

Part 4 Health Eating and Living

Name: _____

Part 4 Lesson 1 SPONCH

What did you eat for breakfast today?

25 of the 92 naturally occurring elements are essential for life. _____ elements are the most biologically important

These are the Biologically Important Elements

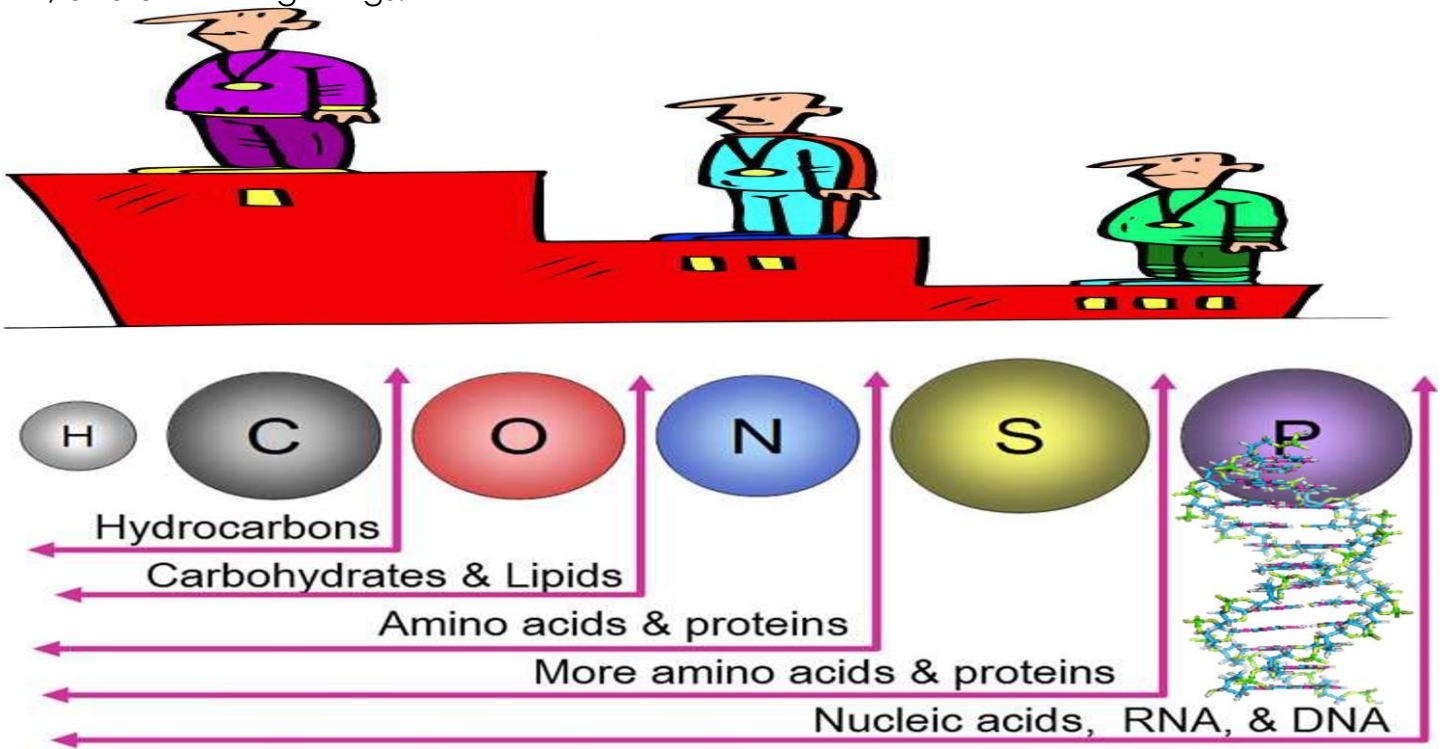
(These letters deserve to look cool, please put their names below)

--	--	--	--	--	--

Name					
% in living things					



If these athletes were biologically important Elements, which element is used the most (1st), 2nd, and 3rd in living things.



◇Please record in big letters the SPONCH elements that make up each of the important molecules below (1-5)

<p>Carbohydrates and Lipids</p>	<p>Nucleic Acids, DNA and RNA</p>	<p>Amino Acids and Proteins</p>
<p>More complex Amino Acids and Proteins (S)</p>	<p>Hydrocarbons</p>	<p>What is the CaFe in the SPONCH café?</p>

The next most important elements for life. THE SPONCH CaFe

-
-

Carbohydrates (sugars) SPONCH

- 1:2:1 ratio for _____, _____, _____
Common sugars tend to end in "_____" Ex -glucose.

◇Please circle the sugars from this word list: Sucrose, bisphosphatetase, lyseine, maltose, Xanthine, wet runny nose, hydroxysteriod, glucose, big furry moose, kinase, methylegluatryl, dhydrogenase, sucrose, lactose, galactose, nucleotide binding protein, deoxyribose, isomearase, dextrose, fructose, red caboose, my shoe lace has come loose, my favorite author is Dr. Seuss.

There are two types of sugars

_____ Sugars: Broken down quickly.

_____ saccharide: One sugar

Ex.) Glucose / Fructose

_____ saccharide: Two Sugars


Ex.) Lactose / Sucrose

Complex Sugar

Starch / Fiber / Glycogen / Cellulose / Chitin.

_____ saccharides: many sugars linked together.

Please draw and describe some simple and some complex sugars in the boxes below.

Names:	Names:	Names:	What Sugar?
			
Mono _____	Di _____	Poly _____	

- _____ = Glucose + Fructose
- _____ = Glucose + Galactose
- _____ = Glucose + Glucose

Part 4 Lesson 2 Carbohydrates and Proteins

What types of food should you eat before an athletic event?

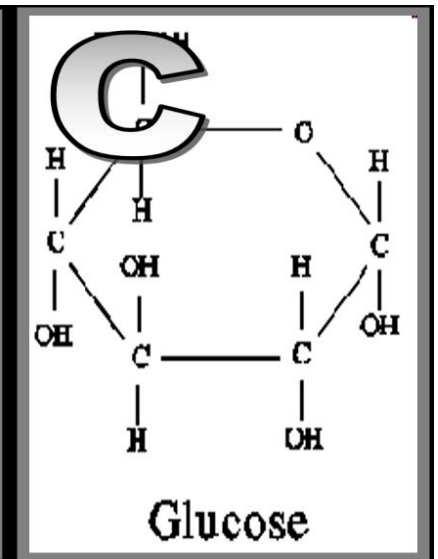
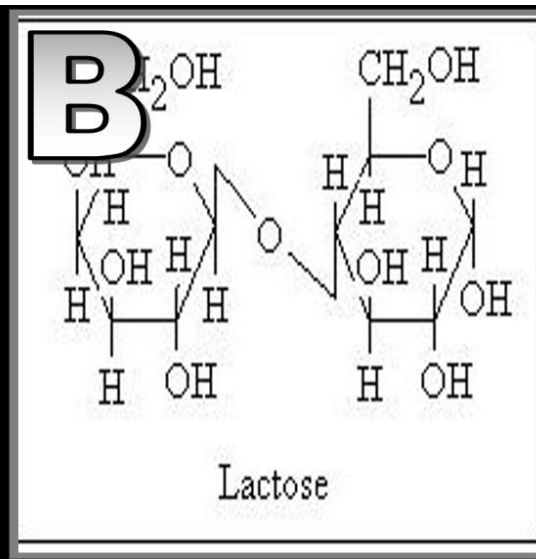
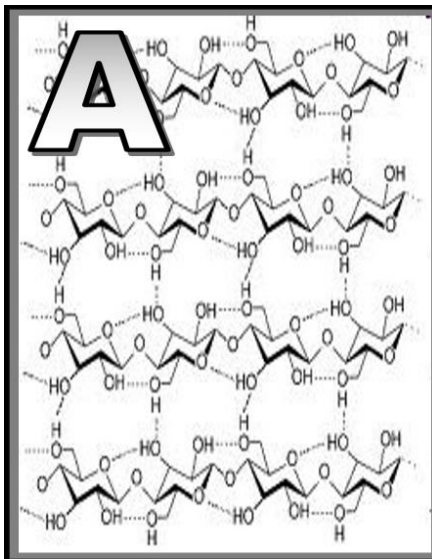
- The night before vs. game time.
- Should you eat the same things, different, talk it over and explain.

