pdf/hgic4061.pdf) – <http://www.clemson.edu/extension/hgic/food/pdf/hgic4061.pdf>
- Reference: <http://www.fda.gov/aboutfda/transparency/basics/ucm194879.htm>
- Computers
- Internet



Bell-Work

- Provide students with the weekly Bell-Work sheet – [Appendix 1](#)
- **“Which government agencies do you think regulate food?”**

OPENING

5 minutes

- Read the Bell-Work question and solicit responses from the students.
- Possible responses may include:
 - › FDA – Food and Drug Administration
 - › USDA – United States Department of Agriculture
 - › EPA – Environmental Protection Agency
 - › FSIS – Food Safety and Inspection Service
- Explain to students, **“The FDA is the main agency responsible for regulating foods and food labels except for most meat and poultry products, which are regulated by the USDA.”**

MIDDLE

40 minutes

- **“We are going to learn about the rules the FDA uses in order to regulate food claims on food package labels.”**
- Give students a copy of the article [Appendix 7](http://www.clemson.edu/extension/hgic/food/pdf/hgic4061.pdf): <http://www.clemson.edu/extension/hgic/food/pdf/hgic4061.pdf> along with a Post-It note.
- Students will read the article in their groups each student will have an assigned section of the article to read. After students finish reading their section, they should share a summary of what they read with their team. Then within the groups, students can review the questions and information on their Post-It notes. On the Post-It note, while reading the article, students should write one thing they understand that makes complete sense, one thing they are questioning, and one thing they completely do not understand.
- Once the class is finished reading and discussing the article, come back as a class. Ask the following reflection questions:
 - › What are your reactions to this article? What did you find most interesting? What are you now questioning? What surprised you the most? Did this article come from reliable resource? How do

you know? (Briefly explain why the source is credible and the role of the Cooperative Extension Service)

- ***“Based on what we just read, how will you know if the claims on the packages are actually true to the product inside of the package? The answer is on the food label in the list of ingredients.”***
- Ask each group to grab a package from the display (should be from the previous day). Explain how to determine if the food claim is accurate:
 - › First look at the front of the package. What is the food claim?
 - › Next, look at the ingredients list. Locate that ingredient in the list. For example, if it says made with whole grains, locate whole grains in the ingredients list. If it says high protein, locate the protein content on the nutrition label. All of the answers will be on the nutrition label or in the ingredients list.
 - › If the ingredient is towards the end of the ingredients list, then that means the food product contains very small amounts of that ingredient. If it is towards the beginning, like one of the first few ingredients, then it contains a higher quantity of the ingredient.
- Students should now look at the package, identify the food claim, and then try to determine, based on the facts in the article, if the claim is true for that product.
- Solicit responses from the class. Take a poll, ask students to raise their hand if they believe their claim was accurate, and do the same if they believe it was misleading.
- ***“Great! Now that we know how to identify this information, let’s take this a step further. In preparation for tomorrow, look back over all the information you have collected over the past few days and select one health or nutrition claim, or food trend that you would like to learn more about.”***

CLOSING

5 minutes

- Provide each student with the weekly Exit Ticket handout [Appendix 2](#).
- Students will turn in their Exit Ticket for that day. They will respond to the following prompt: ***“How does the government regulate food claims on labels?”***
- Collect the Exit Ticket for the day as students leave the classroom.



Key Question of the Day:

How do you know if food claims are accurate or misleading?



Estimated Time

Two 50-minute class periods



Learning Objectives

As a result of this lesson, students will be able to:

- Determine the accuracy of food claims.



Required Materials

- Computer
- Internet access
- PowerPoint
- Other presentation supplies if PowerPoint is not available (markers, poster paper)
- [Appendix 22](#) – Article - <http://www.consumerreports.org/cro/2012/04/grocery-aisle-gotchais/index.htm> (This article is about deceiving health claims. If this link is not available, please find the article in [Appendix 22](#).)
- Highlighters



Bell-Work

- Provide students with the weekly Bell-Work sheet – [Appendix 1](#)
- *“How do you feel when someone tells you something that you believe to be true, and then later find out it was not true?”*

OPENING

10 minutes

- Read the Bell-Work question and solicit responses from the students.
- Possible responses may include:
 - › Feeling of betrayal
 - › Feel misled
 - › Angry
 - › Confused
- Explain to students, **“As a consumer, it is extremely important to be able to read a product label and make an informed decision about the quality of the product and whether or not you should buy it.”**
- Give each student a copy of the article <http://www.consumerreports.org/cro/2012/04/grocery-aisle-gotchais/index.htm> (The teacher will have to provide the copy because we do not have permission to reproduce this article as part of the curriculum.)
- Give the class about five minutes to read the article or skim it over as it will provide context and serve as an additional resource for this activity.
- As students are reviewing the article, ask them to highlight words or phrases that they feel are especially important or that they might want to know more about, and to circle any words or phrases that they have questions about.
- Ask students to share their initial reactions to the article. Spend a few minutes discussing the article and answer questions.

MIDDLE

35 minutes

- ***“You have just reviewed an article about misleading food claims and trends, and yesterday you identified one food claim or trend that you wanted to learn more about. Let’s keep that claim or trend in mind as we review what you will be doing today.”***
- In their same groups, students will share the claims and trends they selected and identify one to research as a team.
- Students will use the Internet to research the food claim or trend that they identified, based on what they have learned about how the claims are regulated and how to read food labels to understand what the claims mean for the products. Try not to give away too much information to the students, and let them see where the research goes. For instance – if a student is researching the food trend organic, then they should be trying to determine the difference between organic and nonorganic and determine why organics claim to be better. If a student is researching low sodium, then part of the research should reveal why foods are trending more towards low sodium options versus full sodium.
- Each student in the group should be engaged in the research and they should be discussing and sharing what they find.
- Be sure that students record the websites they used and phrases they used to search for the information in the search engine.
- When the research is complete, each team will prepare a brief (2-3 minute) PowerPoint presentation (if PowerPoint is available (or Prezi or other electronic presentation tool), and if this is not available, posters or other form of presentation based on your resources will be sufficient), which will be shared with the class.
- Students will have two class periods to conduct research and create their presentations.

CLOSING

5 minutes

- Provide each student with the weekly Exit Ticket handout [Appendix 2](#).
- Students will turn in their Exit Ticket for that day. They will respond to the following prompt: ***“Write a one-sentence summary of what you have learned today based on your research of your selected food claim or trend.”***
- Collect the Exit Ticket for the day as students leave the classroom.



Key Question of the Day:

(Continuation of Day 10)

How do you know if food claims are accurate or misleading?



Estimated Time

One 50-minute class period



Learning Objectives

As a result of this lesson, students will be able to:

- Determine the accuracy of food claims.



Required Materials

- Computer
- Internet access
- PowerPoint (or other electronic presentation tool)
- Other presentation supplies if PowerPoint is not available (markers, poster paper)



Bell-Work

- Provide students with the weekly Bell-Work sheet – [Appendix 1](#)
- **“Explain the relationship between food trends and food claims.”**

OPENING

5 minutes

- Read the Bell-Work question and solicit responses from the students.
- Possible responses may include:
 - › Food trends are based on food claims and vice versa. They inform each other.
 - › Food claims and trends are both driven by marketing.
 - › Food trends and claims influence consumer decisions to buy foods or eat at certain restaurants
- Explain to students, **“Food trends and food claims influence each other. As we have learned, many food trends, such as Greek yogurt, are driven by food claims, such as higher protein.”**

MIDDLE

40 minutes

- Students will continue their research.
- When the research is complete, they may use this time to prepare their presentations.

CLOSING

5 minutes

- Students will turn in their Exit Ticket for that day. They will respond to the following prompt: **“What is your team status on this assignment?”**
- Collect the Exit Ticket for the day as students leave the classroom
- Homework: If anyone is not finished, they will have to finish for homework since presentations will take place the next day in class.



Key Question of the Day:

(Continuation of Day 11)

How do you know if food claims are accurate or misleading?



Estimated Time

One 50-minute class period



Learning Objectives

As a result of this lesson, students will be able to:

- Determine the accuracy of food claims.



Required Materials

- Computer
- Internet access
- Projector
- Video - <http://www.youtube.com/watch?v=v38fVMtbxk8>
(This video is from a dietician and discusses five health claims to avoid. If this link is no longer available, any video regarding false or deceiving health claims will be sufficient.)
- PowerPoint (or other electronic presentation tool)
- Other presentation supplies if PowerPoint is not available (markers, poster paper)
- Presentation Rubric – [Appendix 8](#) – for the teacher



Bell-Work

- Provide students with the weekly Bell-Work sheet – [Appendix 1](#)
- *“As a good audience member, I will _____. As a professional presenter, I will _____.”*

OPENING

5 minutes

- Read the Bell-Work question and solicit responses from the students.
- Possible responses may include:
 - › Listen
 - › Pay attention
 - › Keep electronic devices off and out of sight
 - › Project my voice
 - › Make eye contact with the audience
 - › Speak slowly and clearly
- Explain to students, **“Remember to be respectful of your peers while they are presenting and to act professionally while addressing your peers.”**
- Review the status of each team as a follow up from the previous day’s Exit Ticket.
- Remind students their assessment will be based upon the presentation using the provided rubric.

MIDDLE

40 minutes

- Group presentations
- Students may ask questions after each presentation
- Use the presentation rubric to evaluate each presentation

CLOSING*5 minutes*

- When presentations are complete, ask the class, ***“Based on the research, how do we know if food claims are accurate or misleading?”***
Show the video: <http://www.youtube.com/watch?v=v38fVMtbxk8>
- Provide each student with the weekly Exit Ticket handout [Appendix 2](#).
- Students will turn in their Exit Ticket for that day. They will respond to the following prompt: ***“Write a one-sentence summary of something new you learned from one of the presentations you saw today.”***
- Collect the Exit Ticket for the day as students leave the classroom.



Key Question of the Day:

Project Roll-out
Do you understand the project?



Estimated Time

One 50-minute class period



Learning Objectives

As a result of this lesson, students will be able to:

- Describe the purpose of the project.
- List the tasks and products related to the project.
- Describe the project in one sentence.



Required Materials

- Shark Tank clip: <http://www.youtube.com/watch?v=YEp6yvThOmk> (This video shows a team that has started a restaurant business. If this clip is not available, any clip from Shark Tank related to the food industry/restaurants will be appropriate.)
- [Appendix 9](#)- Article
- [Appendix 10](#) – Engagement Scenario- “The Next Best Restaurant”
- Computer
- Projector
- Internet
- Rubrics
- Markers
- Poster paper



Bell-Work

- Provide students with the weekly Bell-Work sheet – [Appendix 1](#)
- *“Have you seen the TV show Shark Tank? What’s it about?”*

OPENING

5 minutes

- Read the Bell-Work question and solicit responses from the students.
- Possible responses may include:
 - › Some students will say yes, some will say no
 - › It’s about entrepreneurs trying to start businesses
- Explain to students, ***“Shark Tank is all about business. People come onto the show with a business idea hoping to get the ‘sharks’ to invest in their ideas so they can expand and make it big.”***

MIDDLE

40 minutes

- ***“Let’s check out a clip from an episode of Shark Tank.”*** Show the video: <http://www.youtube.com/watch?v=YEp6yvThOmk>
- Give each student a copy of [Appendix 9](#). Have students use a highlighter to highlight key terms in the article related to entrepreneurship, business development, or food trends. Then have a brief discussion about the article and business idea.
- ***“We have spent the last two weeks compiling research and background knowledge about food trends, and food and health claims. The truth behind these trends and claims is that in most cases, they begin in restaurants and are heavily influenced by trends in the culinary industry. So the trends and claims that you see on grocery store shelves often come from restaurants.”***
- Provide students with a copy of the essential question and Engagement Scenario, [Appendix 10](#). This will include an explanation of the Opportunity Analysis Proposal, which is the final deliverable for the project.

- Review the information with the students and use an INSERT strategy as they read the scenario. Place a “!” behind each sentence that surprises you, a “?” behind each sentence that you have questions about, an “*” behind each sentence you disagree with, and a line under each word you do not understand.
- Have students share their INSERT marks with a partner.
- Provide a few minutes for discussion, clarification, and questions/answers about the project.
- If time permits, have teams assign individual roles and responsibilities. Roles should include Research Analyst, Menu Developer, and Opportunity Evaluator. The Research Analyst is responsible for all of the research that has been collected up to this point, and will take the lead on developing the literature review to explain why the team selected the food trend and restaurant concept they selected based on the research. Once the team selects a food trend and decides on the restaurant concept, the Menu Developer will be responsible for creating a sample menu with at least five entrées, one being the Chef’s Special (get team input), and will explain where the ingredients will come from. The Opportunity Evaluator will review statistics and data to determine local competition and how the new restaurant will fit in with the local community trends.

CLOSING

5 minutes

- Provide each student with the weekly Exit Ticket handout [Appendix 2](#)
- Students will turn in their Exit Ticket for that day. They will respond to the following prompt:
“Write one sentence that describes the project.”
- Collect the Exit Ticket for the day as students leave the classroom.



Key Question of the Day:

What does the data say about trends in the food industry?



Estimated Time

One 50-minute class period



Learning Objectives

As a result of this lesson, students will be able to:

- Analyze trends in the food industry using a SWOT analysis.
- Utilize information available to assist in identifying potential for business opportunities.



Required Materials

- Nebraska Restaurant Data – [Appendix 11](http://www.restaurant.org/Downloads/PDFs/State-Statistics/nebraska)
<http://www.restaurant.org/Downloads/PDFs/State-Statistics/nebraska>
- Food Trend Data – [Appendix 12](http://www.restaurant.org/Downloads/PDFs/News-Research/WhatsHotFood2013.pdf) –
<http://www.restaurant.org/Downloads/PDFs/News-Research/WhatsHotFood2013.pdf>
- Computer
- Projector
- Internet
- SWOT Analysis Grid – [Appendix 13](#)
- Feasibility Survey – [Appendix 14](#)



Bell-Work

- Provide students with the weekly Bell-Work sheet – [Appendix 1](#)
- **“What is a SWOT analysis? Write your best guess.”**

OPENING

5 minutes

- Read the Bell-Work question and solicit responses from the students.
- Explain to students that a SWOT analysis stands for Strengths, Weaknesses, Opportunities, and Threats related to opening a restaurant and today we will be using restaurant industry data to complete a SWOT analysis as the first step in developing their restaurant concept.

MIDDLE

40 minutes

- Using either student computers or hard copies, provide each group with each data set provided in the links above (or [Appendix 10](#) and [Appendix 12](#)). Students will use the data to evaluate the top national food trends, as well as NE restaurant trends to further analyze food and restaurant trends.
- Students will identify any statistics from the two provided resources that could be used to support their decision for selecting the restaurant concept in their Opportunity Analysis Proposal.
- Each team will have the rest of the class period to use their previous research in addition to the provided statistics, and general prior knowledge of restaurants, to describe any Strengths, Weaknesses, Opportunities, or Threats associated with the restaurant concept they have selected. Each student should have a copy of [Appendix 12](#).
- If time permits, as students finish this task, each team should find another team that has also finished and they should share their SWOT analysis with each other as a way to provide an opportunity for additional peer-to-peer brainstorming.

CLOSING*5 minutes*

- Students will turn in their Exit Ticket for that day. They will respond to the following prompt:
“What did you learn from the new data you analyzed today?”
- Collect the Exit Ticket for the day as students leave the classroom



Key Question of the Day:

(Continuation of Day 14)

What does the data say about trends in the food industry?



Estimated Time

One 50-minute class period



Learning Objectives

As a result of this lesson, students will be able to:

- Analyze trends in the food industry using a SWOT analysis.
- Utilize information available to assist in identifying potential for business opportunities.



Required Materials

- Nebraska Restaurant Data – [Appendix 11](http://www.restaurant.org/Downloads/PDFs/State-Statistics/nebraska)
<http://www.restaurant.org/Downloads/PDFs/State-Statistics/nebraska>
- Food Trend Data – [Appendix 12](http://www.restaurant.org/Downloads/PDFs/News-Research/WhatsHotFood2013.pdf) –
<http://www.restaurant.org/Downloads/PDFs/News-Research/WhatsHotFood2013.pdf>
- Computer
- Projector
- Internet
- SWOT Analysis Grid – [Appendix 13](#)
- Feasibility Survey – [Appendix 14](#)



Bell-Work

- Provide students with the weekly Bell-Work sheet – [Appendix 1](#)
- **“After your SWOT Analysis, do you still believe your idea is the best? Why or why not?”**

OPENING

5 minutes

- Read the Bell-Work question and solicit responses from the students.
- Discuss student responses. Ask students if they have any questions regarding the SWOT Analysis.

MIDDLE

40 minutes

- Students will complete the Feasibility Survey ([Appendix 14](#)), since it goes hand in hand with the SWOT Analysis. The New Business Planning worksheet provides a more detailed breakdown of considerations for starting a new business. Students will use this along with the SWOT Analysis document as they create their Opportunity Analysis.
- If students need more time to finish their SWOT Analysis, they may do that while working on the New Business Planning survey.

CLOSING

5 minutes

- Provide each student with the weekly Exit Ticket handout [Appendix 2](#).
- Students will turn in their Exit Ticket for that day. They will respond to the following prompt: **“What surprised you about the information your team has compiled on the New Business Planning survey?”**
- Collect the Exit Ticket for the day as students leave the classroom.



Key Question of the Day:

What is a target market?



Estimated Time

One 50-minute class period



Learning Objectives

As a result of this lesson, students will be able to:

- Define target market.
- Describe the characteristics of a target market.
- Identify a target market for the restaurant concept they are selecting.



Required Materials

- Magazine or newspaper advertisements
- Product packages or images of products (food, toiletries, household items, etc.)
- Computers (for the students)
- Internet
- Writing surface (for the teacher)



Bell-Work

- Provide students with the weekly Bell-Work sheet – [Appendix 1](#)
- **“What is a target market?”**

OPENING

5 minutes

- Read the Bell-Work question and solicit responses from the students.
- Possible responses may include:
 - › A group of people that something is targeted for
- Explain to students that, **“A target market is an identifiable group of consumers with unmet needs or wants. For anything that you purchase whether it be a good or service, there is always a target market, and as consumers, we are all part of a specific target market.”**

MIDDLE

40 minutes

- Allow each team 10 minutes to research target market and see if they can determine what characteristics make up target markets. They should be looking for demographics including (this is not a complete list):
 - › Age
 - › Gender
 - › Socioeconomic status
 - › Income
 - › Life stage (kids/no kids/married/single)
 - › Geographic location
 - › Lifestyle views (for example: health conscious)
 - › Relationship to the product or trend
- Once they have completed this task, bring the class back together and ask them to share their findings. Create a master list on the board at the front of the room.
- Give each team a variety of items. The items should include some food-related items, in addition to household products, advertisements from magazines or newspapers, and restaurant signs or ads.

- Each team will have 5 to 10 minutes to determine the target market for each item or advertisement.
- When this task is complete, bring the class back together and discuss their findings.
- For the remainder of the class, students will work in their teams to select a food trend for their restaurant and determine the target market.