Glycogen: The storage form of _____, comes from starch in plants.

The branched structure of glycogen allows sugars to be removed easily for energy from many ends.

Which is a monosaccharide, disaccharide, polysaccharide?

A)	B)	C)
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Fiber: Carbohydrate the body cannot _____.

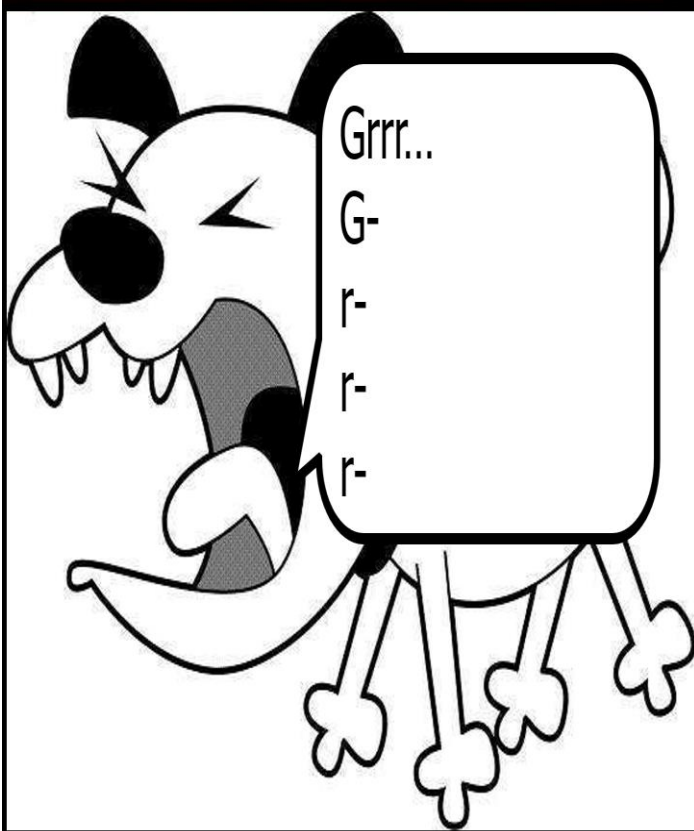
- Insoluble: Insoluble fiber absorbs _____, creates bulkier _____ and helps to regulate the stool pattern.

Protein – s O N C H (Amino acid)

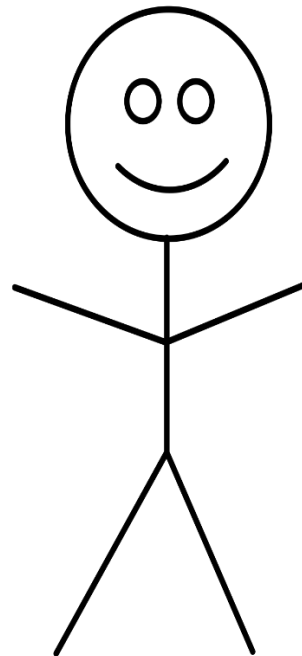
Draw some foods with protein



What are the important roles of protein?

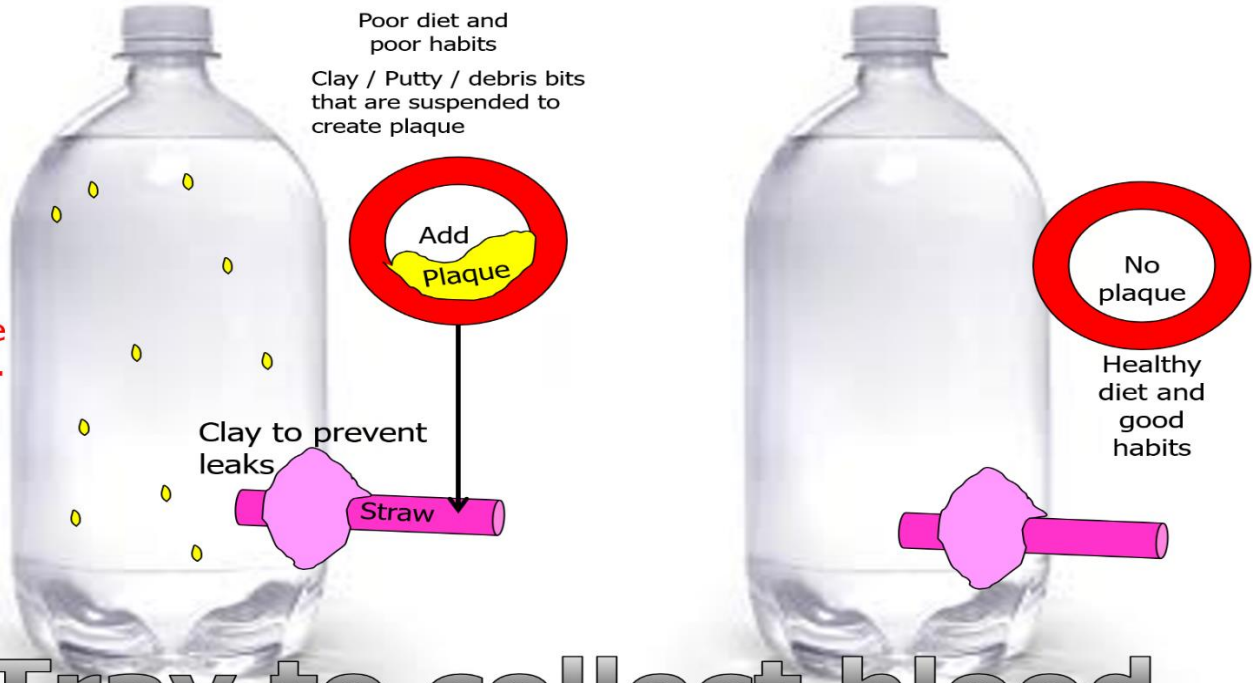


Draw some structural proteins on the stick figure below.



Observe the demonstration and describe heart disease in the space beneath.

Fill each with red water (blood) to the same level holding end of straw. Release both at the same time. Observe / record the time it takes for the blood to empty.



Tray to collect blood

Describe Heart Disease in the space below.

_____ (CAD) is caused by _____ buildup in the walls of the arteries that supply blood to the heart and other parts of the body.

- Plaque is made up of deposits of _____ and other substances in the artery.
- Plaque buildup causes the inside of the arteries to narrow over time, which can partially or totally _____ the blood flow. This process is called atherosclerosis "Heart Attack".

Sex hormones (steroids), such as _____ and _____ are made of lipids.

_____ : A naturally occurring complex ringed lipid in the body. They take part in many important body functions.

Anabolic steroids: A group of 100+ _____ hormones used to stimulate muscle and bone growth.

What are the dangers associated with anabolic steroid use.



Part 4 Lesson 4 Types of Lipids / Fats

Types of Fats

_____ fat ☺ (just a bit however)

- Help to _____ blood cholesterol if used in place of saturated fats.
- Unsaturated fats have a lot of calories, so you still need to limit them. Most, but not all liquid _____ oils are unsaturated.
 - The exceptions include coconut, palm, and palm kernel oils.)
- There are two types of unsaturated fats:
 - _____unsaturated fats: Examples include olive and canola oils.
 - _____unsaturated fats: Examples include fish, safflower, sunflower, corn, and soybean oils.

Find the bogus fact about unsaturated fats below.

Unsaturated Fats:

- A.) Increase blood cholesterol if used in place of saturated fats.
 B.) Unsaturated fats have a lot of calories, so you still need to limit them. Most, but not all liquid vegetable oils are unsaturated.
 C.) The exceptions include coconut, palm, and palm kernel oils.)
 D.) There are two types of unsaturated fats:
 E.) Monounsaturated fats: Examples include olive and canola oils.
 F.) Polyunsaturated fats: Examples include fish, safflower, sunflower, corn, and soybean oils.