CLOSING

5 minutes

- Provide each student with the weekly Exit Ticket handout [Appendix 2](#).
- Students will turn in their Exit Ticket for that day. They will respond to the following prompt:
“Why is it important to understand the target market of your restaurant?”
- Collect the Exit Ticket for the day as students leave the classroom.



Key Question of the Day:

How is an Opportunity Analysis created?



Estimated Time

One 50-minute class period



Learning Objectives

As a result of this lesson, students will be able to:

- Describe the purpose behind your choice for the restaurant concept based on research.
- Explain how the restaurant will fit within the local community.
- Create a sample menu including health claims and nutritional information.
- Summarize the SWOT analysis.
- Explain how to manage the risks (weaknesses or threats) as a restaurant owner.



Required Materials

- Computers (for the students)
- Internet
- [Appendix 16](#)- one for each student to see teacher's grading criteria



Bell-Work

- Provide students with the weekly Bell-Work sheet – [Appendix 1](#)
- *“Why should we invest in your business?”*

OPENING

5 minutes

- Read the Bell-Work question and solicit responses from the students.
- Possible responses may include:
 - › Our idea is the best
 - › Our restaurant will be the most successful/the most trendy
- Explain that ***“Now is the time to state your case. The purpose of your Opportunity Analysis is more than just a business proposal. Your goal is to convince the investors that your restaurant concept is the best option to invest in. We are going to put everything you have learned up to this point to the test as we develop our Opportunity Analysis proposals.”***

MIDDLE

40 minutes

- ***“Today we are focusing on your purpose behind your choice for the restaurant concept. The literature review is a summary of the research you have conducted, and the research should be used to support your arguments.”***
- The task for each team is to begin organizing and writing out the literature review portion of their Opportunity Analysis. As a team, they will use all of the information gathered up to this point to write a research-based literature review. This portion of the proposal should be at least one page in length, and there is no maximum.
- The work not finished in class will be the responsibility of the Research Analyst to complete for homework. The team can determine if they would like to divide the task or just have the Research Analyst work on it.

CLOSING*5 minutes*

- Students will turn in their Exit Ticket for that day. They will respond to the following prompt: ***“What have you learned about how to write a literature review?”***
- Collect the Exit Ticket for the day as students leave the classroom.



Key Question of the Day:

(Continuation of Day 17)

How is an Opportunity Analysis created?



Estimated Time

One 50-minute class period



Learning Objectives

As a result of this lesson, students will be able to:

- Describe the purpose behind your choice for the restaurant concept based on research.
- Explain how the restaurant will fit within the local community.
- Create a sample menu including health claims and nutritional information of the Chef's Special.
- Summarize the SWOT analysis.
- Explain how to manage the risks (weaknesses or threats) as a restaurant owner.



Required Materials

- Computers (for the students)
- Internet



Bell-Work

- Provide students with the weekly Bell-Work sheet – [Appendix 1](#)
- **“Based on your selected food trend, what is your vision for the menu?”**

OPENING

5 minutes

- Read the Bell-Work question and solicit responses from the students.
 - › Responses will vary
- Explain that, **“The menu is an important component of creating a successful restaurant. Not only is the menu the focus of the restaurant since you wouldn’t have a restaurant without it, but your menu should accurately reflect the trend you have selected, and also meet the needs of your target market.”**

MIDDLE

40 minutes

- Students will use the Internet to research options to include in their restaurant menu. They must have at least five entrées listed as examples. One entrée, labeled as the Chef's Special, should include the detailed nutritional information of Calories, carbohydrates, proteins, fat (lipids), sodium, fiber, and cholesterol. Any health claims that the food trend claims to address should be included somewhere on the sample menu.
- Students should include a brief summary justifying why they selected the ingredients and components of the Chef's Special.
 - ✓ **TEACHER TIP!** If the food trend selected is gluten free, then the menu should state somewhere on it that either all items are gluten free or if there are only selected items that are gluten free, then each item that is gluten free should include some notation. Also, the menu can include more than five entrées but five is the minimum.
- Whatever is not finished in class will be the responsibility of the Menu Developer to complete for homework. The team can determine if they would like to divide the task or just have the Menu Developer work on it.

CLOSING*5 minutes*

- Provide each student with the weekly Exit Ticket handout [Appendix 2](#)
- Students will turn in their Exit Ticket for that day. They will respond to the following prompt:
“Do you feel nutritional information should be included on a menu? Why or why not?”
- Collect the Exit Ticket for the day as students leave the classroom



Key Question of the Day:

(Continuation of days 17, 18)

How is an Opportunity Analysis created?



Estimated Time

One 50-minute class period



Learning Objectives

As a result of this lesson, students will be able to:

- Describe the purpose behind your choice for the restaurant concept based on research.
- Explain how the restaurant will fit within the local community.
- Create a sample menu including health claims and nutritional information of the Chef's Special.
- Summarize the SWOT analysis.
- Explain how to manage the risks (weaknesses or threats) as a restaurant owner.



Required Materials

- Computers (for the students)
- Internet



Bell-Work

- Provide students with the weekly Bell-Work sheet – [Appendix 1](#)
- *“What are the risks your new restaurant would face if it were to open in our local community?”*

OPENING

5 minutes

- Read the Bell-Work question and solicit responses from the students.
 - › Responses will vary
- Explain that, *“As with any new business, there will always be risks. The research should support and validate your reasoning for selecting the food trend that you have selected, which could give you some confidence in your decision. Our goal today is to think about all of the possibilities and determine how you would manage these risks if your restaurant option is selected as the winner.”*

MIDDLE

40 minutes

- Using the SWOT analysis handout completed earlier, teams will summarize this information, which will be included in the last section of the Opportunity Analysis. The purpose of this summary is to highlight all possibilities of opening this new restaurant.
- Students may need to research the local community to determine what current restaurants are in the area, potential completion, and local availability of ingredients (if applicable).
- Based on the SWOT analysis, each team should determine how they would deal with the potential risks (weaknesses or threats) as restaurant owners, and explain this in the proposal.
- Whatever is not finished in class will be the responsibility of the Opportunity Evaluator to complete for homework. The team can determine if they would like to divide the task or just have the Opportunity Evaluator work on it.

CLOSING*5 minutes*

- Provide each student with the weekly Exit Ticket handout [Appendix 2](#).
- Students will turn in their Exit Ticket for that day. They will respond to the following prompt:
“Do you feel confident in your business decisions and restaurant concept at this point? Why or why not?”
- Collect the Exit Ticket for the day as students leave the classroom.



Key Question of the Day:

(Continuation of days 17-19)

How is an Opportunity Analysis created?



Estimated Time

Two 50-minute class periods



Learning Objectives

As a result of this lesson, students will be able to:

- Describe the purpose behind your choice for the restaurant concept based on research.
- Explain how the restaurant will fit within the local community.
- Create a sample menu including health claims and nutritional information of the Chef's Special.
- Summarize the SWOT analysis.
- Explain how to manage the risks (weaknesses or threats) as a restaurant owner.



Required Materials

- Computers (for the students)
- PowerPoint
- Internet



Bell-Work

- Provide students with the weekly Bell-Work sheet – [Appendix 1](#)
- ***“What questions do you have about your Opportunity Analysis proposals?”***

OPENING

5 minutes

- Read the Bell-Work question and solicit responses from the students.
- Answer any outstanding questions students still have about their proposals

MIDDLE

40 minutes

- During the next two days, students will have time in class to prepare for their final presentations, which will include submitting their final Opportunity Analysis proposal and a PowerPoint presentation for the investors.
- Sample menu and featured Chef's Special with nutritional/health information will be finalized.
- Presentations should be no more than 5 minutes with a question and answer session after the presentation.

CLOSING

5 minutes

- Provide each student with the weekly Exit Ticket handout [Appendix 2](#).
- Students will turn in their Exit Ticket for that day. They will respond to the following prompt: ***“What questions do you have about the group presentations?”***
- Collect the Exit Ticket for the day as students leave the classroom.



Key Question of the Day:

(Continuation of days 17-20)

How is an Opportunity Analysis created?



Estimated Time

Two 50-minute class periods



Learning Objectives

As a result of this lesson, students will be able to:

- Describe the purpose behind your choice for the restaurant concept based on research.
- Explain how the restaurant will fit within the local community.
- Create a sample menu including health claims and nutritional information of the Chef's Special.
- Summarize the SWOT analysis.
- Explain how to manage the risks (weaknesses or threats) as a restaurant owner.



Required Materials

- Computers (for the students)
- PowerPoint
- Internet



Bell-Work

- Provide students with the weekly Bell-Work sheet – [Appendix 1](#)
- ***“What questions do you have about your Opportunity Analysis proposals?”***

OPENING

5 minutes

- Read the Bell-Work question and solicit responses from the students.
- Answer any outstanding questions students still have about their proposals

MIDDLE

40 minutes

- During the next two days, students will have time in class to prepare for their final presentations, which will include submitting their final Opportunity Analysis proposal and a PowerPoint presentation for the investors.
- Sample menu and featured Chef's Special with nutritional/health information will be finalized.
- Presentations should be no more than 5 minutes with a question and answer session after the presentation.

CLOSING

5 minutes

- Provide each student with the weekly Exit Ticket handout [Appendix 2](#).
- Students will turn in their Exit Ticket for that day. They will respond to the following prompt: ***“How do you feel about the progress we have made on our final project?”***
- Collect the Exit Ticket for the day as students leave the classroom.



Key Question of the Day:

Why is your restaurant going to be the most successful?



Estimated Time

Two 50-minute class periods



Learning Objectives

As a result of this lesson, students will be able to:

- Identify food trends described in the proposals.
- Make decisions about the best restaurant proposals for the local community.



Required Materials

- Computers
- PowerPoint
- Internet
- Projector
- Presentation Rubric – [Appendix 15](#) –one for each student in the audience
- Presentation Rubric – [Appendix 16](#) – One for the teacher



Bell-Work

- Provide students with the weekly Bell-Work sheet – [Appendix 1](#)
- ***“What are we looking and listening for in your classmates’ presentations today?”***

OPENING

5 minutes

- Read the Bell-Work question and solicit responses from the students.
- Discuss with students the importance of being a professional and respectful audience member. Review the process for evaluating the team presentations.

MIDDLE

40 minutes

- Today students are submitting their final Opportunity Analysis proposal and a PowerPoint presentation for the investors.
- Sample menu and featured Chef’s Special with nutritional/health information will be featured
- Students in the audience will use the student rubric to score the presentations. The teacher will use the separate teacher rubric.

CLOSING

5 minutes

- Provide each student with the weekly Exit Ticket handout [Appendix 2](#)
- Students will turn in their Exit Ticket for that day. They will respond to the following prompt: ***“Reflection: what are your thoughts about the first round of presentations?”***
- Collect the Exit Ticket for the day as students leave the classroom



Key Question of the Day:

(Continuation of Day 22)

Why is your restaurant going to be the most successful?



Estimated Time

Two 50-minute class periods



Learning Objectives

As a result of this lesson, students will be able to:

- Identify food trends described in the proposals.
- Make decisions about the best restaurant proposals for the local community.



Required Materials

- Computers (for the students)
- PowerPoint
- Internet
- Projector
- Presentation Rubric – [Appendix 15](#) – One for each student in the audience
- Presentation Rubric – [Appendix 16](#) – One for the teacher



Bell-Work

- Provide students with the weekly Bell-Work sheet – [Appendix 1](#)
- *“List two things you have heard from the first day of presentations that you found to be interesting, questionable, or mind-changing.”*

OPENING

5 minutes

- Read the Bell-Work question and solicit responses from the students.
- Discuss student responses

MIDDLE

40 minutes

- Today students are submitting their final Opportunity Analysis proposal and a PowerPoint presentation for the investors.
- Sample menu and featured Chef’s Special with nutritional/health information will be finalized.
- Students in the audience will use the student rubric to score the presentations. The teacher will use the separate teacher rubric.

CLOSING

5 minutes

- Provide each student with the weekly Exit Ticket handout [Appendix 2](#).
- Students will turn in their Exit Ticket for that day. They will respond to the following prompt: *“Have you changed your mind? Do you still believe your selected food trend restaurant idea is the best? Why or why not?”*
- Collect the Exit Ticket for the day as students leave the classroom.



Culminating Project Overview

Farm to Flush Culminating Project

What is the complete journey the macromolecules in our food take? Students will identify the starting point of the ingredients used in Project 4's Chef's Special then research the macromolecules' journey through the gastrointestinal system.

This culminating project in the Nutrition Science course will offer the student teams opportunities to utilize skills developed during the previous four projects. As the name implies, a complete journey of food in the "Chef's Special" developed during Project 4 "The Next Best Restaurant," will be the teams' challenge. They will not only have to identify the sources of the food that have been brought to the plate but identify the journey of the macromolecules in the food through the digestive system. Students will become experts on their macromolecule and how it is absorbed by the body.

NOTE TO THE TEACHER:

- This project is a continuation of the deliverables from Project 4 - "The Next Best Restaurant." Now the team will be required to develop a presentation that describes the journey of each macromolecule in the Chefs Special, from the farm to the flush (toilet - end point).
- One presentation per team featuring the journey of each macromolecule. Each team member contributes their delegated macromolecule's journey to the common presentation.
- Each student will take on the research of one macromolecule's journey from the farm through the human digestive system. There are three separate rubrics provided, one for each macromolecule.
- There are recommended resource video links provided for each student but it should be encouraged to search for other sources.
- The pacing of this project will potentially be class specific so the teacher's discretion on due date is also mentioned during this project.



CONCEPT/DESCRIPTION

- 1 Where ingredients in our food come from
Engagement scenario
Credible sources for videos
- 2 Categorizing macromolecules in the Chef' Special
- 3 The Digestive System
Delegation of work
Macromolecule research sources
- 4 Develop Farm to Flush presentation
- 5 Develop Farm to Flush presentation
- 6 Farm to Flush presentations
- 7 Farm to Flush presentations



Key Questions of the Day:

*What is the complete journey digested macromolecules take?
Where do they come from and where does their journey end?*



Estimated Time

One 50-minute class period



Bell-Work

- Where does your food come from?



Learning Objectives

As a result of this lesson, students will be able to:

- Start to visualize where all ingredients in our food come from.
- Be reminded of the importance of researching the credibility of a source of information.



Required Materials

- Computer with access to YouTube
- Video: http://youtu.be/kXoY34Zm_HA
- Video: Molecules of Life <http://youtu.be/QWf2jcznLsY> (play to 1:02)
- Microsoft Office® PowerPoint
- [Appendix 1](#) - Weekly Bell-Work journal -- One for each student
- [Appendix 2](#) - Daily Exit Ticket-- One for each student
- [Appendix 3](#) - Project Management Log -- One for each student
- [Appendix 19](#) – Engagement Scenario- “Chef’s Special -From Farm to Flush” 1/ student
- [Appendix 20](#) – Credible Video Source Lab

OPENING

5 minutes

- Where does your food come from?
Students may need assistance so tell them to think of any food and trace it to its beginning in their minds. On most instances, they should be locating their food’s source at a farm somewhere. If they select a fish or seafood it can be explained that there are also fish farms.
- Transition to watching the video http://youtu.be/kXoY34Zm_HA as a hook to the next part of class. You probably should explain the food featured in this video are called ramps. Ramps are wild leeks that appear for a few fleeting weeks in early spring. Here's how they got to your plate.

MIDDLE

40 minutes

After the video:

- Teacher says – **“Today starts your next challenge and much like the video author, Paul Andersen explained, the building blocks in the burger are the building blocks of the human body.”**
- Distribute the Engagement Scenario and read together – Teacher may want to randomly assign the roles of carbohydrate, protein, and lipid in the team or let the teammates decide who will research what.
- In teams of three (this will be the same team students were in for Project 4 – “The Next Best Restaurant”)
- Distribute the project management log and instruct students that they will document each team member’s assigned macromolecule, research progress, and presentation creation.
- Show video: Molecules of Life <http://youtu.be/QWf2jcznLsY> (play to 1:02)
- Teacher: **“Before the research starts a number of video resources are provided by Paul Andersen and his channel in YouTube. What should**



we do before we use any source for our research?"

Students should recall the Credible Source Writing Lab from previous projects.

- Distribute [Appendix 20](#) – Credible Video Source Lab -one per student
- Students should discover Paul Andersen of Bozeman, Montana is an AP Biology teacher of nearly twenty years. He was named Montana’s teacher of the year and was one of four finalists for the 2011 National Teacher of the Year!
Credible – YES!

CLOSING

5 minutes

- Provide each student with the weekly Exit Ticket handout [Appendix 2](#)
- Students will turn in their Exit Ticket for that day. They will respond to the following prompt:
“What do you think will be the most difficult part of this new challenge?”
- Collect the Exit Ticket for the day as students leave the classroom



Key Questions of the Day:

*What is the complete journey digested macromolecules take?
Where do they come from and where does their journey end?*



Estimated Time

One 50-minute class period



Learning Objectives

As a result of this lesson, students will be able to:

- Discuss how the food we eat consists of the building blocks that make the human body.



Required Materials

- Computer with access to YouTube
- The Digestive System <http://youtu.be/nM5kMSjBrmw> Play all 9:37
- Microsoft Office® PowerPoint
- [Appendix 3](#)- Project Management Log — One for each student
- [Appendix 19](#) – Engagement Scenario- “Chef’s Special -From Farm to Flush” 1/ student



Bell-Work

- Show a picture of a hamburger on a bun with lettuce and tomato
- Where are the carbohydrates, proteins, and fats?

OPENING

5 minutes

- Where are the carbohydrates, proteins, and lipids?
 - › Carbohydrates = bread, tomato, lettuce
 - › Protein= hamburger
 - › Lipids= hamburger
- Today you are going to pick apart your Chef’s Special from Project 4 and categorize each ingredient as a carbohydrate, protein, or lipid.

MIDDLE

40 minutes

- Students categorize their Chef’s Special ingredients as carbohydrate, protein, or fat. If their entrée has a missing macromolecule they are to add it to the entrée. For instance, a team made an all protein entrée. They will need to add a carbohydrate like a vegetable and a lipid like a sauce.
- Teams or teacher assign each team member one macromolecule – carbohydrate, protein or fat so each team has all three represented.
- Each person is to identify their assigned macromolecule as it is in the Chef’s Special and trace this to its source. For example, if beef is in the Chef’s Special the team member would research a beef farm that they would get their beef from and where it is located.
- If a member finishes with this they can preview tomorrow’s video The Digestive System <http://youtu.be/nM5kMSjBrmw> Play all 9:37

CLOSING

5 minutes

- Provide each student with the weekly Exit Ticket handout [Appendix 2](#)
- Students will turn in their Exit Ticket for that day. They will respond to the following prompt: **“What do you think will be the most difficult part of this new challenge?”**
- Collect the Exit Ticket for the day as students leave the classroom



Key Questions of the Day:

*What is the complete journey digested macromolecules take?
Where do they come from and where does their journey end?*



Estimated Time

One 50-minute class period



Bell-Work

- What are two types of digestion?