Unsaturated Fats:

- A.) Help to lower blood cholesterol if used in place of saturated fats.
 B.) Unsaturated fats do not have a lot of calories, so you do not need to limit them. Most, but not all liquid vegetable oils are unsaturated.
 C.) The exceptions include coconut, palm, and palm kernel oils.)
 D.) There are two types of unsaturated fats:
 E.) Monounsaturated fats: Examples include olive and canola oils.
 F.) Polyunsaturated fats: Examples include fish, safflower, sunflower, corn, and soybean oils.

_____ Fats ☹

- These are the biggest dietary cause of high LDL levels ("_____ cholesterol").
- Saturated fat should be limited to 10% of calories.
- Saturated fats are found in animal products such as _____, cheese, whole milk, ice cream, cream, and fatty meats.

-They are also found in some vegetable oils -- coconut, palm, and palm kernel oils.

(Note: Most other vegetable oils contain unsaturated fat and are more healthy.)

<p>SATURATED FATS and the bogus one is...</p> <p>A.) These are the biggest dietary cause of high LDL levels ("bad cholesterol").</p> <p>B.) Saturated fat should be limited to 90% of calories.</p> <p>C.) Saturated fats are found in animal products such as butter, cheese, whole milk, ice cream, cream, and fatty meats.</p> <p>D.) They are also found in some vegetable oils -- coconut, palm, and palm kernel oils.</p> <p>E.) (Note: Most other vegetable oils contain unsaturated fat and are more healthy.)</p>	<p>SATURATED FATS and the bogus one is...</p> <p>A.) These are the biggest dietary cause of high HDL levels ("good cholesterol").</p> <p>B.) Saturated fat should be limited to 10% of calories.</p> <p>C.) Saturated fats are found in animal products such as butter, cheese, whole milk, ice cream, cream, and fatty meats.</p> <p>D.) They are also found in some vegetable oils -- coconut, palm, and palm kernel oils.</p> <p>E.) (Note: Most other vegetable oils contain unsaturated fat and are more healthy.)</p>
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_____ Fats ☹☹☹☹ (Zero is the recommended daily amount)

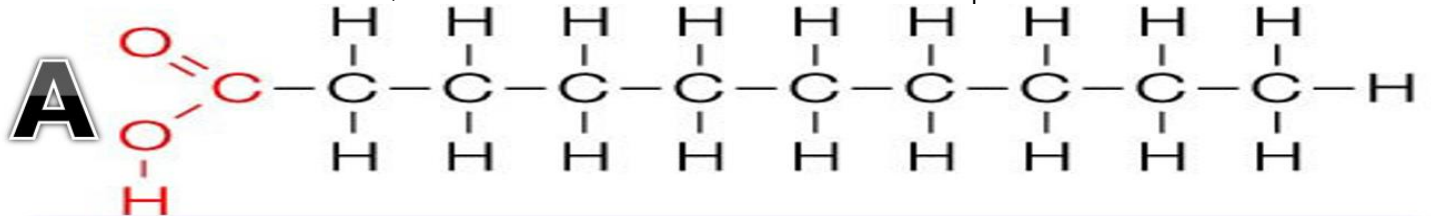
-These fats form when vegetable oil _____ (a process called hydrogenation)

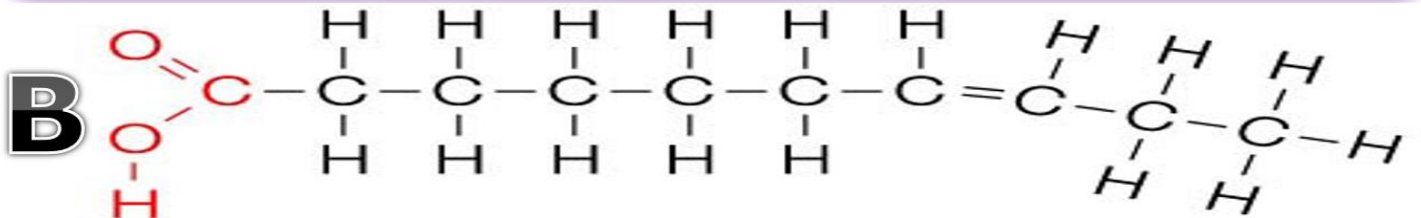
-Raises _____ levels. They can also lower _____ levels ("good cholesterol").

-Trans-fatty acids are found in _____ foods, commercial baked goods (donuts, cookies, crackers), processed foods, and margarines.

<p>TRANS FATTY ACIDS, Which is bogus below.</p> <p>A.) These fats form when vegetable oil hardens (a process called hydrogenation)</p> <p>B.) Raises HDL levels (Good cholesterol) and lower LDL "bad cholesterol".</p> <p>C.) Trans-fatty acids are found in fried foods, commercial baked goods (donuts, cookies, crackers), processed foods, and margarines.</p>	<p>TRANS FATTY ACIDS, Which is bogus below.</p> <p>A.) These fats form when vegetable oil hardens (a process called hydrogenation)</p> <p>B.) Raises LDL levels. They can also lower HDL levels ("good cholesterol").</p> <p>C.) Trans-fatty acids are found in fish, safflower, sunflower, corn, canola, olive and soybean oils.</p>
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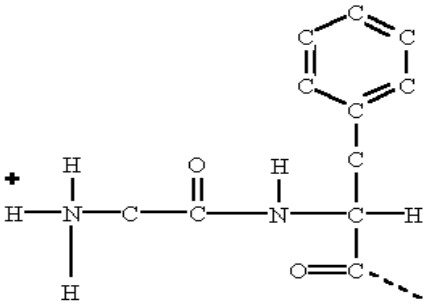
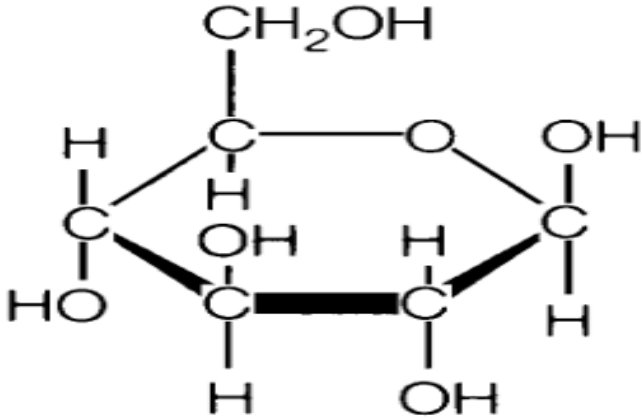
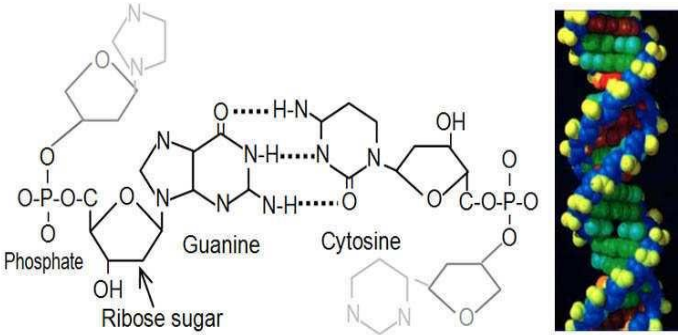
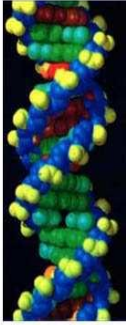
Which is the saturated fat, and which is the unsaturated fat? Explain in the middle.





Which is one is the healthiest from the choices below based on the nutrition info?

◇Please record the name of the correct biologically important molecules beneath the picture.

Part 4 Lesson 5 Quiz and Review

Quiz 1-10 Carbohydrate, Protein, Lipid, Nucleic Acid.

Note: Picture may be of an Amino Acid which are the building blocks of Proteins.

1)	2)	3)
4)	5)	6)
7)	8)	9)
10)	*11)	

Create a well-balanced meal in the plate below. It should be balanced.

Please label as much as you can about each food item in your meal.
Example... Is it a carbohydrate (what type?), Lipid / Fat (Type?), Protein...



Part 4 Lesson 6 Junk Food Twinkie Study

Spend a few minutes making your best drawing of a Twinkie



What did you gain from studying a Twinkie and other junk foods?