Learning Objectives

As a result of this lesson, students will be able to:

- Discuss how the food we eat consists of the building blocks that make the human body.
- Anatomy of the gastrointestinal tract
- How our bodies breakdown the macromolecules



Required Materials

- Computer with access to YouTube
- The Digestive System <http://youtu.be/nM5kMSjBrmw> Play all 9:37
- Carbohydrates http://youtu.be/_zm_DyD6FJ0
- Proteins http://youtu.be/2Jgb_DpaQhM
- Lipids <http://youtu.be/VGHD9e3yRIU>
- Microsoft Office® PowerPoint
- [Appendix 3](#)- Project Management Log -- One for each student
- [Appendix 19](#) – Engagement Scenario- “Chef’s Special -From Farm to Flush” 1/ student

OPENING

5 minutes

- What are two types of digestion?
 - › Answer: mechanical and chemical
- Teacher: this question is to expose the students’ prior knowledge of digestion. You may follow with where does digestion start?
 - › Answer: the mouth - chewing is a physical or “mechanical” breakdown of food and chemical digestions starts in the mouth with an enzyme in your saliva.
- Today we will open with a video on digestion from Paul Andersen. This video will be a resource for all of you to understand the digestive system and to prepare for your presentation. You may want to take notes because he goes over a little about each macronutrient.
- The Digestive System <http://youtu.be/nM5kMSjBrmw> Play all 9:37

MIDDLE

40 minutes

- Hand out the research resources and rubrics for each macromolecule. There is one unique for each team member and a presentation requirement for the whole team.
- See [Appendix 21](#)- resources and rubric
- Teams are to use their Project Management Log to delegate parts of the presentation that are not specific to the macromolecule information.
- After macromolecules are delegated, the students start their individual research starting with the following video links:
 - › Carbohydrates http://youtu.be/_zm_DyD6FJ0
 - › Proteins http://youtu.be/2Jgb_DpaQhM
 - › Lipids <http://youtu.be/VGHD9e3yRIU>



CLOSING

5 minutes

- Provide each student with the weekly Exit Ticket handout [Appendix 2](#)
- Students will turn in their Exit Ticket for that day. They will respond to the following prompt:
“What do you think will be the most difficult part of this new challenge? Did this change from yesterday?”
- Collect the Exit Ticket for the day as students leave the classroom



Key Questions of the Day:

*What is the complete journey digested macromolecules take?
Where do they come from and where does their journey end?*



Estimated Time

One 50-minute class period



Learning Objectives

As a result of this lesson, students will be able to:

- Discuss how the food we eat consists of the building blocks that make the human body.
- Anatomy of the gastrointestinal tract
- How our bodies breakdown the macromolecules



Required Materials

- Computer with access to YouTube
- The Digestive System <http://youtu.be/nM5kMSjBrmw> Play all 9:37
- Carbohydrates http://youtu.be/_zm_DyD6FJ0
- Proteins http://youtu.be/2lgb_DpaQhM
- Lipids <http://youtu.be/VGHD9e3yRIU>
- Microsoft Office® PowerPoint
- [Appendix 3](#)- Project Management Log — One for each student
- [Appendix 19](#) – Engagement Scenario- “Chef’s Special -From Farm to Flush” 1/ student



Bell-Work

- What is a monomer?

OPENING

5 minutes

- What is a monomer?
 - › Answer: a molecule that can be bonded to other identical molecules to form a polymer
- Discussion:
 - › What is the monomer of a protein? amino acids
 - › What is the monomer of a carbohydrate? monosaccharide like glucose
 - › What is the monomer of a lipid? Glycerol and fatty acids

MIDDLE

40 minutes

- Student continue to use [Appendix 21](#)- resources and rubric and prepare their Farm to Flush presentation.
- Teams are to use their Project Management Log to delegate parts of the presentation that are not specific to the macromolecule information.

CLOSING

5 minutes

- Provide each student with the weekly Exit Ticket handout [Appendix 2](#)
- Students will turn in their Exit Ticket for that day. They will respond to the following prompt: **“What is something you learned about your macromolecule that you did not know before?”**
- Collect the Exit Ticket for the day as students leave the classroom



Key Questions of the Day:

*What is the complete journey digested macromolecules take?
Where do they come from and where does their journey end?*



Estimated Time

Two 50-minute class periods



Learning Objectives

As a result of this lesson, students will be able to:

- Discuss how the food we eat consists of the building blocks that make the human body.
- Anatomy of the gastrointestinal tract
- How our bodies breakdown the macromolecules



Required Materials

- Computer with access to YouTube
- Microsoft Office® PowerPoint
- [Appendix 21](#) – Resources and rubric – One for each student



Bell-Work

- What are things to remember while giving a presentation?

OPENING

5 minutes

- What are things to remember while giving a presentation?
- Solicit responses and remind the students of what is on the presentation rubric about posture, eye contact, and volume. The expectations are to listen to each other's presentation. This presentation has no time limit.

MIDDLE

40 minutes

- Student teams Farm to Flush Presentations

CLOSING

5 minutes

- Teacher take a few minutes to reflect on the presentations today and highlight the things that were done well. This is to provide feedback to those who went today and give the teams yet to go ideas to improve theirs.



Key Questions of the Day:

*What is the complete journey digested macromolecules take?
Where do they come from and where does their journey end?*



Estimated Time

Two 50-minute class periods



Learning Objectives

As a result of this lesson, students will be able to:

- Discuss how the food we eat consists of the building blocks that make the human body.
- Anatomy of the gastrointestinal tract
- How our bodies breakdown the macromolecules



Required Materials

- Computer with access to YouTube
- Microsoft Office® PowerPoint
- [Appendix 21](#) – Resources and rubric – One for each student



Bell-Work

- What is something that stands out about this presentation assignment?

OPENING

5 minutes

- What is something that stands out about this presentation assignment?
 - › Solicit answers

MIDDLE

40 minutes

- Student teams Farm to Flush Presentations continue

CLOSING

5 minutes

- Teacher take a few minutes to reflect on the presentations today and highlight the things that were done well. This is to provide feedback to those who went today and give the teams yet to go ideas to improve theirs.



Daily Bell-Work Journal

MONDAY

DATE _____

TUESDAY

DATE _____

WEDNESDAY

DATE _____

THURSDAY

DATE _____

FRIDAY

DATE _____



Daily Exit Tickets



DAY EXIT TICKET Name: (First, Last) _____
 Date: _____ Period: _____
 Topic: _____



Continue your answer on the back if necessary

DAY EXIT TICKET Name: (First, Last) _____
 Date: _____ Period: _____
 Topic: _____



Continue your answer on the back if necessary

DAY EXIT TICKET Name: (First, Last) _____
 Date: _____ Period: _____
 Topic: _____



Continue your answer on the back if necessary

DAY EXIT TICKET Name: (First, Last) _____
 Date: _____ Period: _____
 Topic: _____



Continue your answer on the back if necessary

DAY EXIT TICKET Name: (First, Last) _____
 Date: _____ Period: _____
 Topic: _____



Continue your answer on the back if necessary



Project Management Log: Team Tasks

Project Name _____

Team Members _____

TASK	WHO IS RESPONSIBLE	DUE DATE	STATUS	DONE



Hold That Mini-Burger:

RESTAURANTS FORECAST FOOD FOR 2013

by Jessica Stoller-Conrad
January 03, 2013 2:33 PM

Still ordering gazpacho and sliders at your favorite restaurant? Not pre-screening restaurant menus before you make a reservation? Well, hop in the DeLorean and set the chronometer to 2013: You're really behind the times.

Technology is in and is out, says a recent survey of 1,800 chefs across the nation.

The , part of the National Restaurant Association's latest , categorized 198 menu items as "hot trends," "yesterday's news" or "perennial favorites." Meant to be an annual snapshot of the entire restaurant industry, the forecast also predicts trends in restaurant technologies and consumer attitudes in the coming year, says Hudson Riehle, senior vice president of Research at the NRA.

Restaurant consumer expectations are high, even before they walk in the door. More than half of adult patrons will check out a restaurant's menu online before their visit, the report says.

And about that menu? One of this year's hottest restaurant tech trends includes in-house iPad menus, which offer customers high-resolution photos and detailed descriptions of dishes.

The survey also notes the growing popularity of take-out, and food trucks, especially by younger patrons. "Roughly 70 percent of restaurant industry traffic is now off-premises ... [and] 18- to 34-year-olds have a higher propensity to use off-premises meal solutions," Riehle says. As we've reported before, the millennial generation tends to make food decisions.

While convenience is key for younger customers, trends also suggest that sustainability and sourcing will be important values for consumers in 2013. The survey predicts that entree trends featuring locally sourced meats and sustainable seafood will become

increasingly popular, though perennial comfort food like barbecue and macaroni and cheese are here to stay.

Dietary and health concerns may also influence restaurant offerings nationwide, in smaller meal portions, vegetarian appetizers, whole-grain options for kids and wheat-free pastas for the , the survey predicts. Of course, the government's new requirement to list may also have some influence here.

Other hot trends include house-cured meats, artisanal cheeses and gourmet lemonade. And in addition to locally grown organic produce, hyperlocal items, such as vegetables raised in restaurant gardens, are also expected to ramp up in 2013.

"Among Americans now, there is a heightened level of interest in food overall, and that runs the spectrum from farm to fork," says Riehle. This interest could stem from the growing popularity of cooking shows and culinary school graduates, he says.

Rising levels of food awareness could also explain the growing international trends on the menu. Peruvian food is expected to be the hottest fad in ethnic cuisine, while ethnic-inspired items, like chorizo scrambled eggs and coconut milk pancakes, are predicted to replace former breakfast favorite chicken and waffles.

"The typical American palate is now much more sophisticated than 10 to 20 years ago . . . [It is] more able to discern flavors, foods and spices. [Americans are] much more educated about the cuisines that restaurants have prepared," Riehle tells The Salt.

But if you've got a restaurant, you need to focus. Instead of satisfying every hot trend in the forecast, Riehle says it's most important for to understand your customers and your location.

Riehle says the key is, know your demographic.

www.npr.org/blogs/thesalt/2013/01/03/168536679/hold-that-mini-burger-restaurants-forecast-food-for-2013



Credible Source Writing Lab

Name _____ Date _____ Class Period _____

Assign one person to each job role. For a group of four, assign two people to share the reporting out to the class.

Job roles- Technician- uses the computer _____

Recorder- writes down the answers _____

Reporter(s)- report out to the class _____

What is the phrase or question you searched? _____

How many results did the search engine find? _____

What is the title of the article or source you chose to investigate? _____

Who is/are the author(s) of the article? _____

What is the author's job or position? (Do a search of the author.) _____

What is the author's educational background? _____

After your investigation of the author of your chosen article, do you still wish to use the article?



If no, go back to your original search and follow the same steps with another article.



Yes

What is the author's purpose for writing the article? _____

When was the article written? _____



Nutrient Claims on Food Labels

Clemson Cooperative Extension
Home & Garden Information Center
<http://www.clemson.edu/extension/hgic>
HGIC 4061, 1-888-656-9988

Are you familiar with the label language on food products in the grocery store?

- The label on a can of pears says there is "no added sugar."
- The words on a milk carton boast that it is "high in calcium."
- Certain breakfast cereals claim to be "high in fiber."
- "Lite" salad dressing and cookies with "fewer calories" also catch your eye.

These are all nutrient content claims. The optional information in a nutrient claim tells you that a food contains desirable levels of certain nutrients or alerts you to avoid a food that contains a certain nutrient that is detrimental to your health.

What is a Nutrient Claim?

This is a claim concerning a product's nutritive value. It describes the content of a food, including the amount of nutrients, calories, cholesterol or fiber, but not in exact amounts. Usually on the front of the food label, the nutrient claim provides a quick comparison between similar products.

Have you ever wondered if you can believe the nutrient claims on food labels? Yes, you can. Under the Nutrition Labeling and Education Act (NLEA) of 1990, the government set strict rules and definitions that a product must meet to make a nutrient claim or a health claim. If a product meets these strict criteria, the manufacturer can display certain approved claims about the food.

Approved Terms: By knowing the definitions of terms used on food labels, you will be able to choose foods wisely. The NLEA permits the use of label claims that

describe the level of a nutrient in a food (e.g. nutrient content claims). Nutrient content claims describe the level of a nutrient or dietary substance in the product, using terms such as free, high, and low, or they compare the level of a nutrient in a food to that of another food, using terms such as more, reduced, and lite. Refer to the table, "Definitions of Nutrient Content Claims," on the next page to learn what these claims mean.

The Food and Drug Administration (FDA) requires that a nutrient content claim on a food package be based on how much of the food most people usually eat or drink. This is called the reference amount. Serving size and reference amount are usually the same.

Always check the label, because sometimes serving size and reference amount are different. For example, a serving size of low calorie soda is 12 fl. oz., but the low calorie claim on the label is based on a reference amount of 8 fl. oz. Therefore, the manufacturer must include this statement: "40 calories or less per 240 milliliters (8 fl. oz.)."

Daily Values: Most nutrient claims apply to nutrients that have an established Daily Value (DV), which is the basis for nutrient claims such as a food is "low" in sodium or a "good source" of fiber. Use the % DV to compare a food with a nutrient claim to a similar food without a claim.

A food which provides 10% or more of the Daily Value for a nutrient per serving is a good source, while one providing 20% is considered "high in" the nutrient. Choose several servings of foods that are "high in" or "good sources" of hard-to-get nutrients like calcium. Recommended amounts are the minimums you should consume daily.

Any food containing less than 5% of a Daily Value provides only a small amount of that nutrient. Aim for 100% or less of the Daily Value for nutrients that should be limited, such as total fat, saturated fat, cholesterol and sodium. For more information on % DVs, refer to [HGIC 4057, Determining Nutritional Value of Foods](#).



DEFINITIONS OF NUTRIENT CONTENT CLAIMS

NUTRIENT CONTENT CLAIM	WHAT THE CLAIM MEANS PER SERVING
High (rich in, excellent source)	20% or more of the Daily Value
Good	10% to 19% of the Daily Value
More	Contains at least 10% more of the Daily Value for vitamins, minerals, protein, dietary fiber, or potassium.*
Light	Has at least 1/3 fewer calories or 50% less fat.* If more than half the calories are from fat, fat content must be reduced by 50% or more.
Less or fewer	Has 25% less of a nutrient or of calories
CALORIE CLAIMS	
Calorie free	Less than 5 calories
Low calorie	40 calories or less
Reduced calories	At least 25% fewer calories*
SUGAR CLAIMS	
Sugar free	Less than 0.5 gram sugars
Reduced sugar	At least 25% less sugar
FIBER CLAIMS (If food is not low in total fat, the label must state total fat in conjunction with the fiber claims)	
High fiber	5 grams or more
Good source of fiber	2.5 grams to 4.9 grams
More or added fiber	At least 2.5 grams more*
SODIUM CLAIMS	
Sodium free or salt free	Less than 5 milligrams sodium
Very low sodium	35 milligrams of sodium or less
Low sodium	140 milligrams of sodium or less
Reduced sodium	At least 25% less sodium*
Light in sodium	At least 50% less sodium
Salt free	Less than 5 milligrams sodium
FAT CLAIMS	
Fat free	Less than 0.5 gram fat
Low fat	3 grams or less total fat
Reduced fat	At least 25% less fat than the regular version
SATURATED FAT CLAIMS	
Saturated fat free	Less than 0.5 gram saturated fat and less than 0.5 gram trans fatty acids
Low in saturated fat	1 gram or less saturated fat & no more than 15% calories from saturated fat
Reduced saturated fat	At least 25% less saturated fat* and reduced by more than 1 gram fat
<i>Note: Trans fat has no FDA-defined nutrient content claims.</i>	
CHOLESTEROL CLAIMS	
Cholesterol free	Less than 2 milligrams cholesterol and 2 grams or less saturated fat
Low cholesterol	20 milligrams or less cholesterol and 2 grams or less saturated fat
Reduced cholesterol	At least 25% less cholesterol and 2 grams or less saturated fat*
LEAN CLAIMS	
Lean	Contains less than 10 grams total fat, 4.5 grams or less saturated fat, and less than 95 milligrams cholesterol
Extra lean	Contains less than 5 grams total fat, less than 2 grams saturated fat, and less than 95 milligrams cholesterol

*compared to the reference, or regular, food this would replace



Health Claim Presentation Rubric

Name _____

	CONNECTION WITH AUDIENCE	VISUAL AIDS	SUBJECT KNOWLEDGE	TIME
4, 5	<ul style="list-style-type: none"> Excellent eye contact Speaks clearly Answers audience's questions clearly and completely 	<ul style="list-style-type: none"> Aids add to the presentation, are easy to see/hear and are neat Meets all requirements for what should be included in the presentation Well organized 	<ul style="list-style-type: none"> Excellent display of knowledge Selects the right amount and kind of information to present 	2:00-3:00 minutes
3	<ul style="list-style-type: none"> Makes some eye contact Speaks clearly some of the time Answers most of the audience's questions clearly and completely 	<ul style="list-style-type: none"> Uses aids but they do not add much, may distract from the presentation Slightly hard to see/hear, somewhat messy Meets most requirements for what should be included in the presentation Somewhat organized 	<ul style="list-style-type: none"> Good display of knowledge Sometimes selects too much or too little information, or the wrong kind of information about the topics 	1:30-2:00 minutes
0, 1, 2	<ul style="list-style-type: none"> More eye contact needed Speaks too softly to be heard/too fast/too slow/too loud Answers some of the audience's questions with brief, unclear responses, or does not address audience questions at all 	<ul style="list-style-type: none"> Minimal or does not use aids (pictures, drawings, objects, posters, slides, other media, etc.), and are not neat Does not meet requirements for what should be included in the presentation Lacks organization 	<ul style="list-style-type: none"> More preparation in subject Selects too much or too little, and the wrong kind of information to present 	0:30-1:15 minutes



The
Food
Processing
Center

Success Story: eCreamery Personalized Ice Cream Gifts

Company Profile

eCreamery.com blends aspects of American culture that this generation has grown to love: large, colorful, personalities and the ability to do everything by a click of a button. At eCreamery.com, customers can create, name, and ship personalized ice cream flavors (to themselves or as a gift!) from their computer or smartphone. Owners Becky App and Abby Jordan combined their knowledge of the retail gift trade with their passion for exceptional foods to create their successful Omaha, Nebraska-based company.

In addition to the online gift market, eCreamery.com operates a traditional ice cream and gelato parlor in Omaha. eCreamery.com also offers a wholesale line of ice cream and gelato flavors to the foodservice industry, specifically restaurants. One unique aspect is the ability of restaurants to design a signature flavor. Currently, online sales comprise 60 percent of their business.

Situation

Becky App and Abby Jordan became acquainted in 2001 while working in the marketing and eCommerce division of the renowned Omaha jewelry store Borsheims. Over time a friendship developed as the two bonded over work and their shared love for food. Their mutual interests and vision morphed into a full-fledged business complete with a retail store and processing space.

Their experience in the high-end retail gift market gave them an understanding of the importance of a personalized gift. It takes the time of the gift-giver—which shows loyalty and love—and the consideration



of the receiver to a whole new level. Not only is the gift-giver seeking to purchase something the receiver will like, but something that connects their gift to the receiver in only a way the giver could communicate. Becky and Abby wanted to give consumers the opportunity to do just this and they wanted to combine the idea with food, because food speaks directly to the soul.

The model for eCreamery.com materialized in 2006 when their investor, Mark Hasebroock, purchased an existing, though somewhat dysfunctional, website that allowed users to create custom ice creams. Immediately, Abby and Becky had the idea to move away from customized self-purchase and create a space that invited personalized gifting.