How will a healthy diet affect your life?



Are you planning to eat your Twinkie?
Why or why not?



Part 4 Lesson 7 Fast Food

What is your favorite fast-food restaurant? Why?

Obesity: A disorder involving excessive body fat that increases the _____ of health problems.

-Obesity often results from taking in _____ calories than are _____ by exercise and normal daily activities.

-Obesity occurs when a person's body _____ index is 30 or greater. The main symptom is excessive body _____, which increases the risk of serious health problems.

-The mainstay of treatment is lifestyle changes such as _____ and _____.

_____ : Used to refer to a form of diabetes that typically develops in association with being obese.

Dangers of obesity

-increased risk of _____ disease

-high blood _____

-Type 2 _____

-breathing problems

-Increased risk of _____

- _____

Economic Status and Obesity

-You may lack access to _____ areas to exercise.

-You may not have been _____ healthy ways of cooking.

-You can't _____ fresh foods.

-Your parents work so much they don't have time to _____ so you eat processed food or fast food.

-Close extended family, your _____ | networks influence your weight.

-You're more likely to become obese if you have obese friends or relatives.

Which one is not a reason why economic status has something to do with obesity?

- A.) You may lack access to safe areas to exercise.
- B.) You may not have been taught healthy ways of cooking.
- C.) You can't afford fresh foods.
- D.) Working class parents have plenty of time to prepare healthy meals for the family.
- E.) Close extended family, your social networks influence your weight.
- F.) You're more likely to become obese if you have obese friends or relatives.

Which one is not a reason why economic status has something to do with obesity?

- A.) You may lack access to safe areas to exercise.
- B.) You may not have been taught healthy ways of cooking.
- C.) You can afford and have access to fresh foods.
- D.) Working class parents do not have plenty of time to prepare healthy meals so they often provide processed or fast foods.
- E.) Close extended family, your social networks influence your weight.
- F.) You're more likely to become obese if you have obese friends or relatives.

AILING MAN SUES FAST-FOOD FIRMS

By Michael Y. Park, 2002

A New York City lawyer has filed suit against the four big fast-food corporations, saying their fatty foods are responsible for his client's obesity and related health problems.

Samuel Hirsch filed his lawsuit Wednesday at a New York state court in the Bronx, alleging that McDonald's, Burger King, Wendy's and KFC Corporation are irresponsible and deceptive in the posting of their nutritional information, that they need to offer healthier options on their menus, and that they create a de facto addiction in their consumers, particularly the poor and children.

"You don't need nicotine or an illegal drug to create an addiction, you're creating a craving," Hirsch said. "I think we'll find that the fast-food industry has not been totally up front with the consumers."

The suit does not specify the amount of damages Hirsch and his client are seeking. Industry officials lambasted the legal action.

"It's senseless, baseless and ridiculous," National Restaurant Association spokeswoman Katharine Kim said. "There are choices in restaurants and people can make these choices, and there's a little personal responsibility as well."

KFC spokeswoman Amy Sherwood said her company couldn't comment on the lawsuit because it hadn't yet been served, but dismissed the idea that the fried-chicken chain ought to be held responsible for anyone's health problems.

"Eating sensibly combined with exercise is the best solution for a healthy lifestyle," she said.

"KFC offers a variety of menu offerings for those who want a more healthy choice."

Walter Olson, a Manhattan Institute fellow specializing in legal-system issues, called the suit a blatant attempt to cash in on the recent publicity over obesity and the tobacco settlements. He also said it disregarded the idea that people are responsible for their own actions. "Most people are aware if eating double cheeseburgers, it's not the same as celery," he said. "We all have appetites, but people have no trouble walking down the street and buying a different kind of food. They're not somehow forced to keep going back and keep supersizing. Overeating is a bad habit and is one of the pitfalls of human nature."

So far, there's only a single complainant named in the suit, but Hirsch said at least two other clients would be filing soon in what he aims to make into a class-action lawsuit. All were regular fast-food consumers who suffer from ailments ranging from obesity to diabetes.

The lead plaintiff, 56-year-old maintenance supervisor Caesar Barber, ate at fast-food restaurants four or five times a week and blames his fatty diet for his obesity, diabetes, high blood pressure and cholesterol and the two heart attacks he has suffered.

"I trace it all back to the high fat, grease and salt, all back to McDonald's, Wendy's, Burger King, there was no fast food I didn't eat, and I ate it more often than not because I was single, it was quick and I'm not a very good cook," Barber said in an interview with Foxnews.com.

"It was a necessity, and I think it was killing me, my doctor said it was killing me, and I don't want to die."

Frances Winn, a 57-year-old retired nurse, said her habit of eating at fast-food restaurants at least twice a week since 1975, caused her to go from a size 6 to a size 18, and inflicted her with hypertension, high cholesterol and a hyperthyroid problem.

Israel Bradley, 59, said his ritual of eating a pound of French fries a week gave him high blood pressure, diabetes, made him obese and forces him to walk with a cane. In 1993, he

passed out and had to be rushed to the emergency room because of the medical problems caused by his diet. "I got addicted to it," he said.

Winn and Bradley would both file New York state suits soon, Hirsch said.

The aim of the legal action is to force the fast-food industry to "offer a larger variety to the consumers, including non-meat vegetarian, less grams of fat, and a reduction of size" of their meals, along with federal legislation that would require warning labels on fast food similar to those on tobacco products, Hirsch said.

"Hopefully it will change the eating habits of the American public," he said.

In December, then Surgeon General David Satcher declared obesity America's soon-to-be number one killer, and urged for there to be a healthier range of food available to consumers.

Summarize the article, Who, What, Where, When, Why?

What is Samuel Hirsch's claim in this case? That is, what were the negative effects of eating fast food and why are these ailments not his fault?

You're the attorneys for the fast-food firms, what would you say to the court?

4) You are the judge in this case. What is your ruling? Why?

5) What should fast food do to promote healthier eating habits in people?

6) Describe your diet, is it healthy or not?

Why Fast-Food Sells

- It's _____
- It's _____
- It _____ Good (Saturated Fats) "Opinion"
- It's _____
- _____ - I know what I'm getting.
- Comes with cheap plastic _____
- It's a safe place to be.
- Heavy media _____

Quiz 1-20 Name that person or other...

1)	2)	3)	4)
5)	6)	7)	8)
9)	10)	11)	12)
13)	14)	15)	16)
17)	18)	19)	20)

Bonus:

Part 4 Lesson 8 Eating Healthy

Getting control of your weight. What you can do...

- Start a weight-management _____
- Change eating _____ (eat slowly, develop a routine).
- _____meals and make better food selections (eat less fatty foods, avoid junk)
- Control _____ and consume less calories.
- Increase _____ activity (especially walking) and have a more active lifestyle.
- Know what you eat at _____
- Eat meals as a _____ instead of while watching television or at the computer.
- Limit _____
- Attend a support group / Ask for support from a qualified person

<p>Which sentence from the selection below should not be part of a weight loss plan?</p> <p>A.) Start a weight-management program.</p> <p>B.) Change eating habits (eat slowly, develop a routine).</p> <p>C.) Plan meals and make better food selections (eat less fatty foods, avoid junk and fast foods).</p> <p>D.) Skip one meal a day.</p> <p>E.) Increase physical activity (especially walking) and have a more active lifestyle.</p> <p>F.) Know what you eat at school.</p> <p>G.) Eat meals as a family instead of while watching television or at the computer.</p> <p>H.) Limit snacking.</p> <p>I.) Attend a support group.</p>	<p>Which sentence from the selection below should not be part of a weight loss plan?</p> <p>A.) Start a weight-management program.</p> <p>B.) Change eating habits (eat slowly, develop a routine).</p> <p>C.) Plan meals and make better food selections (eat less fatty foods, avoid junk and fast foods).</p> <p>D.) Increase physical activity (especially walking) and have a more active lifestyle.</p> <p>E.) Know what you eat at school.</p> <p>F.) Eat meals as a family instead of while watching television or at the computer.</p> <p>G.) Snack whenever possible.</p> <p>H.) Attend a support group.</p>
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Try and stay healthy

- Use _____ and _____ sparingly.
- Use the _____ to help you choose foods lower in fat, saturated fat, and cholesterol.
- Eat plenty of grain products, _____, and fruits.
- Choose _____-fat milk products, _____ meats, fish, poultry, beans, and peas to get essential nutrients without substantially increasing calorie and saturated fat intakes.

<p>Which one from the list below is not a way to try and eat healthy?</p> <p>A.) Use fats and oils sparingly.</p> <p>B.) Use the Nutrition Facts Label to help you choose foods lower in fat, saturated fat, and cholesterol.</p> <p>C.) Eat plenty of grain products, vegetables, and fruits.</p> <p>D.) Choose a diet with lots of dairy products, and find a way to increase caloric intake and saturated fat by visiting fast food restaurants.</p>	<p>Which one from the list below is not a way to try and eat healthy?</p> <p>A.) Use fats and oils as often as possible.</p> <p>B.) Use the Nutrition Facts Label to help you choose foods lower in fat, saturated fat, and cholesterol.</p> <p>C.) Eat plenty of grain products, vegetables, and fruits.</p> <p>D.) Choose a diet with lots of dairy products, and find a way to increase caloric intake and saturated fat by visiting fast food restaurants.</p>
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Continuation of ways to eat healthy

Eat a _____ of foods

Balance the food you eat with _____ activity.

Choose a diet _____ in fat, saturated fat, and cholesterol

Choose a diet moderate in _____ and _____.

Choose a diet that provides enough _____ and iron to meet their growing body's requirements.

Super Size Me

Please respond to the four questions below during the movie.

What was the purpose of Morgan Spurlocks mission? What did he do before, during, and at the end of this study?

What were the rules he had to follow?

How did this Fast Food lifestyle change his physical and emotional health?

Did this movie do anything to help change your views of the Fast Food industry? Do you eat Fast / Junk?

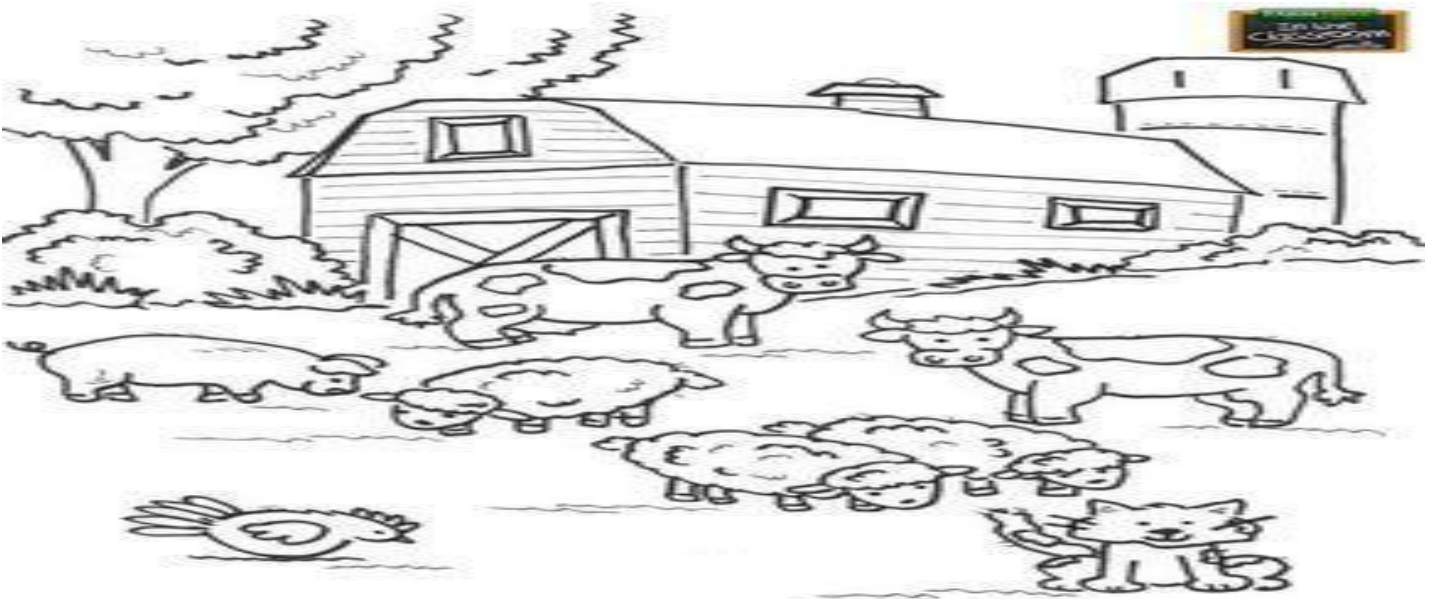
Part 4 Lesson 9 Factory Farming

Do a key word search: Factory Farming

What are the pro's and con's. Be Careful! Proceed cautiously



Is this farm below where we get our food? Explain. Color for fun.



Across

2. _____ fiber absorbs water, creates bulkier stools and helps to regulate the stool pattern.
5. Any of a class of organic compounds that are fatty acids or their derivatives and are insoluble in water but soluble in organic solvents. They include many natural oils, waxes, and steroids.
6. Type of Fat. (just a bit however) – Help to lower blood cholesterol if used in place of saturated fats.
10. Type of unsaturated fat: : Examples include olive and canola oils.
12. This is is an eating disorder where people starve themselves.
13. A naturally occurring complex ringed lipid in the body. They take part in many important body functions.
14. Type of unsaturated fat. : Examples include fish, safflower, sunflower, corn, and soybean oils.
16. _____ steroids: A group of 100+ man made hormones used to stimulate muscle and bone growth.
17. _____ Artery Disease (CAD) is caused by plaque buildup in the walls of the arteries that supply blood to the heart and other parts of the body.
19. Used to refer to a form of diabetes that typically develops in association with being obese.
21. These are large, complex molecules. Composed of Amino Acids
22. Simple Sugars that are Broken down quickly. One sugar
24. The storage form of glucose, comes from starch in plants. The branched structure of glycogen allows sugars to be removed easily for energy from many ends.