Solution

The two realized they could benefit from outside assistance in launching their business, especially as the food industry has myriad rules and regulations.





To learn more about the intricacies of starting a food business Abby and Becky attended The Food Processing Center's seminar "From Recipe to Reality". This nationally recognized workshop is specifically designed for food entrepreneurs and provides an overview of the marketing, business and technical aspects that need to be taken into consideration.

The education they received from this course included information on federal and state regulations, packaging requirements, distribution channels and valuable contacts with industry experts. The pair subsequently worked on recipe development, distribution (shipping) and revamping the website. The duo launched eCreamery.com in mid-2007.

In 2011 Abby and Becky were approached by The Food Processing Center to take part in a new initiative pioneered by Gallup, Inc. Over the past five years, Gallup has been adapting their globally validated behavioral economic sciences/systems specifically to help entrepreneurs increase sales, profits, and ultimately, to sustainably grow their businesses. The end product—the Entrepreneur Acceleration System (EAS)—uses one-on-one mentoring to facilitate an enterprise's growth strategy.

Abby and Becky's efforts to grow the business contributed to stretched demands on their time. They welcomed the opportunity to work with a mentor to systematically review their operations and identify problem areas. The customer service analysis and personality assessment sections of EAS were extremely valuable to eCreamery.com. The discussions and activities made the owners analyze the details of each interaction with a customer and implement improvements in areas that had previously been overlooked. The personality assessment gave

eCreamery.com a clear understanding of their team and each member's individual strengths. As a result, some specific job tasks were reassigned to better suit skill sets which in the end served everyone better. Employees were happier with the projects they were responsible for and they were performed more efficiently. From a human resources and financial perspective this was a great improvement for eCreamery.com!

Results

Since Recipe to Reality and the knowledge that The Food Processing Center has been able to give to eCreamery.com, they have seen tremendous sales and growth. As people continue to learn ice cream gifts exist and the public's comfort level with shipping frozen foods increases, eCreamery.com is confident in the continued growth of their company. Currently, as they look towards expansion they have begun researching ways to lower shipping costs to their consumers. Production and distribution capabilities on either coast are their latest move in order to better serve the needs of their target audience. Economic impacts can be measured as follows:

- In 2011 sales were approximately \$560,000
- eCreamery.com now employs 3 full-time and 9 part-time staffers
- eCreamery.com is now shipping about 5,000 ice cream gifts annually, accounting for approximately 60 percent of the business

Next up is an appearance on ABC's 'Shark Tank', pitching their business to a panel of venture capitalists. Regardless of whether or not they receive funding, the television appearance will provide prime national exposure.

Originally Prepared: October 2012

Testimonial

We have seen double digit sales growth year over year since inception. The education [received through Recipe to Reality] on packaging requirements, distribution channels and contacts for industry experts were very valuable.

Becky App
Owner

The University of Nebraska–Lincoln does not discriminate based on gender, age, disability, race, color, religion, marital status, national or ethnic origin, or sexual orientation. © 2012 The Board of Regents of the University of Nebraska. All rights reserved





Essential Question:

What are current trends in the food industry and how do they affect business decisions?

Engagement Scenario:

The food industry is constantly evolving. Each year, new food trends take the forefront of the restaurant industry and make their way into grocery stores everywhere. Nebraska is not only the home of ConAgra foods, which is one of the largest food companies, but it is also the home of 3,770 food-related locations throughout the state¹. Your local community is looking to expand its restaurant options and would like to open a restaurant that is centered on a current food trend. To accomplish this, the city council is hosting a “Shark Tank: Restaurants” competition for restaurant entrepreneurs like yourselves, to determine which new food trend will become the next best restaurant in town. Your team is faced with the challenge to conduct an opportunity analysis in order to convince the panel of venture capitalists that will be serving as judges, that your restaurant concept is the best one for your local community.

To accomplish your task, you and your team will learn how to conduct reliable research to ensure the data you are collecting for your opportunity analysis is authentic and trustworthy. In addition, you will research different food trends and how they play a role in the food industry. You will also research health claims that are not only food trends, but are often used on product labels to entice consumers. In order to determine if health claims are valid, you will learn how to distinguish between reliable and misleading health claims.

After researching on-line resources and other informational texts on food trends, restaurants, and health claims, and after participating in enabling activities in class, you will write the final opportunity analysis report using all of the information compiled by your team and argues that your food trend will make the next best restaurant for your

local community. Throughout this process, you will be analyzing data and learning how to identify a target market, which will be key for selecting the food trend for your restaurant. You and your team will also research and create a sample menu to provide an example of the type of food that will be served at the restaurant, including nutrition information such as **Calories, carbohydrates, proteins, and fat (lipids)** per meal and any health claims. Be sure to support your position with evidence from the texts. You will research via the Internet and will organize your information using MS Word.

Add more nutrients and focused on a signature dish or Chef’s Special to include all nutrients.

A presentation, based on your opportunity analysis, will be presented to the venture capitalists (local business people/restaurant professionals/food industry professionals) in a format of your design. You will need to include data from your opportunity analysis and other supporting evidence from your research. Your development team has to compete with other teams to recommend the food trend for the next best restaurant in your local community. The team with the best restaurant concept will be selected to have their restaurant open thanks to the investments of the venture capitalists. The investors want to see a research-based explanation to support your choice of food trend, a clear definition of your target market, a sample menu with basic nutritional information and health claims, and a thorough SWOT analysis to ensure you are aware of the risks and opportunities as a restaurant entrepreneur. You will deliver all of this in a 5-minute group presentation in a few weeks.



Nebraska

RESTAURANT INDUSTRY AT A GLANCE



Restaurants are a driving force in Nebraska's economy. Their sales generate tremendous tax revenues. They provide jobs and build careers for thousands of Nebraskans. Restaurants also provide healthful options for their guests, give back to their communities and work to reduce their impact on the environment. Visit Restaurant.org for more information.

3,770
LOCATIONS

In 2011, there were 3,770 eating and drinking places in Nebraska.

\$2.4 billion
IN SALES

In 2013, Nebraska's restaurants are projected to register \$2.4 billion in sales.

88,500
NEBRASKANS

In 2013, restaurants account for 88,500 jobs in Nebraska — 9% of employment in the state.



EVERY \$1 SPENT ...

in Nebraska's restaurants generates an additional **\$.70** in sales for the state economy.

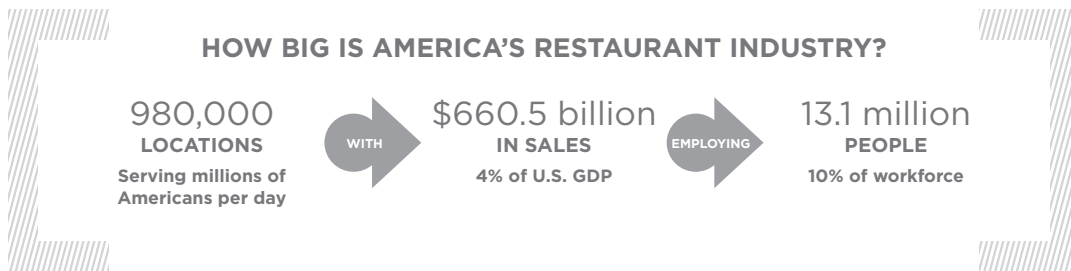
EVERY \$1 MILLION SPENT ...

in Nebraska's restaurants generates an additional **26.1** jobs in the state.

AND IN 2023 ...

Restaurants in Nebraska are projected to employ **94,400** people. (6.7% job growth — or **5,900** jobs over 2013)

HOW BIG IS AMERICA'S RESTAURANT INDUSTRY?



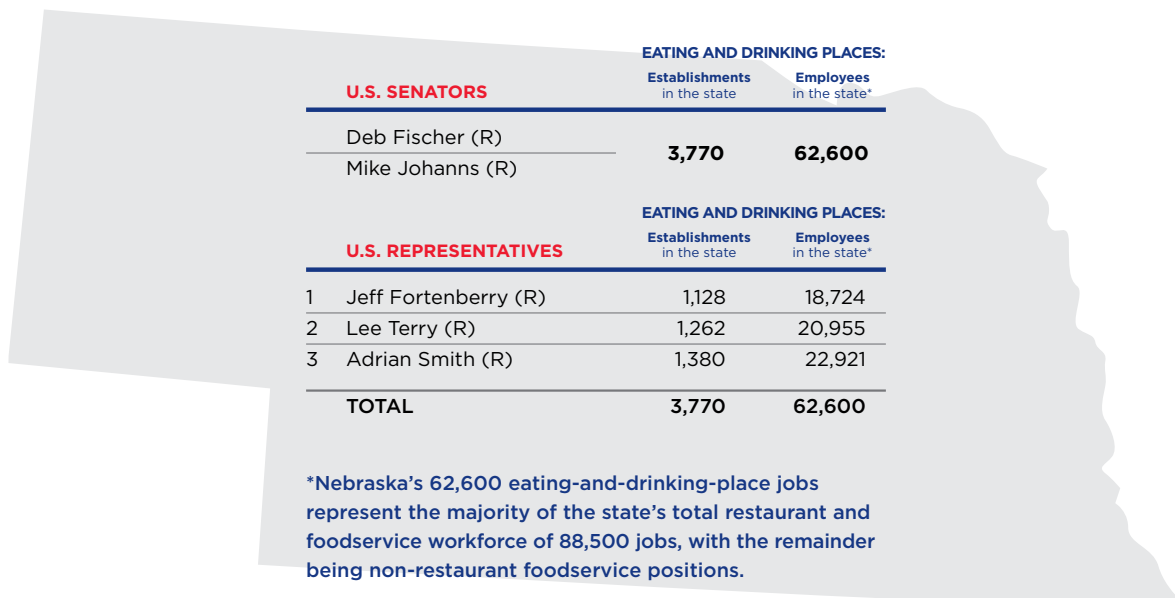
Restaurant.org | Nebraska-Dining.org

© 2013 National Restaurant Association. All rights reserved.



Nebraska's Restaurants

JOBS AND ENTREPRENEURIAL OPPORTUNITIES IN EVERY COMMUNITY



Restaurant.org | Nebraska-Dining.org

Source: National Restaurant Association, based on data from the Bureau of Labor Statistics & U.S. Census Bureau, 2011



WHAT'S HOT 2013 Chef Survey



The National Restaurant Association surveyed professional chefs, members of the American Culinary Federation, on which food, cuisines and culinary themes will be hot trends on restaurant menus in 2013. The “What’s Hot in 2013” survey was conducted in the fall of 2012 among more than 1,800 chefs. See p. 12 for more information about the methodology.

Top 20 TRENDS

1. Locally sourced meats and seafood
2. Locally grown produce
3. Healthful kids’ meals
4. Environmental sustainability
5. Children’s nutrition
6. New cuts of meat (e.g. Denver steak, pork flat iron, teres major)
7. Hyper-local sourcing (e.g. restaurant gardens)
8. Gluten-free cuisine
9. Sustainable seafood
10. Whole grain items in kids’ meals
11. Farm/estate branded items
12. Non-wheat noodles/pasta (e.g. quinoa, rice, buckwheat)
13. Non-traditional fish (e.g. branzino, Arctic char, barramundi)
14. Ethnic-inspired breakfast items (e.g. Asian-flavored syrups, Chorizo scrambled eggs, coconut milk pancakes)
15. Fruit/vegetable children’s side items
16. Health/nutrition
17. Half-portions/smaller portions for a smaller price
18. House-made/artisan ice cream
19. Black/forbidden rice
20. Food trucks

Top TRENDS by category

APPETIZERS

1. House-cured meats/charcuterie
2. Vegetarian appetizers
3. Ethnic/street food-inspired appetizers (e.g. tempura, taquitos, kabobs, hummus)
4. Amuse-bouche/bite-size hors d’oeuvre
5. Flatbread appetizers

SIDES/STARCHES

1. Non-wheat noodles/pasta (e.g. quinoa, rice, buckwheat)
2. Black/forbidden rice
3. Quinoa
4. Red rice
5. Pickled vegetables

MAIN DISHES/ CENTER OF THE PLATE

1. Locally sourced meats and seafood
2. New cuts of meat (e.g. Denver steak, pork flat iron, teres major)
3. Sustainable seafood
4. Non-traditional fish (e.g. branzino, Arctic char, barramundi)

5. Half-portions/smaller portions for a smaller price

DESSERT

1. House-made/artisan ice cream
2. Bite-size/mini-desserts
3. Savory desserts
4. Deconstructed classic desserts
5. Dessert flights/combos

BREAKFAST/BRUNCH

1. Ethnic-inspired breakfast items (e.g. Asian-flavored syrups, Chorizo scrambled eggs, coconut milk pancakes)
2. Traditional ethnic breakfast items (e.g. huevos rancheros, shakshuka, ashta, Japanese)
3. Fresh fruit breakfast items
4. Prix fixe brunches
5. Chicken and waffles

KIDS’ MEALS

1. Healthful kids’ meals
2. Whole grain items in kids’ meals
3. Fruit/vegetable children’s side items

4. Oven-baked items in kids’ meals (e.g. baked chicken fingers, oven-baked fries)

5. Children’s portions of adult menu items

PRODUCE

1. Locally grown produce
2. Organic produce
3. Superfruit (e.g. açai, goji berry, mango-steen)
4. Heirloom apples
5. Exotic fruits (e.g. rambutan, dragon fruit, paw paw, guava)

ETHNIC CUISINES AND FLAVORS

1. Peruvian cuisine
2. Regional ethnic cuisine
3. Ethnic fusion cuisine
4. Korean cuisine
5. Southeast Asian cuisine (e.g. Thai, Vietnamese, Malaysian)



WHAT'S HOT
2013 Chef Survey



WHAT'S HOT



Top TRENDS by category continued

OTHER FOOD ITEMS/ INGREDIENTS

1. Farm/estate branded items
2. Artisan cheeses
3. Ethnic cheeses (e.g. queso fresco, paneer, lebnah, halloumi)
4. Non-wheat flour (e.g. peanut, millet, barley, rice)
5. Ancient grains (e.g. kamut, spelt, amaranth)

PREPARATION METHODS

1. Fermenting
2. Pickling
3. Sous vide
4. Liquid nitrogen chilling/freezing
5. Smoking

CULINARY THEMES

1. Environmental sustainability
2. Children's nutrition
3. Hyper-local sourcing (e.g. restaurant gardens)
4. Gluten-free cuisine
5. Health/nutrition

BEVERAGES

1. House-made soft drinks/soda/pop
2. Gourmet lemonade (e.g. house-made, freshly muddled)
3. Organic coffee
4. Specialty iced tea (e.g. Thai-style, Southern/sweet, flavored)
5. Coconut water

All 198 Items Ranked by "HOT" Responses

	HOT TREND	Yesterday's News	Perennial Favorite
1. Locally sourced meats and seafood	82%	8%	10%
2. Locally grown produce	81%	4%	15%
3. Healthful kids' meals	78%	8%	15%
4. Environmental sustainability	77%	9%	14%
5. Children's nutrition	77%	7%	17%
6. New cuts of meat (e.g. Denver steak, pork flat iron, teres major)	76%	17%	7%
7. Hyper-local sourcing (e.g. restaurant gardens)	75%	14%	11%
8. Gluten-free cuisine	74%	14%	13%
9. Sustainable seafood	73%	11%	15%
10. Whole grain items in kids' meals	71%	15%	14%
11. Farm/estate branded items	68%	19%	13%
12. Non-wheat noodles/pasta (e.g. quinoa, rice, buckwheat)	67%	21%	11%
13. Non-traditional fish (e.g. branzino, Arctic char, barramundi)	67%	23%	10%
14. Ethnic-inspired breakfast items (e.g. Asian-flavored syrups, Chorizo scrambled eggs, coconut milk pancakes)	67%	20%	13%
15. Fruit/vegetable children's side items	67%	12%	21%



WHAT'S HOT

2013 Chef Survey

WHAT'S HOT continued

	HOT TREND	Yesterday's News	Perennial Favorite
16. Health/nutrition	67%	7%	26%
17. Half-portions/smaller portions for a smaller price	66%	17%	17%
18. House-made/artisan ice cream	66%	10%	24%
19. Black/forbidden rice	65%	28%	7%
20. Food trucks	65%	21%	13%
21. Quinoa	64%	26%	10%
22. Artisan cheeses	64%	10%	26%
23. Ethnic cheeses (e.g. queso fresco, paneer, lebneh, halloumi)	63%	18%	19%
24. Simplicity/back to basics	63%	10%	27%
25. House-made soft drinks/soda/pop	62%	27%	11%
26. Oven-baked items in kids' meals (e.g. baked chicken fingers, oven-baked fries)	62%	18%	19%
27. Organic produce	62%	21%	17%



	HOT TREND	Yesterday's News	Perennial Favorite
28. Non-wheat flour (e.g. peanut, millet, barley, rice)	62%	24%	13%
29. House-cured meats/charcuterie	61%	19%	19%
30. Grass-fed beef	61%	26%	13%
31. Children's portions of adult menu items	61%	21%	18%
32. Ancient grains (e.g. kamut, spelt, amaranth)	61%	28%	11%
33. Specialty/gourmet sandwiches	60%	14%	26%
34. Bite-size/mini-desserts	60%	21%	19%
35. Artisan/specialty bacon	60%	23%	16%
36. Cutting edge kitchen equipment/technology	60%	22%	18%
37. Vegetarian appetizers	59%	22%	19%
38. Meatless/vegetarian items	59%	18%	23%
39. Street food-inspired main courses (e.g. tacos, satay, kabobs)	59%	22%	18%
40. Savory desserts	59%	29%	12%
41. Lower-sodium entrees	58%	24%	18%
42. Low-fat/non-fat milk or 100% juice options on kids' menus	58%	16%	26%
43. Superfruit (e.g. açai, goji berry, mangosteen)	58%	33%	9%
44. Greek yogurt	58%	23%	19%
45. Tapas/meze/dim sum (e.g. small plates)	57%	24%	18%
46. Deconstructed classic desserts	57%	34%	9%
47. Heirloom apples	57%	19%	23%
48. Ethnic/street food-inspired appetizers (e.g. tempura, taquitos, kabobs, hummus)	56%	21%	23%
49. Red rice	56%	32%	12%
50. Vegan entrees	56%	27%	17%
51. Ethnic-inspired children's dishes	56%	33%	12%
52. Gourmet children's dishes	56%	36%	9%
53. Peruvian cuisine	56%	32%	12%
54. Regional ethnic cuisine	56%	18%	26%