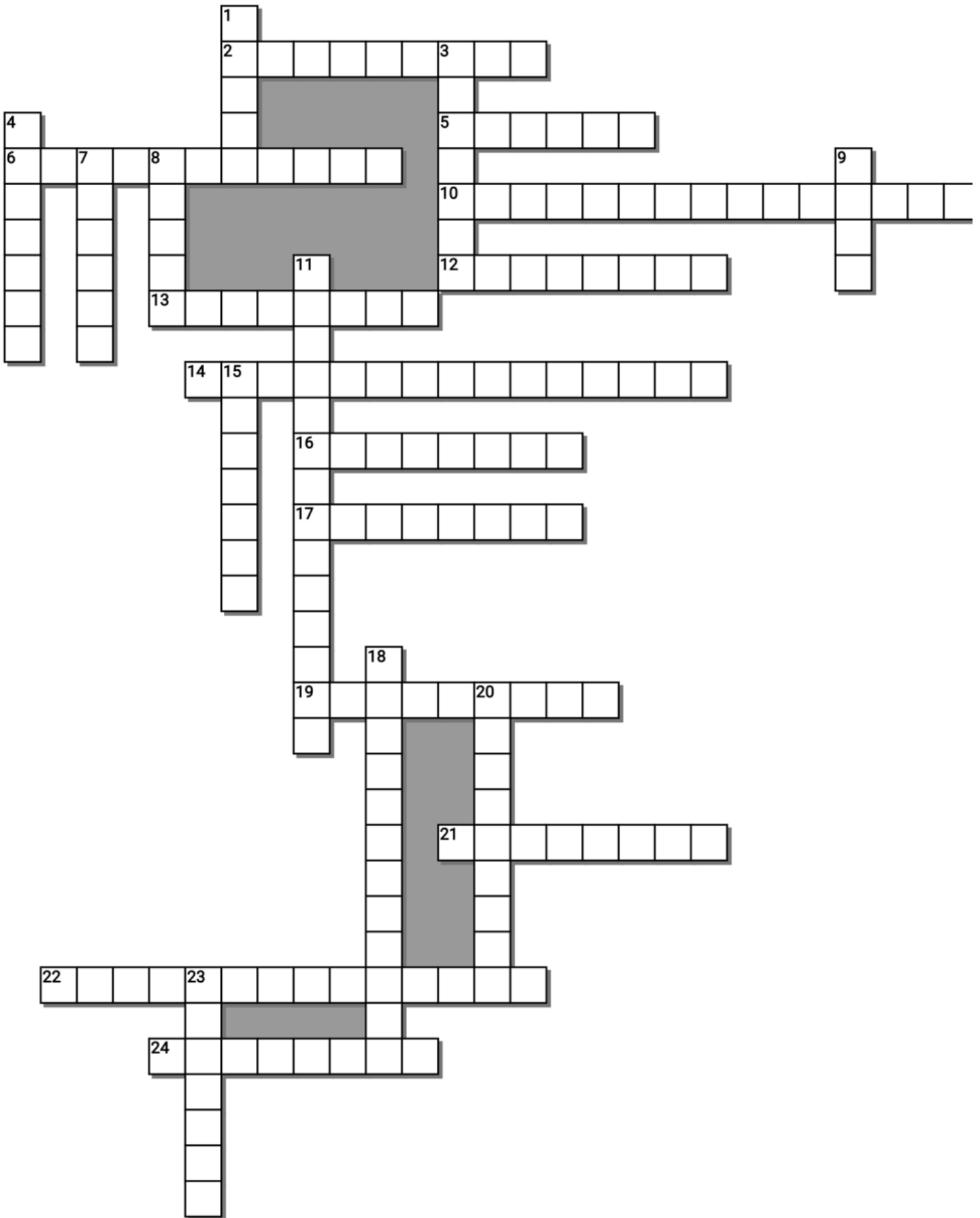
Down

1. A carbohydrate the body cannot digest
3. This is an eating disorder where an individual will binge eat and then purging (throwing up).
4. Glucose + Fructose =
7. These six elements are the most biologically important
8. Type of Fat. (Zero is the recommended daily amount) -These fats form when vegetable oil hardens (a process called hydrogenation)
9. _____-Food: A type of mass-produced food designed for commercial resale and with a strong priority placed on "speed of service" versus other relevant factors involved in culinary science
11. Many sugars linked together. Longer lasting energy
15. A disorder involving excessive body fat that increases the risk of health problems. -Obesity often results from taking in more calories than are burned by exercise and normal daily activities.
18. This is a biomolecule consisting of carbon, hydrogen and oxygen atoms, usually with a hydrogen–oxygen atom ratio of 2:1 and thus with the empirical formula
20. Type of Fat. These are the biggest dietary cause of high LDL levels ("bad cholesterol").
23. _____ fiber: Absorbs water and becomes gelatinous and sticky. The down side for soluble fiber is that harmless gas forming bacteria in the colon

-----Teacher can remove this word bank to make puzzle more challenging-----

Possible Answers

ANABOLIC, ANOREXIA, BULIMIA, CARBOHYDRATE, CORONARY, DIABESITY, FAST, FIBER, GLYCOGEN, INSOLUBLE, LIPIDS, MONOSACCHARIDE, MONOUNSATURATED, OBESITY, POLYSACCHARIDE, POLYUNSATURATED, PROTEINS, SPONCH, SATURATED, SOLUBLE , STEROIDS, SUCROSE, TRANS, UNSATURATED



Part Review Game

Name: _____

1-20 = 5 pts **Part 4 Lesson 11**

*20-*25 * = Bonus + 1 pt,

(Secretly write owl in correct space +1 pt)

Score ____ / 100

Final Question = 5 pt wager

TIME TO SPONCH	NAME THAT MOLECULE	HEALTHY EATING	HEALTHY LIVING	JUNK FOOD Bonus round 1 pt each
1)	6)	11)	16)	*21)
2)	7)	12)	17)	*22)
3)	8)	13)	18)	*23)
4)	9)	14)	19)	*24)
5)	10)	15)	20)	*25)

Final Question Wager ____/5 Answer:

Part 4 Health Eating and Living

Name: _____

Part 4 Lesson 1 SPONCH

What did you eat for breakfast today?

Answers will vary

25 of the 92 naturally occurring elements are essential for **life**.

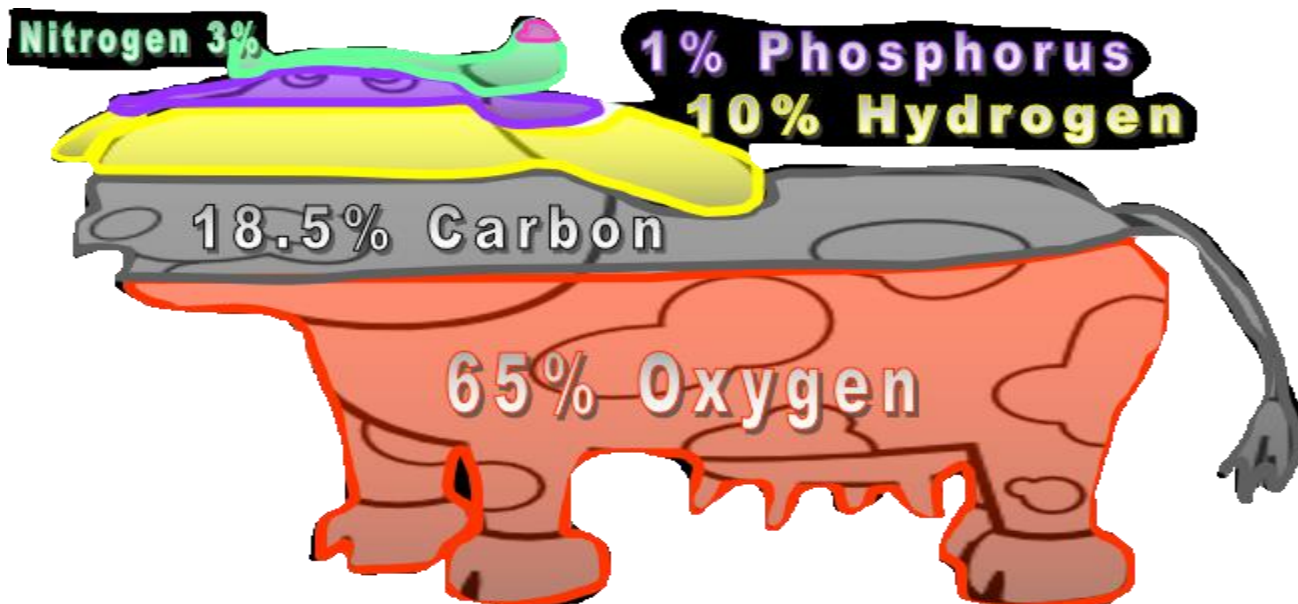
SPONCH elements are the most biologically important