WHAT'S HOT

2013 Chef Survey

WHAT'S HOT

continued

	HOT TREND	Yesterday's News	Perennial Favorite
55. Specialty salt (e.g. flavored, smoked, regional)	56%	33%	11%
56. Ethnic flour (e.g. fufu, teff, cassava/yuca)	56%	35%	9%
57. Vinegar/flavored vinegar/house-made vinegars	56%	26%	18%
58. Gourmet lemonade (e.g. house-made, freshly muddled)	55%	24%	21%
59. Cheeks (e.g. beef, pork)	55%	35%	10%
60. Children's entree salads	55%	30%	15%
61. Exotic fruits (e.g. rambutan, dragon fruit, paw paw, guava)	55%	33%	12%
62. Ethnic fusion cuisine	55%	32%	14%
63. Nose-to-tail cooking	55%	27%	18%
64. Free-range pork/poultry	54%	26%	21%
65. Inexpensive/underused cuts of meat (e.g. brisket, shoulder, skirt steak)	54%	19%	27%
66. Korean cuisine	54%	31%	16%
67. Food-alcohol pairings	54%	14%	32%
68. Alternative red meats (e.g. buffalo/bison, ostrich/emu)	53%	37%	10%
69. Black garlic	53%	36%	11%
70. Fermenting	53%	32%	15%
71. Organic coffee	52%	30%	18%
72. Specialty iced tea (e.g. Thai-style, Southern/sweet, flavored)	52%	23%	25%
73. Pickling	52%	24%	24%
74. Foraging	52%	33%	15%
75. Game meats (e.g. venison, game birds, boar, rabbit)	51%	26%	22%
76. Dessert flights/combos	51%	32%	17%
77. Heirloom tomatoes	51%	18%	31%
78. Dark greens (e.g. kale, mustard greens, collards)	51%	17%	31%
79. Hybrid fruits/vegetables (e.g. plumcot, grapple, broccoflower)	51%	39%	10%
80. Ethnic condiments (e.g. raita/raitha, chimichurri, Sriracha, chutney, soy sauce)	51%	20%	30%
81. Pop-up/temporary restaurants	51%	40%	9%



Photo credit: Greg Grossman

	HOT TREND	Yesterday's News	Perennial Favorite
82. Pickled vegetables	50%	34%	16%
83. Micro-vegetables/micro-greens	50%	31%	19%
84. Coconut water	49%	43%	8%
85. Specialty potatoes (e.g. purple, fingerling, Baby Dutch Yellow)	49%	24%	27%
86. Flatbreads (e.g. naan, pappadum, lavash, pita, tortilla)	49%	25%	25%
87. Sous vide	49%	36%	15%
88. Dairy-free milk (e.g. soy, rice, almond)	48%	29%	22%
89. Underutilized fish (e.g. mackerel, bluefish, redfish)	48%	35%	17%
90. Fresh herbs	48%	7%	45%
91. Heirloom beans	48%	30%	22%
92. Liquid nitrogen chilling/freezing	48%	46%	7%
93. Umami	48%	36%	16%
94. "Mocktails" (e.g. non-alcoholic cocktails)	47%	34%	19%
95. Gourmet/specialty burgers	47%	26%	27%
96. Traditional ethnic breakfast items (e.g. huevos rancheros, shakshuka, ashta, Japanese)	47%	23%	30%
97. Southeast Asian cuisine (e.g. Thai, Vietnamese, Malaysian)	47%	21%	32%
98. Salted caramel	47%	33%	20%
99. Agave	47%	35%	19%
100. Agua fresca	46%	39%	15%
101. Molecular gastronomy	45%	48%	7%
102. Amuse-bouche/bite-size hors d'oeuvre	44%	29%	27%
103. Asian noodles (e.g. soba, udon)	44%	29%	27%



WHAT'S HOT

2013 Chef Survey

WHAT'S HOT continued

	HOT TREND	Yesterday's News	Perennial Favorite
104. Low-calorie/low-fat entrees	44%	29%	27%
105. Desserts with bacon	44%	51%	6%
106. Children's sushi	44%	47%	9%
107. Latin American/Nuevo Latino cuisine	44%	25%	31%
108. Whole grain bread/rolls	44%	20%	37%
109. Smoking	44%	12%	45%
110. Flatbread appetizers	43%	40%	17%
111. Lean cuts of meat (e.g. loin, round)	43%	25%	32%
112. Flower syrup/essence	43%	43%	14%
113. Vegetable chips	43%	43%	14%
114. Braising	43%	12%	46%
115. Chef-/restaurant-branded retail products	43%	43%	15%
116. Root vegetables (e.g. parsnip, turnip, rutabaga)	42%	21%	37%

	HOT TREND	Yesterday's News	Perennial Favorite
117. Fresh beans/peas (e.g. fava, sweet, snow)	42%	22%	36%
118. Nordic/Scandinavian cuisine	42%	46%	12%
119. Infused/flavored oils	42%	31%	28%
120. Asian mushrooms (e.g. shiitake, straw, enokitake, maitake)	41%	25%	34%
121. Pho	40%	42%	18%
122. Hot peppers (e.g. habanero, chipotle, jalapeño)	40%	23%	37%
123. Mediterranean cuisine	40%	20%	40%
124. Middle Eastern cuisine	40%	35%	25%
125. Specialty oils (e.g. truffle, sesame, grapeseed, hazelnut)	40%	27%	33%
126. Non-traditional eggs (e.g. duck, quail, emu)	40%	46%	13%
127. Bibimbap	39%	48%	13%
128. Fish collars	39%	51%	10%
129. Goat	39%	46%	15%
130. Fresh fruit breakfast items	39%	15%	46%
131. Oil-poaching	39%	44%	17%
132. Avocados	38%	15%	47%
133. Dark chocolate	38%	16%	46%
134. Warm appetizer salads	37%	46%	17%
135. Pomegranates	37%	32%	31%
136. Bacon-flavored/covered chocolate	37%	54%	9%
137. Passion fruit	36%	45%	19%
138. Halal items	36%	42%	22%
139. Coconut milk	36%	34%	30%
140. Sushi/sushi-style items	35%	33%	31%
141. Meat alternatives (e.g. tofu, tempeh, seitan)	35%	48%	18%
142. Gelato/sorbet	35%	27%	38%
143. Fennel	35%	30%	35%
144. Leaves (e.g. banana, taro, kaffir lime)	35%	48%	16%
145. Prix fixe menus	34%	36%	30%
146. Sweet potato fries	33%	42%	26%
147. Dark meat chicken/turkey	33%	34%	34%





WHAT'S HOT

2013 Chef Survey

WHAT'S HOT

continued

	HOT TREND	Yesterday's News	Perennial Favorite
148. Legumes	33%	23%	43%
149. Green tea	32%	37%	30%
150. Flavored/enhanced water	32%	54%	14%
151. Lentils	32%	36%	33%
152. Entree salads	32%	25%	43%
153. Granita	32%	45%	23%
154. Duck fat	32%	45%	23%
155. Grilling	32%	13%	55%
156. Foam/froth/air	32%	62%	6%
157. Snacking	32%	30%	38%
158. Steamed/grilled/roasted vegetables	31%	21%	48%
159. Prix fixe brunches	31%	38%	30%
160. Beets	31%	29%	40%
161. Curries	31%	30%	39%
162. Cheese plates	29%	27%	44%
163. Chicken and waffles	29%	42%	29%
164. Olives	29%	22%	49%
165. Soul food/Southern cuisine	29%	26%	45%
166. Artichokes	28%	28%	44%
167. Radish/daikon	28%	39%	33%
168. Brussels sprouts	28%	30%	41%
169. Tap water/filtered water	27%	35%	39%
170. Ceviche/seviche	27%	45%	28%
171. Brown/wild rice	27%	36%	37%
172. Comfort foods (e.g. chicken pot pie, meatloaf, roasted chicken)	27%	18%	55%



	HOT TREND	Yesterday's News	Perennial Favorite
173. Compound/flavored butter	27%	38%	35%
174. Fruit desserts (e.g. cobbler, crisp, tart, pie)	26%	19%	56%
175. Smoothies	24%	32%	44%
176. "Fun-shaped" children's items	24%	56%	21%
177. Polenta	23%	41%	36%
178. Barbecue/barbeque	23%	20%	56%
179. Oats/oatmeal	23%	28%	49%
180. Flavored popcorn	22%	53%	25%
181. Milkshakes/malts	21%	25%	54%
182. Ramen	21%	62%	17%
183. Mini-burgers/sliders	21%	56%	23%
184. Egg dishes	21%	20%	59%
185. Mexican cuisine	21%	26%	53%
186. Dips/spreads	20%	35%	44%
187. Grits	19%	37%	44%
188. Macaroni and cheese/mac'n'cheese	19%	31%	51%
189. Bottled water	17%	45%	38%
190. Cauliflower	17%	35%	48%
191. Italian cuisine	17%	21%	62%
192. French toast	16%	26%	58%
193. Meatballs	15%	42%	43%
194. Breakfast burritos	15%	49%	35%
195. Chicken wings	14%	35%	51%
196. Hamburgers/cheeseburgers	14%	26%	60%
197. Bruschetta	12%	47%	41%
198. Gazpacho	12%	57%	31%



WHAT'S HOT

CATEGORIES

Ranked by "Hot" Responses

	HOT TREND	Yesterday's News	Perennial Favorite
APPETIZERS			
1. House-cured meats/charcuterie	61%	19%	19%
2. Vegetarian appetizers	59%	22%	19%
3. Ethnic/street food-inspired appetizers (e.g. tempura, taquitos, kabobs, hummus)	56%	21%	23%
4. Amuse-bouche/bite-size hors d'oeuvre	44%	29%	27%
5. Flatbread appetizers	43%	40%	17%
6. Warm appetizer salads	37%	46%	17%
7. Ceviche/seviche	27%	45%	28%
8. Dips/spreads	20%	35%	44%
9. Chicken wings	14%	35%	51%
10. Bruschetta	12%	47%	41%
11. Gazpacho	12%	57%	31%
SIDES/STARCHES			
1. Non-wheat noodles/pasta (e.g. quinoa, rice, buckwheat)	67%	21%	11%
2. Black/forbidden rice	65%	28%	7%
3. Quinoa	64%	26%	10%
4. Red rice	56%	32%	12%

	HOT TREND	Yesterday's News	Perennial Favorite
5. Pickled vegetables	50%	34%	16%
6. Asian noodles (e.g. soba, udon)	44%	29%	27%
7. Sweet potato fries	33%	42%	26%
8. Lentils	32%	36%	33%
9. Steamed/grilled/roasted vegetables	31%	21%	48%
10. Brown/wild rice	27%	36%	37%
11. Polenta	23%	41%	36%
12. Grits	19%	37%	44%
13. Macaroni and cheese/mac'n'cheese	19%	31%	51%

MAIN DISHES/CENTER OF THE PLATE

1. Locally sourced meats and seafood	82%	8%	10%
2. New cuts of meat (e.g. Denver steak, pork flat iron, teres major)	76%	17%	7%
3. Sustainable seafood	73%	11%	15%
4. Non-traditional fish (e.g. branzino, Arctic char, barramundi)	67%	23%	10%
5. Half-portions/smaller portions for a smaller price	66%	17%	17%
6. Grass-fed beef	61%	26%	13%
7. Specialty/gourmet sandwiches	60%	14%	26%
8. Meatless/vegetarian items	59%	18%	23%
9. Street food-inspired main courses (e.g. tacos, satay, kabobs)	59%	22%	18%
10. Lower-sodium entrees	58%	24%	18%
11. Tapas/meze/dim sum (e.g. small plates)	57%	24%	18%
12. Vegan entrees	56%	27%	17%
13. Cheeks (e.g. beef, pork)	55%	35%	10%
14. Free-range pork/poultry	54%	26%	21%
15. Inexpensive/underused cuts of meat (e.g. brisket, shoulder, skirt steak)	54%	19%	27%
16. Alternative red meats (e.g. buffalo/bison, ostrich/emu)	53%	37%	10%
17. Game meats (e.g. venison, game birds, boar, rabbit)	51%	26%	22%
18. Underutilized fish (e.g. mackerel, bluefish, redfish)	48%	35%	17%
19. Gourmet/specialty burgers	47%	26%	27%



WHAT'S HOT

2013 Chef Survey

MAIN DISHES/CENTER OF THE PLATE *continued*

	HOT TREND	Yesterday's News	Perennial Favorite
20. Low-calorie/low-fat entrees	44%	29%	27%
21. Lean cuts of meat (e.g. loin, round)	43%	25%	32%
22. Pho	40%	42%	18%
23. Bibimbap	39%	48%	13%
24. Fish collars	39%	51%	10%
25. Goat	39%	46%	15%
26. Sushi/sushi-style items	35%	33%	31%
27. Meat alternatives (e.g. tofu, tempeh, seitan)	35%	48%	18%
28. Dark meat chicken/turkey	33%	34%	34%
29. Entree salads	32%	25%	43%
30. Comfort foods (e.g. chicken pot pie, meatloaf, roasted chicken)	27%	18%	55%
31. Barbecue/barbeque	23%	20%	56%
32. Ramen	21%	62%	17%
33. Mini-burgers/sliders	21%	56%	23%
34. Meatballs	15%	42%	43%
35. Hamburgers/cheeseburgers	14%	26%	60%

DESSERTS

1. House-made/artisan ice cream	66%	10%	24%
2. Bite-size/mini-desserts	60%	21%	19%
3. Savory desserts	59%	29%	12%
4. Deconstructed classic desserts	57%	34%	9%
5. Dessert flights/combos	51%	32%	17%
6. Desserts with bacon	44%	51%	6%
7. Gelato/sorbet	35%	27%	38%
8. Granita	32%	45%	23%
9. Cheese plates	29%	27%	44%
10. Fruit desserts (e.g. cobbler, crisp, tart, pie)	26%	19%	56%

BREAKFAST/BRUNCH

1. Ethnic-inspired breakfast items (e.g. Asian-flavored syrups, Chorizo scrambled eggs, coconut milk pancakes)	67%	20%	13%
2. Traditional ethnic breakfast items (e.g. huevos rancheros, shakshuka, ashta, Japanese)	47%	23%	30%
3. Fresh fruit breakfast items	39%	15%	46%



	HOT TREND	Yesterday's News	Perennial Favorite
4. Prix fixe brunches	31%	38%	30%
5. Chicken and waffles	29%	42%	29%
6. Egg dishes	21%	20%	59%
7. French toast	16%	26%	58%
8. Breakfast burritos	15%	49%	35%

KIDS' MEALS

1. Healthful kids' meals	78%	8%	15%
2. Whole grain items in kids' meals	71%	15%	14%
3. Fruit/vegetable children's side items	67%	12%	21%
4. Oven-baked items in kids' meals (e.g. baked chicken fingers, oven-baked fries)	62%	18%	19%
5. Children's portions of adult menu items	61%	21%	18%
6. Low-fat/non-fat milk or 100% juice options on kids' menus	58%	16%	26%
7. Ethnic-inspired children's dishes	56%	33%	12%
8. Gourmet children's dishes	56%	36%	9%
9. Children's entree salads	55%	30%	15%
10. Children's sushi	44%	47%	9%
11. "Fun-shaped" children's items	24%	56%	21%

PRODUCE

1. Locally grown produce	81%	4%	15%
2. Organic produce	62%	21%	17%
3. Superfruit (e.g. açai, goji berry, mangosteen)	58%	33%	9%



WHAT'S HOT

2013 Chef Survey

PRODUCE continued

	HOT TREND	Yesterday's News	Perennial Favorite
4. Heirloom apples	57%	19%	23%
5. Exotic fruits (e.g. rambutan, dragon fruit, paw paw, guava)	55%	33%	12%
6. Heirloom tomatoes	51%	18%	31%
7. Dark greens (e.g. kale, mustard greens, collards)	51%	17%	31%
8. Hybrid fruits/vegetables (e.g. plumcot, grapple, broccoflower)	51%	39%	10%
9. Micro-vegetables/micro-greens	50%	31%	19%
10. Specialty potatoes (e.g. purple, fingerling, Baby Dutch Yellow)	49%	24%	27%
11. Fresh herbs	48%	7%	45%
12. Heirloom beans	48%	30%	22%
13. Root vegetables (e.g. parsnip, turnip, rutabaga)	42%	21%	37%
14. Fresh beans/peas (e.g. fava, sweet, snow)	42%	22%	36%
15. Asian mushrooms (e.g. shiitake, straw, enokitake, maitake)	41%	25%	34%
16. Hot peppers (e.g. habanero, chipotle, jalapeño)	40%	23%	37%
17. Avocados	38%	15%	47%
18. Pomegranates	37%	32%	31%
19. Passion fruit	36%	45%	19%
20. Fennel	35%	30%	35%



	HOT TREND	Yesterday's News	Perennial Favorite
21. Legumes	33%	23%	43%
22. Beets	31%	29%	40%
23. Olives	29%	22%	49%
24. Artichokes	28%	28%	44%
25. Radish/daikon	28%	39%	33%
26. Brussels sprouts	28%	30%	41%
27. Cauliflower	17%	35%	48%

ETHNIC CUISINES

1. Peruvian cuisine	56%	32%	12%
2. Regional ethnic cuisine	56%	18%	26%
3. Ethnic fusion cuisine	55%	32%	14%
4. Korean cuisine	54%	31%	16%
5. Southeast Asian cuisine (e.g. Thai, Vietnamese, Malaysian)	47%	21%	32%
6. Latin American/Nuevo Latino cuisine	44%	25%	31%
7. Nordic/Scandinavian cuisine	42%	46%	12%
8. Mediterranean cuisine	40%	20%	40%
9. Middle Eastern cuisine	40%	35%	25%
10. Soul food/Southern cuisine	29%	26%	45%
11. Mexican cuisine	21%	26%	53%
12. Italian cuisine	17%	21%	62%

INGREDIENTS/OTHER FOOD ITEMS

1. Farm/estate branded items	68%	19%	13%
2. Artisan cheeses	64%	10%	26%
3. Ethnic cheeses (e.g. queso fresco, paneer, lebneh, halloumi)	63%	18%	19%



WHAT'S HOT

2013 Chef Survey

INGREDIENTS/OTHER FOOD ITEMS continued

	HOT TREND	Yesterday's News	Perennial Favorite
4. Non-wheat flour (e.g. peanut, millet, barley, rice)	62%	24%	13%
5. Ancient grains (e.g. kamut, spelt, amaranth)	61%	28%	11%
6. Artisan/specialty bacon	60%	23%	16%
7. Greek yogurt	58%	23%	19%
8. Specialty salt (e.g. flavored, smoked, regional)	56%	33%	11%
9. Ethnic flour (e.g. fufu, teff, cassava/yuca)	56%	35%	9%
10. Vinegar/flavored vinegar/house-made vinegars	56%	26%	18%
11. Black garlic	53%	36%	11%
12. Ethnic condiments (e.g. raita/raitha, chimichurri, Sriracha, chutney, soy sauce)	51%	20%	30%
13. Flatbreads (e.g. naan, pappadum, lavash, pita, tortilla)	49%	25%	25%
14. Salted caramel	47%	33%	20%
15. Agave	47%	35%	19%
16. Whole grain bread/rolls	44%	20%	37%
17. Flower syrup/essence	43%	43%	14%
18. Vegetable chips	43%	43%	14%
19. Infused/flavored oils	42%	31%	28%
20. Specialty oils (e.g. truffle, sesame, grapeseed, hazelnut)	40%	27%	33%
21. Non-traditional eggs (e.g. duck, quail, emu)	40%	46%	13%
22. Dark chocolate	38%	16%	46%
23. Bacon-flavored/covered chocolate	37%	54%	9%
24. Halal items	36%	42%	22%
25. Coconut milk	36%	34%	30%
26. Leaves (e.g. banana, taro, kaffir lime)	35%	48%	16%
27. Duck fat	32%	45%	23%
28. Curries	31%	30%	39%
29. Compound/flavored butter	27%	38%	35%
30. Oats/oatmeal	23%	28%	49%
31. Flavored popcorn	22%	53%	25%



	HOT TREND	Yesterday's News	Perennial Favorite
PREPARATION METHODS			
1. Fermenting	53%	32%	15%
2. Pickling	52%	24%	24%
3. Sous vide	49%	36%	15%
4. Liquid nitrogen chilling/freezing	48%	46%	7%
5. Smoking	44%	12%	45%
6. Braising	43%	12%	46%
7. Oil-poaching	39%	44%	17%
8. Grilling	32%	13%	55%
9. Foam/froth/air	32%	62%	6%
CULINARY THEMES			
1. Environmental sustainability	77%	9%	14%
2. Children's nutrition	77%	7%	17%
3. Hyper-local sourcing (e.g. restaurant gardens)	75%	14%	11%
4. Gluten-free cuisine	74%	14%	13%
5. Health/nutrition	67%	7%	26%
6. Food trucks	65%	21%	13%
7. Simplicity/back to basics	63%	10%	27%
8. Cutting edge kitchen equipment/technology	60%	22%	18%
9. Nose-to-tail cooking	55%	27%	18%
10. Food-alcohol pairings	54%	14%	32%
11. Foraging	52%	33%	15%
12. Pop-up/temporary restaurants	51%	40%	9%



WHAT'S HOT

2013 Chef Survey

CULINARY THEMES continued

	HOT TREND	Yesterday's News	Perennial Favorite
13. Umami	48%	36%	16%
14. Molecular gastronomy	45%	48%	7%
15. Chef-/restaurant-branded retail products	43%	43%	15%
16. Prix fixe menus	34%	36%	30%
17. Snacking	32%	30%	38%

BEVERAGES

1. House-made soft drinks/soda/pop	62%	27%	11%
2. Gourmet lemonade (e.g. house-made, freshly muddled)	55%	24%	21%
3. Organic coffee	52%	30%	18%
4. Specialty iced tea (e.g. Thai-style, Southern/sweet, flavored)	52%	23%	25%
5. Coconut water	49%	43%	8%
6. Dairy-free milk (e.g. soy, rice, almond)	48%	29%	22%
7. "Mocktails" (e.g. non-alcoholic cocktails)	47%	34%	19%
8. Agua fresca	46%	39%	15%
9. Green tea	32%	37%	30%
10. Flavored/enhanced water	32%	54%	14%
11. Tap water/filtered water	27%	35%	39%
12. Smoothies	24%	32%	44%
13. Milkshakes/malts	21%	25%	54%
14. Bottled water	17%	45%	38%



ADDITIONAL TRENDS

WHAT IS THE HOTTEST TECHNOLOGY TREND IN RESTAURANTS FOR 2013?

Tablet computers (e.g. iPad) for menus and wine lists	27%
Smartphone apps for consumers (e.g. ordering, menus)	25%
Mobile/wireless/at-the-table payment options	19%
Social media for marketing/loyalty programs	13%
Smartphone apps for chefs/restaurateurs (e.g. recipes, measurement converters)	11%
QR codes on menus, marketing, etc.	4%
Other	1%

ARE YOU MAKING EFFORTS TO ADJUST DISHES/RECIPES TO BE MORE HEALTHFUL, FOR EXAMPLE, BY USING MORE FRUIT AND VEGETABLES OR REDUCING SODIUM?

Yes, always	55%
I try, but not all recipes are easily adjusted	37%
No	7%
Don't know	2%

HOW DO YOU BEST HANDLE THE CHALLENGE OF ELEVATED FOOD PRICES?

Changing/updating menus to include different dishes	32%
Adjusting plate composition (e.g. increasing amounts of lower priced items while reducing amounts of higher priced items)	25%
Exploring new sourcing options and suppliers	24%
Managing costs in other operational areas	11%
Raising menu prices	4%
Other	4%





WHAT'S HOT

2013 Chef Survey

WHICH OF THE FOLLOWING STATEMENTS BEST DESCRIBES WHERE YOU SEE THE DINING PUBLIC TRENDING IN THE YEAR AHEAD?

Consumers will be more adventurous, dining out to seek new tastes and foods they can't make at home	46%
Consumers will generally order their favorite food when dining out, but sometimes try trendy menu items	44%
Consumers will be more traditional when dining out, only ordering food that they know	7%
Don't know	4%

WAS YOUR FIRST RESTAURANT/FOODSERVICE JOB AN ENTRY-LEVEL JOB?

Yes	89%
No	11%

METHODOLOGY

The National Restaurant Association conducted an online survey of 1,834 members of the American Culinary Federation in October-November 2012. The chefs were given a list of 198 items and were asked to rate each item as a "hot trend," "yesterday's news" or "perennial favorite" on restaurant menus in 2013.

Note: Figures may not add to 100% due to rounding.



Watch the "What's Hot in 2013" video on the National Restaurant Association's website:
Restaurant.org/FoodTrends



Join the National Restaurant Association on Facebook, Twitter and YouTube for additional restaurant industry updates and information.



[Facebook.com/NationalRestaurantAssociation](https://www.facebook.com/NationalRestaurantAssociation)



[Twitter.com/WeRRestaurants](https://twitter.com/WeRRestaurants)



[YouTube.com/RestaurantDotOrg](https://www.youtube.com/RestaurantDotOrg)

ABOUT THE NATIONAL RESTAURANT ASSOCIATION:



Founded in 1919, the National Restaurant Association is the leading business association for the restaurant industry, which comprises 970,000 restaurant and foodservice outlets and a workforce of nearly 13 million employees. We represent the industry in Washington, D.C., and advocate on its behalf. We operate the industry's largest trade show (NRA Show May 18-21, 2013, in Chicago); leading food safety training and certification program (ServSafe); unique career-building high school program (the NRAEF's ProStart, including the National ProStart Invitational April 19-21, 2013, in Baltimore, Md.); as well as the Kids LiveWell program promoting healthful kids' menu options. For more information, visit Restaurant.org.

ABOUT THE AMERICAN CULINARY FEDERATION



The American Culinary Federation, Inc., established in 1929, is the premier professional organization for culinarians in North America. With more than 20,000 members spanning more than 200 chapters nationwide, ACF is the culinary leader in offering educational resources, training, apprenticeship and programmatic accreditation. In addition, ACF operates the most comprehensive certification program for chefs in the United States, with the Certified Executive Chef® and Certified Sous Chef™ designations the only culinary credentials accredited by the National Commission for Certifying Agencies. ACF is home to ACF Culinary Team USA, the official representative for the United States in major international culinary competitions, and to the Chef & Child Foundation, founded in 1989 to promote proper nutrition in children and to combat childhood obesity. For more information, visit <http://www.acfchefs.org>. Find ACF on Facebook at <http://www.facebook.com/ACFChefs> and on Twitter @ACFChefs.

© 2012 National Restaurant Association. All rights reserved.
 The National Restaurant Association logo is a trademark of the National Restaurant Association.



SWOT Analysis

Name _____ Date _____ Class Period _____

	HELPFUL (TO ACHIEVE THE OBJECTIVE)	HARMFUL (TO ACHIEVE THE OBJECTIVE)
INTERNAL ORIGIN (ATTRIBUTES OF THE ORGANIZATION)	STRENGTHS	WEAKNESSES
EXTERNAL ORIGIN (ATTRIBUTES OF THE ENVIRONMENT)	OPPORTUNITIES	THREATS



New Business Planning: Is Your Business Plan Feasible?

Name _____ Date _____ Class Period _____

If necessary, use the Internet to help you find answers to these questions.

QUESTION	RESPONSE
What type of business are we planning to start?	
What will my business' image be? (quality and price of my products or services; the location and appearance of my facilities; level of employee assistance to customers; types of customers I will sell to)	
Is this type of restaurant already available in the marketplace? If so, how and where? If not, why not?	
Describe my customers in detail. (What will be their age? sex? income level? education? occupation? marital status? location? etc. If customers will be other businesses, what types? sizes? location? etc.)	
Where are my potential customers located? How many potential customers are in my market area?	



Peer Presentation Evaluation and Rubric

Opportunity Analysis Presentation

Team _____ Presentation Title _____

What were the most important things the team learned?

What evidence did they offer that these things are true?

What implications did they give for their findings?

	EYE CONTACT DURING PRESENTATION	CONNECTION WITH THE AUDIENCE	SUBJECT KNOWLEDGE	TIME
4	Excellent eye contact	Excellent connection	Excellent display of knowledge	4:30-5:00 minutes
3	Good eye contact	Good connection	Good display of knowledge	4:00-4:30 minutes
2	More eye contact needed	More connection needed	More preparation in subject	3:30-4:00 minutes
1	Poor eye contact	Poor connection with audience	Poor preparation in subject	3:00-3:30 minutes
0	Little or no eye contact	Little or no connection	Little or no preparation in subject	0- 2:59 minutes

Comments:



Opportunity Analysis Rubric

Name _____ Date _____ Class Period _____

CATEGORY	15	10	5	0
Description of the Business (Introduction)	Includes business name, description of the product or service, general overview of the type of business you are planning.	Missing one minor bit of information, but the description still gives a general overview.	Description of the business is vague. The reader would not understand the type of business you are proposing.	Description is missing.
Unique Features (Literature Review)	Detailed explanation of the fundamentals of the proposed business. Explains the unique features of the business and how those features will benefit the customer.	Contains a good description of the fundamentals of the proposed business, but the unique features are not explained.	General to vague description of the fundamentals of the proposed business. How that business is unique is not clearly identified.	Missing information regarding the description of the fundamentals of the proposed business.
Limitations (SWOT Analysis)	Shortcomings of the business idea are well thought out and articulated. Assessment of the shortcomings is honest and there is a clear explanation of how the entrepreneur proposes to overcome them.	Shortcomings of the business idea have been considered, but there is no explanation of how they will be overcome.	Vague mention of the limitations. An honest assessment has not taken place as to what shortcomings there may be and therefore no proposal to overcome them.	No limitations of the business are mentioned.
Competition (SWOT Analysis)	Key competitors are clearly identified and mentioned by name. The study identifies the strengths and weaknesses of the competition and clearly identifies what the competitive advantage over them will be.	Most of the key competitors have been identified, but information is missing about their strengths and weaknesses. Competitive advantage is not clearly defined.	General to vague description of the competition. Missing detailed information about competitors and competitive advantage.	Competition is not mentioned.
Market Potential (SWOT Analysis/Literature Review)	The market potential is clearly defined, with cited research to back up the information.	The market potential is defined, however no sources are mentioned to give validity to the findings.	Market potential is not clearly defined. There is no relevant evidence that there is potential for this product/service.	Market potential was not researched.
Target Market	Target market is clearly defined with regards to demographics. Potential market is large enough to support the business.	Target market is defined, but not specific enough with regards to certain demographic characteristics.	Vague description of the target market. The market is not clearly defined or is either too broad or too narrow for the type of restaurant.	No target market identified in the study.
Menu	At least five menu items have been identified including nutritional information such as calories and fat, as well as health claims, and the menu reflects the food trend and target market.	At least three menu items have been identified including nutritional information such as calories and fat, as well as health claims, and the menu reflects the food trend and target market.	At least one menu item has been identified, some nutritional information and/or health claims are not included in the menu, and the menu does not reflect the target market.	No menu items have been included; therefore, nutritional information and health claims are missing, and there is no mention of the target market in reference to menu items.
References	Thorough reference list at the end of the study. References are in proper APA form and all inclusive of the citations in the study.	References are missing one or two pieces of information.	References are included but not in proper form. Three or more references that are cited are missing.	No reference list included.
Mechanics	No capitalization, spelling, punctuation or grammatical errors.	2 or less capitalization, spelling, punctuation or grammatical errors.	3-5 capitalization, spelling, punctuation or grammatical errors.	6+ capitalization, spelling, punctuation or grammatical errors.



Murder and a Meal

Adapted from a lesson developed by Camron J. Stanley 2008

Key Question of the Day: Where was the murder victim's last meal?

Learning Objectives

As a result of this lesson, students will be able to:

- Categorize food items from a menu as protein, lipid, or carbohydrate
- Perform lab tests to test for presence of macromolecules
- Utilize lab results to deduce macromolecules present in stomach contents, therefore, determine which restaurant a murder victim ate their last meal.

Required Materials for Daily Lesson

All students with:

- Gloves
- Apron
- Goggles

Lipid test station

- Test tubes (one for each lab group)
- Gallon Distilled water
- 2 Eye droppers
- Sudan III stain
- Test liquid (stomach contents)

Protein test station

- Eye dropper
- Test liquid (stomach contents)
- Biuret reagent solution

Sugar test station

- Gallon Distilled water
- Test liquid (stomach contents)
- Eye dropper
- Benedict's solution
- Test tube (one for each lab group)
- Hot water bath (40-50 °C)

- Beaker
- Burner/stove to heat beaker of water
- Thermometer

Starch test station

- Test tubes (2 per lab group)
- Lugol's Iodine
- Corn starch – as a known starch for comparison
- Gallon distilled water
- Eye dropper
- Test liquid (stomach content)

Estimated Instructional Time:

Three, 50-minute class periods

Opening – 5 minutes

Day 1

- Bell Work- Read through Murder and a Meal on Day 1.
- Teacher – Reads or goes over the scenario and expectations of each day.

Day 2

- Teacher- goes over station locations and models procedures. One person from each team will test for one of the macromolecule, so each is being tested by a member of the team.
- The students will share the results of their tests by the end of class and report on Table 1 and Table 2.
- Ask for questions to check for understanding of the labs.

Day 3

- Teacher- Read through the expectations of the Lab Analysis write-up expected from each student. Makes sure the students title Table 2 and follow the discussion format for the write-up



Middle – 40 minutes

Day 1

- Students use sources to research ways to test for proteins, lipids, and carbohydrates (starch, glucose). Students will obtain teacher approval for the tests selected.
 - › Teacher- the approved tests are as follows: lipid- Sudan III test, protein- Biuret reagent solution test, carbohydrate (glucose)- Benedict's solution, carbohydrate (starch)- Lugol's iodine
- Teacher circulates

Day 2

- Students in groups of three will each take on the testing of one macromolecule.
 - › Protein testing station
 - › Lipid testing station
 - › Carbohydrate testing station (both glucose and starch)
- The results of each test will be shared by each team member and reported on Tables 1 and 2

Closing – 5 minutes

- **Day 1:** What is the significance of testing for each macromolecule?
- **Day 2:** Based on your team's testing of macromolecules in the stomach contents, what conclusions can you make?
- **Day 3:** What macromolecule test(s) provided the most significant results for you to format your discussion write-up in the Lab Analysis?

Teacher Notes

- To make the “stomach contents”, blend the following materials:
 - › Potato
 - › Noodles
 - › Vegetable oil
- Test your mixture before-hand. It should only have starches and lipids.
 - › I put the contents in a beaker and made the kids “handle” it. They loved and hated it!
 - › The ultimate goal is to show that the last meal was “Vincenzo’s Ristorante”

Need more information? Visit these sites for ideas ...

Food Chemistry: http://www.sciencecompany.com/sci-exper/food_chemistry.htm

Testing for Lipids, Proteins, & Carbohydrates, <http://seplessons.ucsf.edu/node/362>

Food Chemistry Testing, <http://www.scribd.com/doc/3371524/Food-Chemistry-Testing-SUGAR-STARCH-ETC>

Lipid Test Station:

Fat - Sudan III stain

Sudan III is used to identify the presence of lipids in liquids. It will stain fat cells red.

What to do

1. Place three test tubes in a test tube rack and label them control (distilled water), lipid (distilled water + oil), unknown (stomach contents).
2. To the first test tube, add 2 ml of distilled water.
3. To the second test tube, add 1 ml of distilled water and 1 ml of vegetable oil.
4. To the third test tube, add 1 ml of stomach contents and 1 ml of distilled water.
5. Add 3 drops of Sudan III stain to each test tube. Shake gently to mix.
6. A red-stained oil layer will separate out and float on the water surface if fat is present.



Protein Test Station:

Biuret solution

Biuret solution is used to identify the presence of protein. Biuret reagent is a blue solution that, when it reacts with protein, will change color to pink-purple.

What to do

1. Place three test tubes in a test tube rack and label them control (distilled water), protein (albumin), unknown (stomach contents).
2. To the first test tube, add 2 ml of distilled water.
3. To the second test tube, add 2 ml of albumin.
4. To the third test tube, add 2 ml of stomach contents.
5. Add 3 drops of Biuret reagent solution to the test tube. Shake gently to mix.
6. Note any color change. Proteins will turn solution pink or purple.

Carbohydrate Test Station:

Sugar test-Benedict's solution

Benedict's solution is used to test for simple sugars, such as glucose. It is a clear blue solution of sodium and copper salts. In the presence of simple sugars, the blue solution changes color to green, yellow, and brick-red, depending on the amount of sugar.

What to do

1. Place four test tubes in a test tube rack and label them control (distilled water), sugar (glucose), starch (starch), unknown (stomach contents).
2. To the first test tube, add 2 ml of distilled water.
3. To the second test tube, add 2 ml of glucose solution.
4. To the third test tube, add 2 ml of starch solution.
5. To the fourth test tube, add 2 ml of stomach contents.
6. Add 10 drops of Benedict's solution to the test tube. Carefully heat the test tubes by suspending in a hot water bath at about 75-80 degrees Celsius for five minutes.

7. Note any color change. If sugar is present, the solution will turn green, yellow, or brick-red, depending on sugar concentration.

Starch - Lugol's iodine

Lugol's iodine is used to identify the presence of starch. The solution is yellow-brown, but when it reacts chemically with starch, a blue-black substance called iodide starch is produced. If the stomach contents test tube sample has a blue-black substance coloring the stomach contents will contain starch.

What to do

1. Place three test tubes in a test tube rack and label them control (distilled water), starch (starch), unknown (stomach contents).
2. To the first test tube, add 2 ml of distilled water.
3. To the second test tube, add 2 ml of starch solution.
4. To the third test tube, add 2 ml of stomach contents.
5. Add three (3) drops of Lugol's Iodine to each test tube sample. Agitate sample and mix thoroughly.
6. Observe any color change. If starch is present, a blue-black precipitate will form. Compare color of each sample. Darker blue-black represents more starch present. If the stomach contents test tube sample has a blue-black substance coloring the stomach contents will contain starch.



Murder and a Meal

Adapted from a lesson developed by Camron J. Stanley 2008

Name _____ Date _____ Class Period _____

A murder has occurred in Lincoln, Nebraska. As top-notch biology students at _____ High School you have been asked to assist in the investigation of this most unfortunate incident. Central to identifying the individual who committed this crime is establishing where the victim was the day of the crime so that detectives can question the individuals with whom the victim came into contact. An autopsy was performed on the victim has revealed that the victim ate just prior to the time of death. Upon questioning the victim's friends and family, detectives working the case have learned that the victim enjoyed eating at the following places.

Valentino's Pizza

The victim would never eat thin crust pizza from anywhere else! The victim would typically order a pizza with sausage, pepperoni, and bacon.

What macromolecules would you expect to find in the stomach contents of the victim if the victim's final "pie" was eaten here?