These are the Biologically Important Elements

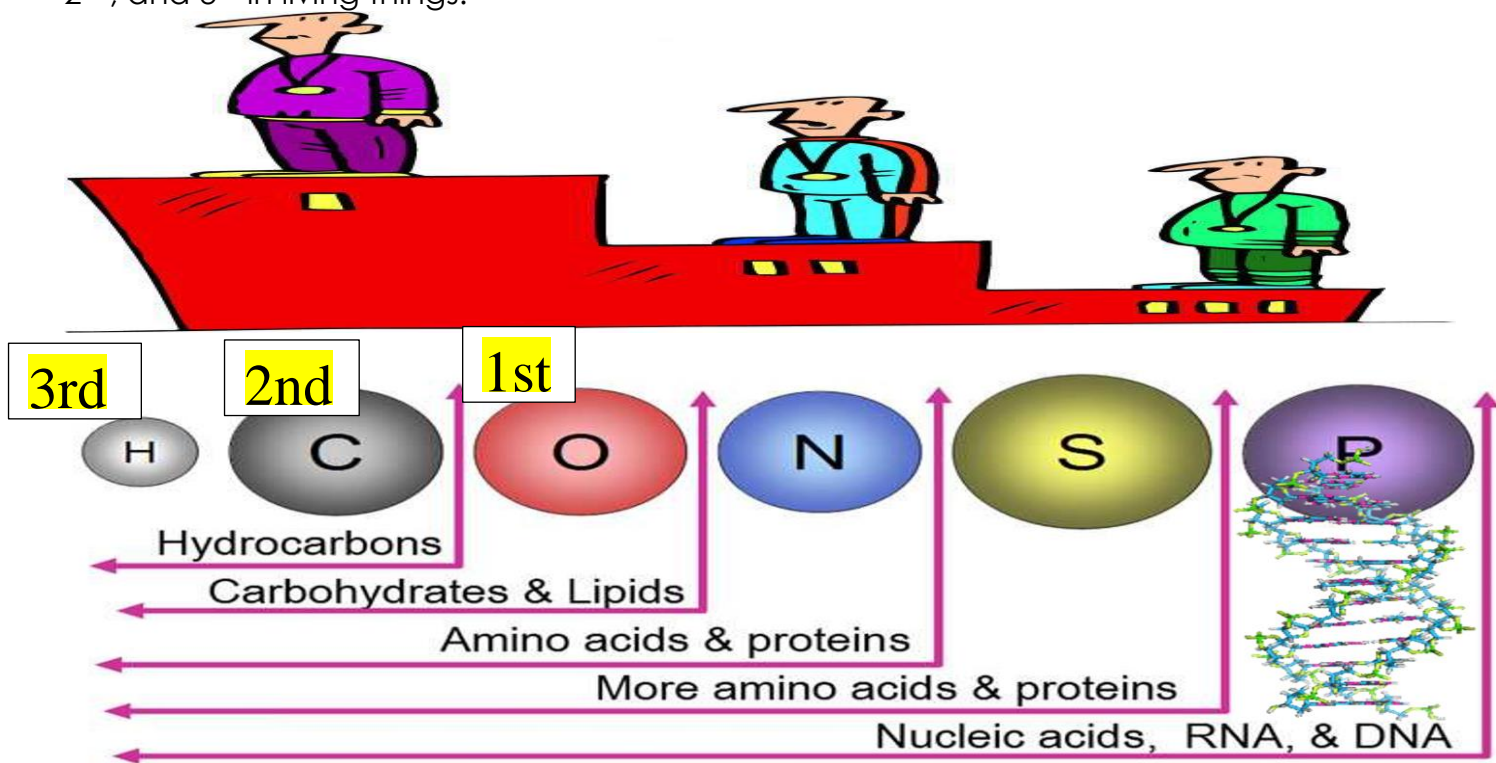
(These letters deserve to look cool, please put their names below)

S	P	O	N	C	H
----------	----------	----------	----------	----------	----------

Name	Sulfur	Phosphorus	Oxygen	Nitrogen	Carbon	Hydrogen
% in living things	Trace	1.0%	65.0%	3.3%	18.5%	9.56%



If these athletes were biologically important Elements, which element is used the most (1st), 2nd, and 3rd in living things.



◇Please record in big letters the SPONCH elements that make up each of the important molecules below (1-5)

Carbohydrates and Lipids OCH	Nucleic Acids, DNA and RNA SPONCH	Amino Acids and Proteins ONCH
More complex Amino Acids and Proteins (S) SONCH	Hydrocarbons CH	What is the CaFe in the SPONCH café? ?

The next most important elements for life. THE SPONCH CaFe

-Ca= Calcium, 1.5%

-Fe= Iron, Trace

Carbohydrates (sugars) SPONCH

- 1:2:1 ratio for carbon, hydrogen, oxygen.

Common sugars tend to end in "ose" Ex -glucose.

◇Please circle the sugars from this word list: Sucrose, bisphosphatetase, lysine, maltose, Xanthine, wet runny nose, hydroxysteroid, glucose, big furry moose, kinase, methylglutaryl, dehydrogenase, sucrose, lactose, galactose, nucleotide binding protein, deoxyribose, isomerase, dextrose, fructose, red caboose, my shoe lace has come loose, my favorite author is Dr. Seuss.

There are two types of sugars

Simple Sugars: Broken down quickly.

Monosaccharide: One sugar

Ex.) Glucose / Fructose

Disaccharide: Two Sugars

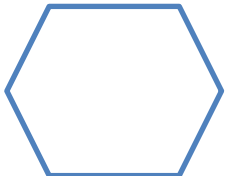

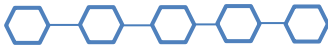

Ex.) Lactose / Sucrose

Complex Sugar

Starch / Fiber / Glycogen / Cellulose / Chitin.

Polysaccharides: many sugars linked together.

Please draw and describe some simple and some complex sugars in the boxes below.

Names:	Names:	Names:	What Sugar?
<p>One sugar.</p> <p>Glucose, Fructose</p>  <p>Monosaccharide</p>	<p>Two sugars.</p> <p>Lactose, Sucrose</p>  <p>Disaccharide</p>	<p>Many sugars linked together.</p> <p>Fiber, Starch, Glycogen, Cellulose, Chitin</p>  <p>Polysaccharide</p>	<p>Cellulose, which allows plants to grow tall.</p> 

- **Sucrose** = Glucose + Fructose
- **Lactose** = Glucose + Galactose

- **Maltose** = Glucose + Glucose

Part 4 Lesson 2 Carbohydrates and Proteins

What types of food should you eat before an athletic event?

- The night before vs. game time.
- Should you eat the same things, different, talk it over and explain.

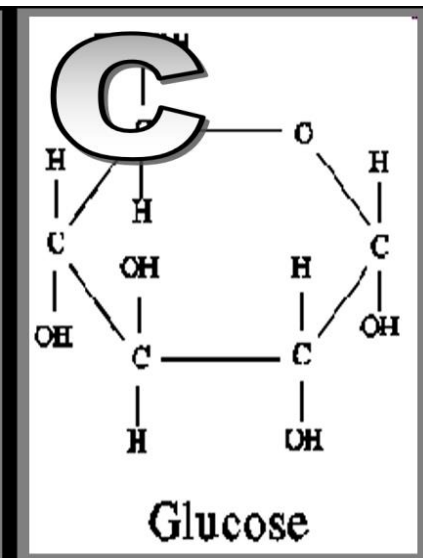
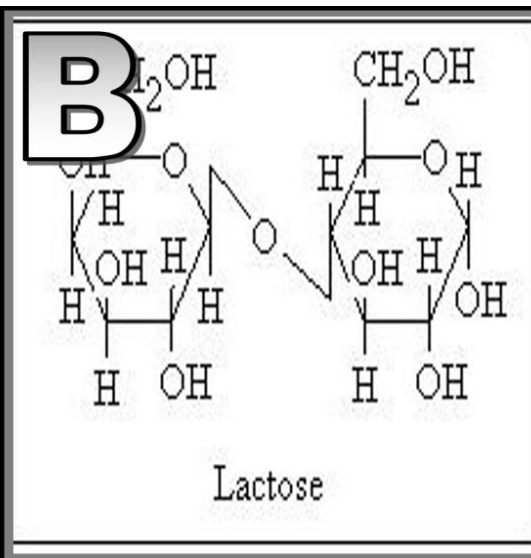
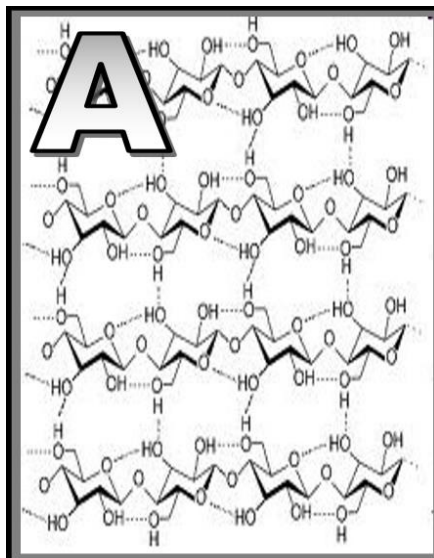
Simple sugars such as a candy bar or sugar drink will give you a quick short burst of energy, while complex sugars such as starch are longer lasting energy and require more time to break down. Eat complex sugars the night before, and more simple sugars during the event.