Buffalo Wild Wings

The victim would hang out here to watch sporting events while feasting on Blazin' Wings and celery.

What macromolecules would you expect to find in the stomach contents of the victim if the victim's final meal was eaten here?

Vincenzo's Ristorante

The victim loved to go here for a night of bread, olive oil, and pasta.

What macromolecules would you expect to find in the stomach contents of the victim if the victim's final meal was eaten here?



Murder and a Meal

Adapted from a lesson developed by Camron J. Stanley 2008

Name _____ Date _____ Class Period _____

The forensic pathologist has removed the contents of the victim's stomach for you to analyze in order to determine where the victim had his last meal.

Procedure

Before analyzing the stomach contents of the deceased, you must determine the procedure to be used to test for each organic macromolecule (proteins, carbohydrates, lipids). Using information given in class, write out the procedure for testing for each of the following macromolecules.

For each macromolecule you must

- (1) describe the procedure (in enough detail so that others can repeat your work) you will follow to perform each test.
- (2) describe how a positive result for the macromolecule will look and record this information in Table 1
- (3) describe how a negative result for the presence of the macromolecule will look and record this information in Table 1.

NOTE: Before you may begin your investigation, you must obtain approval from your teacher.

Research different ways to test of the macromolecules using these sources:

- Food Chemistry: http://www.sciencecompany.com/sci-exper/food_chemistry.htm
- Testing for Lipids, Proteins, & Carbohydrates: <http://seplessons.ucsf.edu/node/362>
- Food Chemistry Testing: <http://www.scribd.com/doc/3371524/Food-Chemistry-Testing-SUGAR-STARCH-ETC>

Describe the test you will use for each macromolecule and obtain approval from your teacher.

Lipid Test _____

Protein Test _____

Carbohydrate—Glucose Test _____

Carbohydrate—Starch Test _____

Teacher Approval _____ Date _____



Name _____ Date _____ Class Period _____

TABLE 1. POSITIVE AND NEGATIVE RESULTS FOR THE PRESENCE OF ORGANIC MACROMOLECULES

MACROMOLECULE	CHEMICAL TEST	POSITIVE TEST RESULT	NEGATIVE TEST RESULT
LIPIDS			
PROTEINS			
CARBOHYDRATES- GLUCOSE			
CARBOHYDRATES- STARCH			

TABLE 2. _____

TEST FOR LIPIDS	TEST FOR PROTEINS	TEST FOR GLUCOSE	TEST FOR STARCH
OBSERVATIONS:	OBSERVATIONS:	OBSERVATIONS:	OBSERVATIONS:
PRESENT?	PRESENT?	PRESENT?	PRESENT?
NOT PRESENT?	NOT PRESENT?	NOT PRESENT?	NOT PRESENT?

Lab Analysis

- 1) Write out a descriptive title for Table 2, and fill in the table with your results.
- 2) Report your findings in discussion format.
 - › Open the discussion with a statement regarding which restaurant the victim visited for his last meal.
 - › Provide a logical explanation, using data from the tests on the stomach contents, that explains how you reached that conclusion.
 - › The discussion should explain the results of the investigation in regard to the scientific concepts that are being applied in the investigation. In this case, the scientific concepts being applied are **macromolecules** and the specific chemical tests used to determine their presence.



The Digestive System

Teacher information to prepare for the “Farm to Flush” extension project.

Students will review this information by the video files provided with the challenge to increase their knowledge of the digestive system and the journey each macromolecule makes through the human body.

Video information at:

The Digestive System

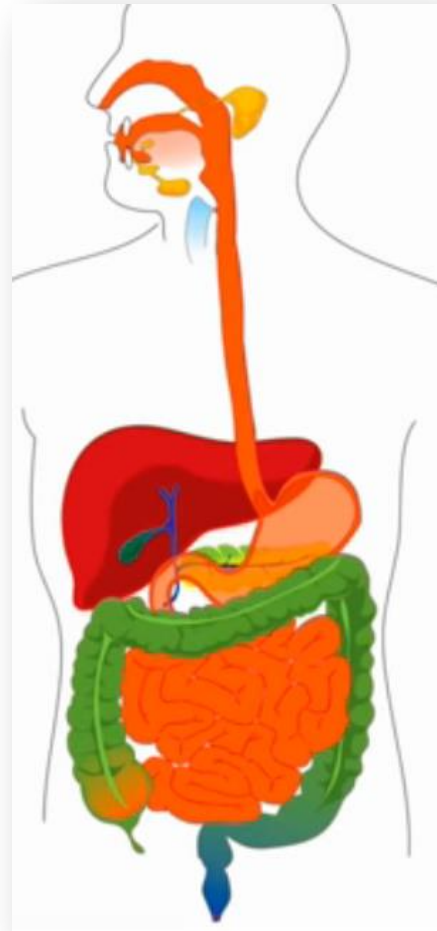
<http://youtu.be/nM5kMSjBrmw>



The Digestive System

Think of the path food takes through the body as a journey through a hole from the mouth to the anus. Food is never technically inside until it is absorbed. In order for it to be absorbed it must be very small.

There are four types of macromolecules that make up life: carbohydrates, proteins, lipids (fats), nucleic acids. When these are eaten as polymers (large molecules) the body must break them down into monomers to be absorbed. In the pizza below, how many macromolecules can you identify?

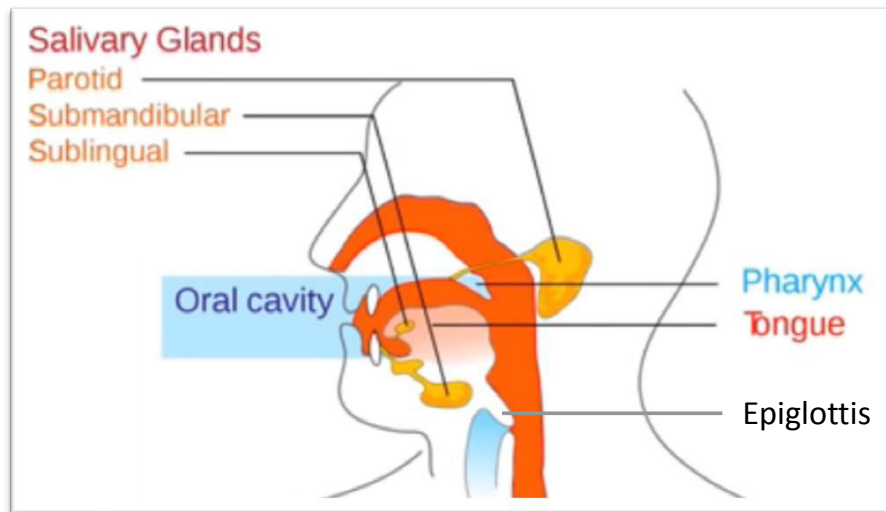


Look into the mirror...

The protein that makes up your skin is from protein you ate days and even months ago.



You are what you eat.



Digestion Starts in the Mouth

Chemical Digestion

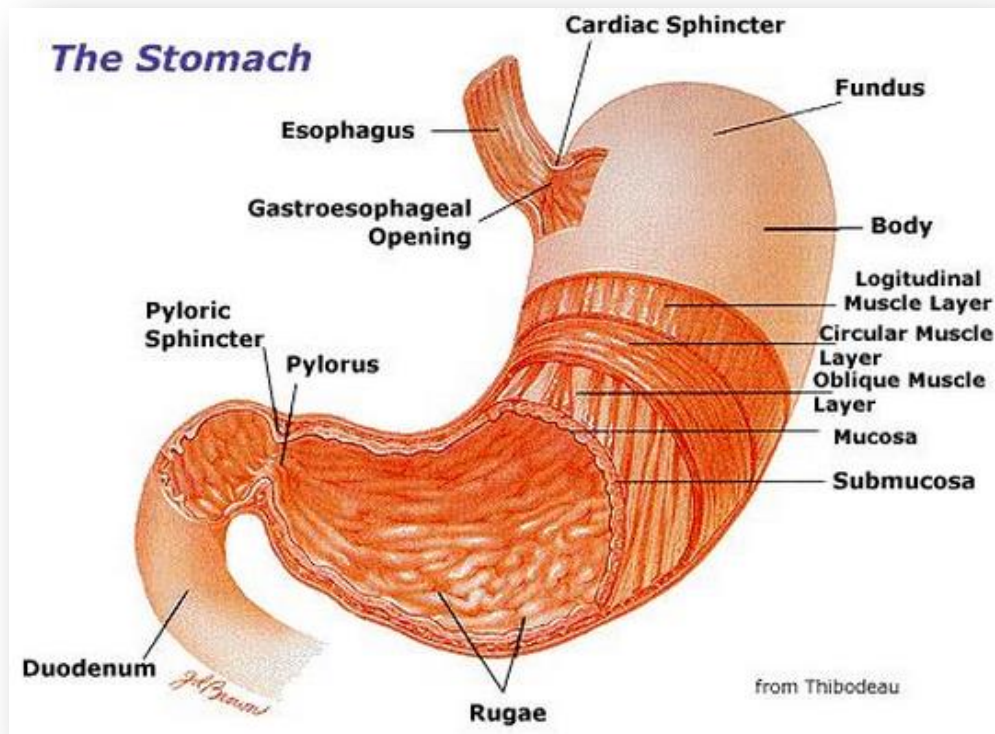
When food is seen, the Pavlovian response starts to happen. This is when the mouth starts to salivate as a response to the food and saliva is produced from three glands: the parotid, the submandibular, and the sublingual glands. Saliva is made of water, mucus, and an enzyme called amylase. Amylase starts the breaking down of starch which is a carbohydrate in the mouth. Chemical digestion continues at every point in the digestive tract where enzymes and other substances, such as hydrochloric acid (from the stomach) and bile (from the liver), dissolve food, releasing nutrients. More on this later.

Mechanical Digestion

When food is chewed in the mouth the teeth start the mechanical breakdown of food into smaller pieces so it can be swallowed as a small rounded mass of chewed food called a bolus. Mechanical digestion continues in the stomach and small intestines as a churning action from muscles called peristalsis continues to break down the food.

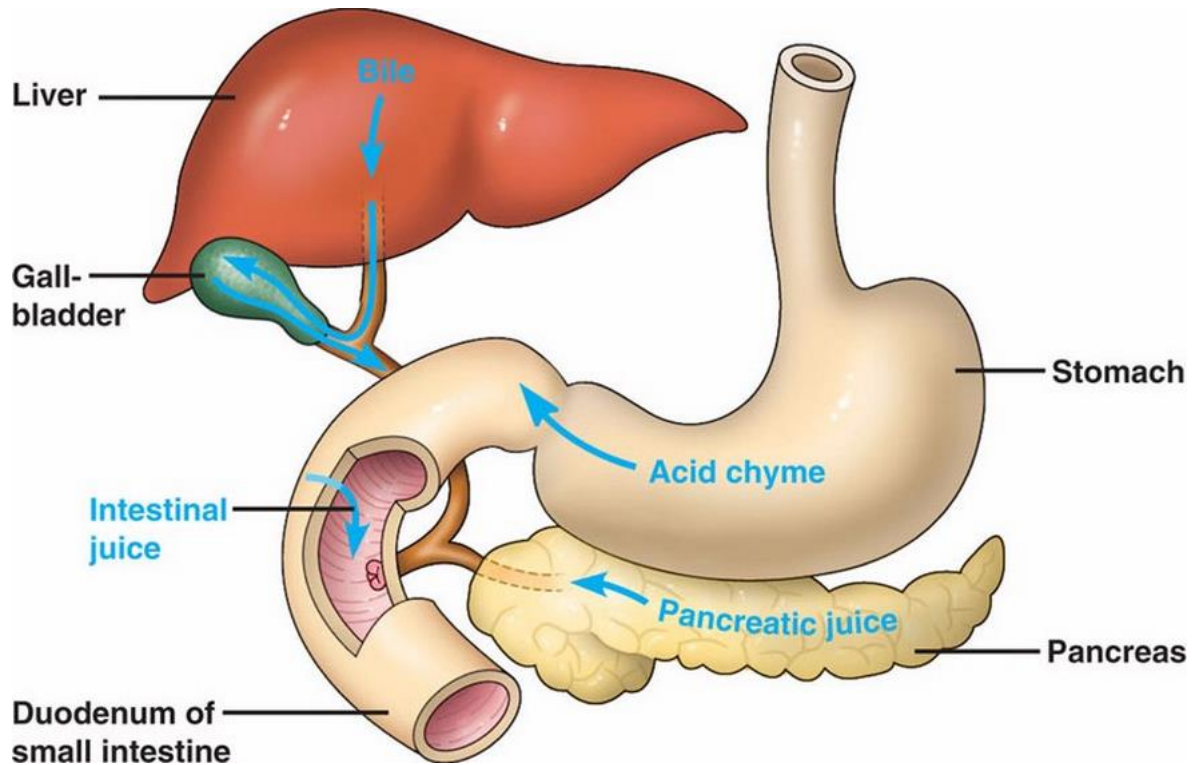
Swallowing

The bolus is swallowed down the esophagus as the epiglottis covers the entrance to the larynx. The epiglottis is a flap of elastic cartilage that keeps food from going down the “wrong pipe”, the trachea, and down to the stomach.

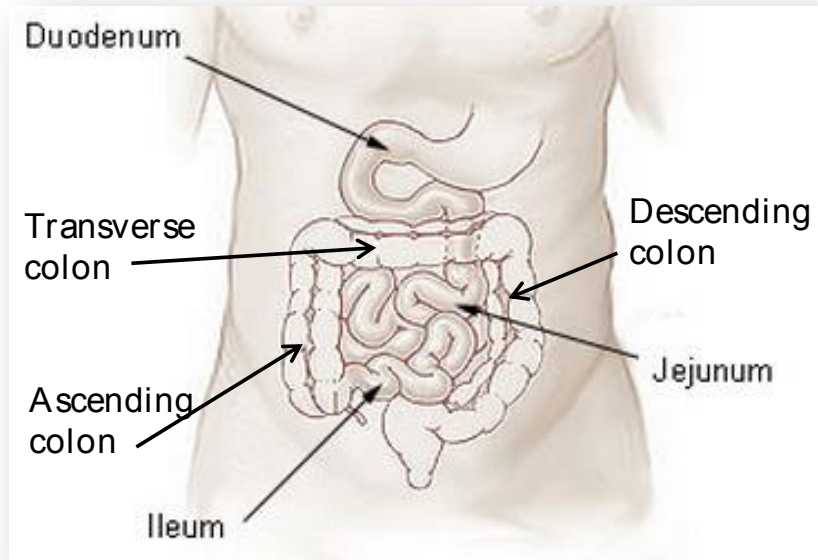


The stomach is closed off by on each end by two sphincters. The cardiac sphincter closes the opening to the esophagus and the pyloric sphincter closes the opening to the duodenum. This is how food is controlled going into the stomach and staying in the stomach for further digestion.

As the food sits in the stomach being churned by the muscles through peristalsis, the stomach lining has specialized cells to produce acid and enzymes. The parietal cells produce hydrochloric acid to create an acidic environment. The chief cells produce an enzyme called pepsin that starts protein digestion breaking them down into amino acids. The stomach lining also produces mucus so the acid does not break down the stomach itself.



The duodenum is the first portion of the small intestine. The gall bladder connects to the duodenum by a bile duct which contains bile salts. Bile salts in the duodenum assist in the breaking down of lipids (fats) by emulsifying them. The pancreas is also connected to the duodenum and releases many enzymes. Lipase enzyme from the pancreas breaks down lipids, pancreatic amylase breaks down carbohydrates, trypsin and chymotrypsin break down different parts of amino acids into the building blocks of proteins.



Jejunum is the first section of the small intestine where digestion is finishing and absorption starts through capillaries in the surface of the small intestine. Some of this is by diffusion but much of it is through active transport across the cell membrane.

Ileum is the last section of the small intestine where most of the food has been digested and absorbed before reaching the large intestine or colon.

The colon has three different types: the ascending, transverse, and descending colon. As the waste moves through the colon the body reclaims water. Also, bacteria live in the colon and they can release vitamins that we get from our food.

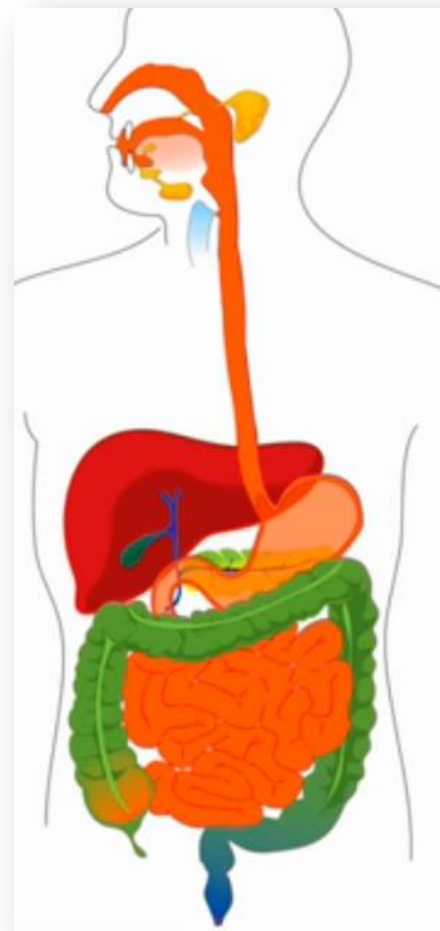


Digestive System Summary

Carbohydrate digestion begins in the mouth with the enzyme amylase in saliva. This continues in the duodenum because of pancreatic amylase.

Protein digestion after the mechanical breakdown in the mouth the chemical breakdown of proteins begins in the stomach with hydrochloric acid lowering the pH enough so pepsin can begin to breakdown the proteins into amino acids. In the duodenum trypsin and chymotrypsin are released from the pancreas to continue the breakdown.

Lipid digestion begins in the duodenum while the gall bladder releases bile salts to emulsify the lipids and lipase released by the pancreas to breakdown lipids.





CARBOHYDRATES

Carbohydrates usually elicit the thought of the starch in bread or pasta, possibly sugar as the building block in which most carbohydrates are made. Carbohydrates are usually know to provide us energy but they should also be thought of as something that provides structure as in cellulose found in a plants cell wall or chitin found in the exoskeleton of an insect is a carbohydrate.

Sugars – the building block of carbohydrates called saccharides

A One sugar molecule is called a monosaccharide. For example, glucose is a monosaccharide.

TO Two sugar molecules are called disaccharides. For example, table sugar.

CARBS Three to ten sugar molecules called an oligosaccharide.

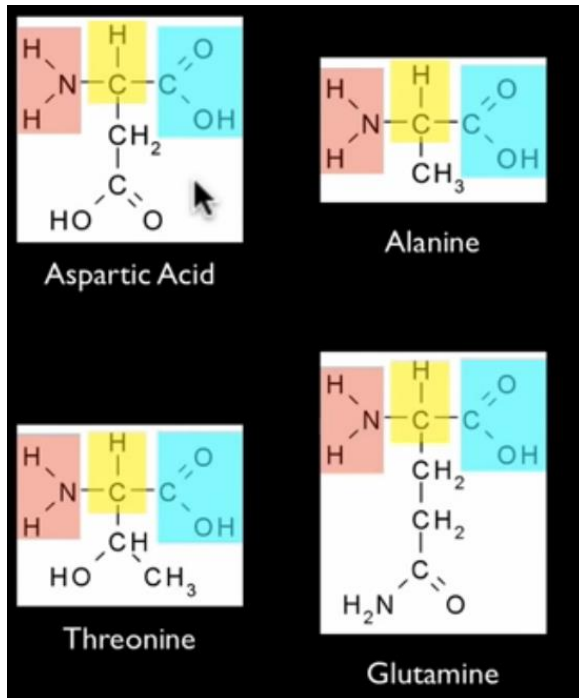
CARBOHYDRATES
CARBOHYDRATES
CARBOHYDRATES Many sugar molecules is called a polysaccharide. For example, glycogen.

For more on carbohydrates: http://youtu.be/_zm_DyD6FJO



P R O T E I N S

Proteins are made of amino acids. When we eat proteins and break them down into amino acids the body can weave the amino acids back into the proteins that make us. Remember, you are what you eat. We use twenty different amino acids.



Here are four of the twenty amino acids and you can see that they all have similar structures and only one part distinguishes any difference.

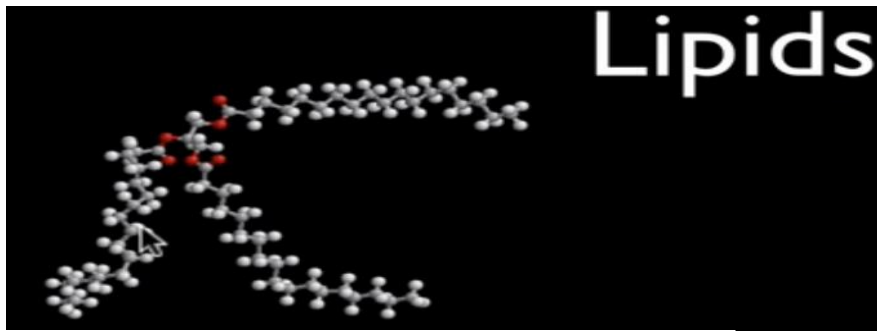
The **H-C** is the alpha carbon with a hydrogen attached to it located in the middle of each molecule.

The **H-N-H** on the left side is called the amino group.

The **O=C-OH** on the right side is called the carboxyl group.

All amino acids have these three similar parts. The only thing that is going to be different is what comes off the bottom which is called the R group and will give them different properties.

For more on proteins: http://youtu.be/2Jgb_DpaQhM



Lipids provide energy for the body but also provides the surroundings for all cells by phospholipid bi-layer. Cholesterol is located in within the bi-layer to maintain the fluidity of the cell.

Where does the energy come from?

Lipids or fats can be found in butter or olive oil and they are called triglycerides. Triglyceride molecules have a glycerol head and three fatty acid tails as seen in the above molecule. The energy comes from the fatty acid tails. They are long chains of carbons attached to each other with hydrogen around the outside of them. These are called hydrocarbons and there is a lot of energy in each carbon-hydrogen bond. So there is a lot of energy in butter and olive oil found in the carbon-hydrogen bonds in these foods.

For more on lipids: <http://youtu.be/VGHD9e3yRIU>



Culminating Project:

Chef's Special - From Farm to Flush

Engagement Scenario:

A very wealthy venture capitalist name Dr. X. Sentric was very impressed with your restaurant concept and most impressed with your signature entrée the Chef's Special. In fact, the Chef's Special sparked his curiosity and he wants more information. He wants a detailed description where each ingredient on the Chef's Special originates. This is not so unusual for an investor to understand the lengths you went to find the best ingredients. What farm did the ingredients come from?

Now it starts to get a little weird and explains why Dr. X got his nickname (the eccentric Dr. X) He also wants a detailed description of where and how each ingredient will be digested in the body. He said the carbohydrates, proteins, and lipids are to be identified on the Chef's Special and he wants this listing of these macromolecules on the menu. They should be identified by what ingredient(s) in the Chef's Special they are located.

Then, Dr. X wants to understand how and where the digestions starts for each macromolecule and what they must be broken down into for absorption. The eccentric Dr. X says the team that has the most complete Farm to Flush presentation will win his financial backing for the restaurant.

For the next few days your team will be researching and learning all about the digestive system. If your Chef's Special does not include all macromolecules (carbohydrates, proteins, and lipids) then you are to add something to the plate to fulfill this requirement.

Each team member will take on one macromolecule and be completely responsible for that part of the presentation of the Chef's Special from Farm to Flush.



Credible Video Source Lab

Name _____ Date _____ Class Period _____

Assign one person to each job role. For a group of four, assign two people to share the reporting out to the class.

Who is the author of the video you are using? _____

How many results did the search engine find? _____

What is the name of the channel the video is on you chose to investigate?
(YouTube _____)

What is the author's job or position? (Do a search of the author.) _____

What is the author's educational background? _____

After your investigation of the author of your chosen article, do you still wish to use the article?

↑ **If no, go back to your original search and follow the same steps with another video.**

↓ **Yes**

What is the author's purpose for creating the video? _____

When was the video uploaded? _____



FARM TO FLUSH

Group Digestion Detailed Overview

The following is a word bank of terms that must be used during this portion of the presentation in the correct context:

Mouth, epiglottis, esophagus, peristalsis, stomach, trachea, lungs, sphincter, duodenum, gall bladder, pancreas, large intestine, colon, ascending colon, transverse colon, descending colon, rectum, anus

Title Slide – SLIDE 1

Name of your Chef's Special

- Entrée ingredients listed
- Entrée ingredients separated into macromolecules & who is assigned to each
- Entrée ingredients pathways to the plate

This can be more than one slide

1

Detailed Overview of the Digestive System – SLIDE 2

- This should include pictures
- Pictures should be labeled
- The Digestive System overview can be as many slides as you need.

2

Carbohydrates – SLIDE 3

- This should include pictures
- Pictures should be labeled
- You should included everything that your research guidelines required.
- There is not limitation on how many slides this will require.

3

Proteins- SLIDE 4

- This should include pictures
- Pictures should be labeled
- You should included everything that your research guidelines required.
- There is not limitation on how many slides this will require.

4

Lipids- SLIDE 5

- This should include pictures
- Pictures should be labeled
- You should included everything that your research guidelines required.
- There is not limitation on how many slides this will require.

5

Vitamins and Water – SLIDE 6

- Where and how are vitamins absorbed by the body?
- Where does the body absorb water from your food?
- This should include pictures
- Pictures should be labeled

6



FARM TO FLUSH

Carbohydrates

The following is a word bank of terms that must be used during your portion of the presentation in the correct context:

Saccharide, monosaccharide, disaccharide, oligosaccharide, polysaccharide, enzyme, amylase, sucrase, lactase, salivary glands, pancreas, pancreatic amylase, empirical formula for carbohydrates, glucose, fructose, galactose, cellulose, hydrolysis reaction, dehydration reaction.

Craft your presentation by answering these questions using the terms above:

- You are to identify what the carbohydrates are in your Chef's Special entrée then identify what kind of carbohydrate(s) are in the entrée and also not included in the entrée.
- How and where are carbohydrates broken down by the body?
- How are carbohydrates put together or built in the body?
- Identify any vitamins that may be in your carbohydrates and if water is also part of your carbohydrate.

Here is a video source that may be some use to you:

- Carbohydrates http://youtu.be/_zm_DyD6FJ0
- Also Molecules of Life: <http://youtu.be/QWf2jcznLsY>



FARM TO FLUSH

Proteins

The following is a word bank of terms that must be used during your portion of the presentation in the correct context:

Sphincter, parietal cell, chief cell, enzyme, trypsin, chymotrypsin, dehydration synthesis, polypeptide, amino acids, alpha carbon, amino group, carboxyl group, R group, covalent bond, peptide, polar, nonpolar, hydrophilic, hydrophobic, duodenum

Craft your presentation by answering these questions using the terms above:

- You are to identify what the proteins are in your Chef's Special entrée then identify what kind of amino acids may be in the entrée's protein.
- How and where are proteins broken down by the body?
- How are proteins structured?
- Identify any vitamins that may be in your source of protein and if water is also part of your protein.

Here is a video source that may be some use to you:

- http://www.youtube.com/watch?v=2Jgb_DpaQhM
- Also Molecules of Life: <http://youtu.be/QWf2jcznLsY>



FARM TO FLUSH

Lipids

The following is a word bank of terms that must be used during your portion of the presentation in the correct context:

Triglyceride, lipase, enzyme, hydrocarbon, saturated, unsaturated, phospholipid, duodenum, bile duct, bile salts, gall bladder, emulsify, hydrophobic, pancreas, liver, olestra, loose stools, nonpolar, cell membranes, cholesterol

Craft your presentation by answering these questions using the terms above:

- You are to identify what the lipids in your Chef's Special entrée then identify if they are saturated or unsaturated.
- How and where are lipids broken down by the body?
- Where do lipids contribute to structure?
- Identify any vitamins that may be in your source of lipids and if water is also part of your lipid.

Here is a video source that may be some use to you:

- <http://www.youtube.com/watch?v=VGHD9e3yRIU>
- Also Molecules of Life: <http://youtu.be/QWf2jcznLsY>



Farm to Flush Presentation Rubric

Name _____

CATEGORY	4	3	2	1
MACROMOLECULE IDENTIFICATION ON MENU	The assigned macromolecule was completely identified in all the possible ingredients of the Chef's Special.	The assigned macromolecule was identified in the possible ingredients of the Chef's Special but one was overlooked.	The assigned macromolecule was identified in the possible ingredients of the Chef's Special but two were overlooked.	The assigned macromolecule was identified in the possible ingredients of the Chef's Special but more than two were overlooked.
MACROMOLECULE TO SOURCE	The assigned macromolecule was connected to a primary source and not a distribution point. Then it was explained how it got to the Chef's Special.	The assigned macromolecule was connected to a primary source and not a distribution point but was not explained how it got to the Chef's Special.	The assigned macromolecule was connected to a secondary source and distribution point. Then it was explained how it got to the Chef's Special.	The assigned macromolecule was only connected to a distribution point and not explained how it got to the Chef's Special.
DIGESTIVE SYSTEM OVERVIEW	Participated in the digestive system overview presentation and team used all required terms.	Participated in the digestive system overview presentation and team omitted a term.	Participated in the digestive system overview and team omitted two to three terms.	Participated in the digestive system overview presentation and team omitted four to five terms.
REQUIRED TERMS	Used all required terms in the correct context that were assigned to the macromolecule presentation portion.	Omitted one required term but used the rest in the correct context that were assigned to the macromolecule presentation portion.	Omitted two required terms but used the rest in the correct context that were assigned to the macromolecule presentation portion.	Omitted three required terms but used the rest in the correct context that were assigned to the macromolecule presentation portion.
REQUIRED QUESTIONS	Answered the required four questions assigned to the macromolecule research.	Answered three of the required questions assigned to the macromolecule research.	Answered two of the required questions assigned to the macromolecule research.	Answered one of the required questions assigned to the macromolecule research.
POSTURE AND EYE CONTACT	Each team member stands up straight, looks relaxed and confident. Establishes eye contact with everyone in the room during the presentation.	Each team member stands up straight and establishes eye contact with everyone in the room during the presentation.	Each team member sometimes stands up straight and establishes eye contact.	Each member slouches and/or does not look at people during the presentation.
VOLUME	Each member's speaking volume is loud enough to be heard by all audience members through the presentation.	Each member's speaking volume is loud enough to be heard by all audience members at least 90% of the time.	Each member's speaking volume is loud enough to be heard by all audience members at least 60% of the time.	The speaking volume of the presenters was often too soft to be heard by all audience members.
LISTENS TO OTHER PRESENTATIONS	Listens to all presentations with respect.	Has to be spoken to 1 time about listening to other presentations.	Has to be spoken to 2 times about listening to other presentations.	Has to be spoken to 3 times about listening to other presentations.



ConsumerReports.org

Grocery-aisle gotchas

Don't fall for marketing terms that sound like health promises

Consumer Reports on Health: February 2009

Just as you can't judge a book by its cover, you can't always make assumptions about food based on its packaging. Labels don't just inform, they sell. So while the front of a package might truthfully call out "0 grams trans fat" in bold lettering, you'd have to check the fine print on the back to find out whether the item was loaded with saturated fat.

We've put together a guide to some of the most confusing label claims. We've also looked at new labeling rules and trends that can make it easier for you to choose among products. And because food labeling still has a long way to go, we offer our take on what should be on a label—but sometimes isn't.

"Organic"

This Department of Agriculture logo and certain other organic symbols from accredited certifying organizations are usually meaningful because the government sets fixed standards for them. You'll find three tiers of organic labeling: "100% organic" (only organic ingredients), "organic" (at least 95 percent of ingredients are organic), or "made with organic ingredients" (at least 70 percent organic contents). Water and salt don't count toward the percentage of organic ingredients.



Any nonorganic ingredient must come from an approved national list. But "organic" might not mean much when it comes to fish, since proposed government regulations would allow the term to be used for fish raised in a highly polluted environment and fed meal made from wild fish, which could be contaminated with mercury, PCBs, and other pollutants. For more information on organic foods and a list of certified symbols, go to [Consumer Reports Greener Choices Eco-Labels Center](#).

"Natural"

This "natural" bottled tea contains high-fructose corn syrup, a highly processed form of sugar. Surprised? You're not alone. The vast majority of respondents to a 2007 Consumer Reports National Research Center poll said that they expected "natural" foods and drinks to be free of artificial or highly processed ingredients. But the Food and Drug Administration does not officially define the term "natural." And when it comes to meat, consumers expect "natural" to mean that it comes from animals that were raised without drugs or chemicals. But "natural" meat could come from animals fed hormones and antibiotics. That's because while the USDA does regulate the use of the term for meat and poultry, the current rule pertains only to how the cut of meat was processed, not to how the animal was raised or what it ate.



Whole grains

These buns, which are "made with whole grain," have enriched bleached flour as their first ingredient and provide only 1 gram of fiber per slice. A good choice in bread would list "whole wheat" as the first ingredient and should provide at least twice that much fiber plus all the extra nutrients found in the wheat bran. In other products, look for those with labels that say they contain "100 percent whole grain" or "100 percent whole wheat." If you want to know the whole truth, check the ingredients list: refined white flour (aka enriched wheat flour, unbleached wheat flour, or just wheat flour) should not appear on the list at all or show up only near the end.



"Cage free" or "free range"

The USDA doesn't regulate the use of the term "cage free" at all. And it uses "free range" only for poultry, not other meat or eggs. Even for chicken, the term doesn't mean much—5 minutes of open-air access daily is all it takes to qualify.



Health ratings

Logos such as the American Heart Association's heart check mark are supposed to help consumers quickly identify healthful choices. While in theory those marks make it easier to find products that meet certain nutritional standards, the different labeling used by manufacturers and grocery chains makes it hard to comparison shop.

Things might get simpler this spring when many companies begin to adopt Smart Choices, a program developed by a coalition of scientists, public-health officials, and food-industry representatives. The program's symbol will include a check mark to indicate that a product meets specific nutritional criteria for foods in that category and will list the calories per serving and the number of servings in a package. And with our [review of breakfast cereals](#), *Consumer Reports* began adding nutrient Ratings to some of our articles on packaged foods to take with you when you go to the grocery store.



"Made with" or "made from"



Grocery-aisle gotchas

Page 2 of 2

Those terms are virtually meaningless since they don't say how much of an ingredient was used or what happened to it during processing. For example, these sandwich crackers do indeed contain "real cheddar cheese," but it shows up far down on the ingredient list, after partially hydrogenated vegetable oil and sugar.



Serving size

A quick glance at the label of this trail mix shows a fairly reasonable fat and calorie count, but check the serving size. The 3-ounce package supposedly feeds three. If, like most people, you're not inclined to share, you'll wind up consuming nearly 500 calories and 30 grams of fat.

A few food makers now print "per package" nutrition facts on products such as chips or drinks that one person will often consume in one sitting—but most don't. So make sure that you always double-check.



Health claims

The oats in Cheerios might indeed help some people modestly lower their cholesterol levels. And the government often allows such health claims as long as there's a disclaimer on the label describing the evidence. But many consumers never get around to reading the fine print.

In this case it says that the evidence for the cereal's benefit comes from a study showing that consuming two servings of Cheerios a day can help when it's part of a diet that's also low in saturated fat and cholesterol. The lesson here: Don't read too much into a manufacturer's health claims.



Nutritional claims

How did partially hydrogenated vegetable oil wind up on the ingredients list of this popcorn, which is supposed to contain no trans fats? The FDA allows products to be labeled as containing "0 g trans fat" if they have less than 0.5 grams per serving. That's not a lot, but it can add up, especially if you eat several servings.

The real key to what's in a product is the ingredients list, which arranges components in descending weight order.



What should be on a label (but often isn't)

Consumers want to know where their food comes from, what's in it, and what was done to it before it hit the store, according to a telephone survey of 1,001 adults conducted by the Consumer Reports National Research Center in October 2008. At least three-quarters of the respondents strongly agreed that food labels should be required or, in some cases, allowed to provide the following information. We agree.

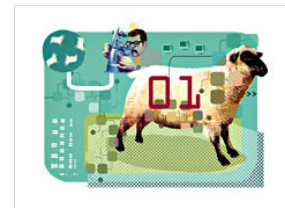
Whether beef has been tested for mad-cow disease by manufacturers. The Department of Agriculture tests only one-tenth of 1 percent of slaughtered cattle for bovine spongiform encephalopathy (BSE, or mad-cow disease). Yet the agency prohibits meatpacking companies from testing and labeling on their own, even though they would use the same rapid test kit used by the agency. We think that's unreasonable.

The country of origin of processed or packaged foods. The USDA recently extended Country of Origin Labeling (COOL) to all meats, fish, poultry, and produce sold in retail stores. That makes it easier to buy food from trusted locations and to avoid foods from certain areas if a safety problem is identified. Unfortunately, meat and fish from butcher shops and fish markets are exempt from the labeling law, as are processed foods, including dried fruits, and mixtures, such as packaged salads and trail mixes.

Whether food products are made from genetically engineered or cloned animals. The Food and Drug Administration does not require such labeling on the engineered plant foods already available. And it does not plan to label meat from genetically engineered animals, which will be hitting the market soon, or from clones, which are probably already here. We think people should know if their meat contains material from entirely different species—mouse genes, for example, in your pork chops. And they should know if their meat or dairy products come from cloned animals.

Whether meat has been treated with carbon monoxide. Meats treated with the gas can look fresh well past the point of spoilage, according to a 2006 *Consumer Reports* test of ground beef and steak. On some products, labeling alerts consumers not to use color as a guide to freshness, but often carbon monoxide-treated meat is not labeled.

Whether milk and milk products were produced from animals raised without artificial growth hormones. Several states are considering laws to prohibit dairies from labeling their milk "No rBGH." We think those laws are a bad idea. That growth hormone increases milk output but also increases udder infections in cows and levels of insulin-like growth factor-1 (IGF-1) in milk. IGF-1 stimulates tumor growth, but whether there is enough in milk to affect human health is unclear.



Copyright © 2006-2014 [Consumer Reports](http://www.consumerreports.org). No reproduction, in whole or in part, without written [permission](#).