Glycogen: The storage form of **glucose**, comes from starch in plants.

The branched structure of glycogen allows sugars to be removed easily for energy from many ends.

Which is a monosaccharide, disaccharide, polysaccharide?

A) Polysaccharide	B) Disaccharide	C) Monosaccharide
--------------------------	------------------------	--------------------------



Fiber: Carbohydrate the body cannot digest.

- Insoluble: Insoluble fiber absorbs water, creates bulkier stools and helps to regulate the stool pattern.
- Soluble fiber: Absorbs water and becomes gelatinous and sticky. The down side for soluble fiber is that harmless gas forming bacteria in the colon

Which is more healthy / a better source of fiber? Explain below.

Nutrition Facts	
Serving Size 1 serving (17.3 g)	
Amount Per Serving	
Calories 86	Calories from Fat 51
% Daily Value*	
Total Fat 5.7g	9%
Saturated Fat 2.0g	10%
Trans Fat 0.0g	
Cholesterol 0mg	0%
Sodium 23mg	1%
Total Carbohydrates 8.8g	3%
Dietary Fiber 0.2g	1%
Sugars 6.4g	
Protein 1.8g	
Vitamin A 0%	Vitamin C 0%
Calcium 2%	Iron 3%
* Based on a 2000 calorie diet	

Nutrition Facts	
Serving Size 28 g	
Amount Per Serving	
Calories 162	Calories from Fat 117
% Daily Value*	
Total Fat 14g	21%
Saturated Fat 1g	5%
Trans Fat 0g	
Cholesterol 0mg	0%
Sodium 0mg	0%
Total Carbohydrate 6g	2%
Dietary Fiber 3g	14%
Sugars 1g	
Protein 6g	
Vitamin A 0%	Vitamin C 0%
Calcium 7%	Iron 6%
*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.	

The snack on the right is healthier and is a better source of fiber. It has more dietary fiber, which can help regulate your stool pattern. It also has more protein, which helps repair body tissue and muscle. That snack also has less saturated fat, which is an unhealthy kind of fat (it can raise cholesterol).

Which word is incorrect? Benefits of a diet high in fiber.

- Regularity with your stools / speeds up the movement of food through your body.
- Reduced constipation
- Helps to control blood sugar in body.
- Increases** cholesterol by getting rid of the LDL or "bad cholesterol"
- Helps weight management. High fiber foods make you feel full, and require more time to chew.

Which word is incorrect? Benefits of a diet high in fiber.

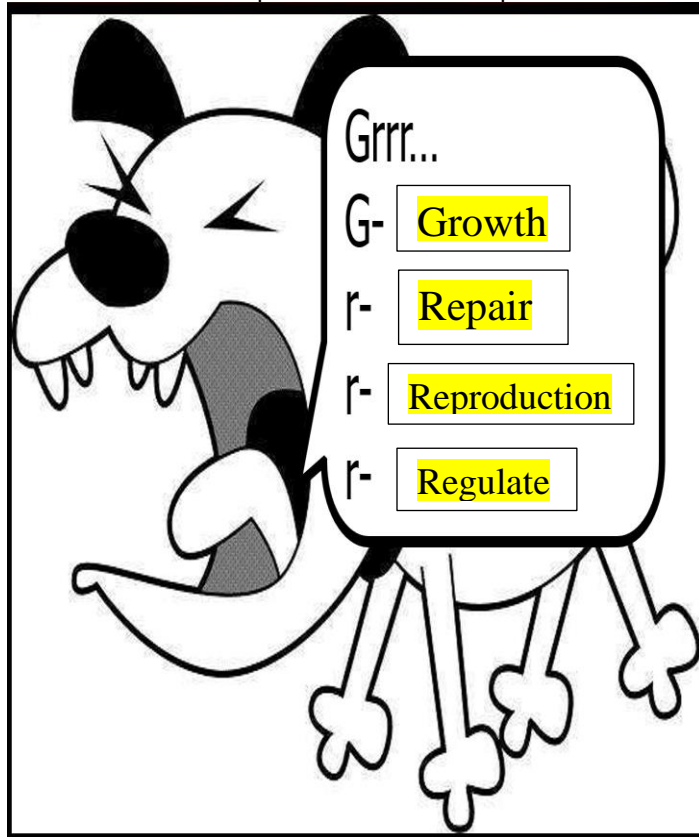
- Regularity with your stools / **slows** the movement of food through your body.
- Reduced constipation
- Helps to control blood sugar in body.
- Decreases cholesterol by getting rid of the LDL or "bad cholesterol"
- Helps weight management. High fiber foods make you feel full, and require more time to chew.

Protein – s O N C H (Amino acid)

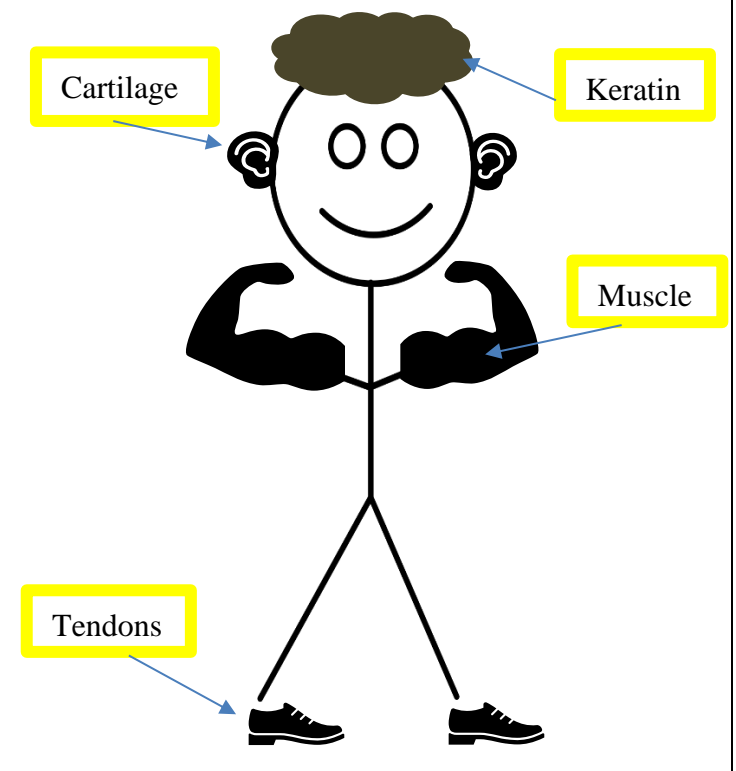
Draw some foods with protein



What are the important roles of protein?



Draw some structural proteins on the stick figure below.



Which one has more protein. Explain below.

Nutrition Facts	
Serving Size 100 grams	
Amount Per Serving	
Calories 87	Calories from Fat 47
% Daily Value*	
Total Fat 5g	8%
Saturated Fat 3g	17%
Trans Fat 0g	
Cholesterol 13mg	4%
Sodium 47mg	2%
Total Carbohydrate 3g	1%
Dietary Fiber 0g	0%
Sugars 3g	
Protein 7g	
Vitamin A 3%	Vitamin C 0%
Calcium 7%	Iron 0%
*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.	
NutritionData.com	

Nutrition Facts	
Serving Size: 2.17 oz pack (62g)	
Amount Per Serving	
Calories 251	Calories from Fat 24
% Daily Value*	
Total Fat 2.71 g	4%
Saturated Fat 2.55 g	13%
Trans Fat 0.05 g	
Cholesterol 0 mg	0%
Sodium 9.3 mg	0%
Potassium 7.44 mg	0%
Total Carbohydrate 56.28 g	19%
Dietary Fiber 0 g	0%
Sugars 47.02 g	
Sugar Alcohols	
Protein 0.12 g	
Vitamin A 0 IU	0%
Vitamin C 41.42 mg	69%
Calcium 0 mg	0%
Iron 0 mg	0%

The snack on the left has more protein. It has 7 grams compared to the snack on the right, which has 0.12 grams of protein.

Part 4 Lesson 3 Lipids and Steroids

Lipid – C H O (Fatty acid)
They store energy.

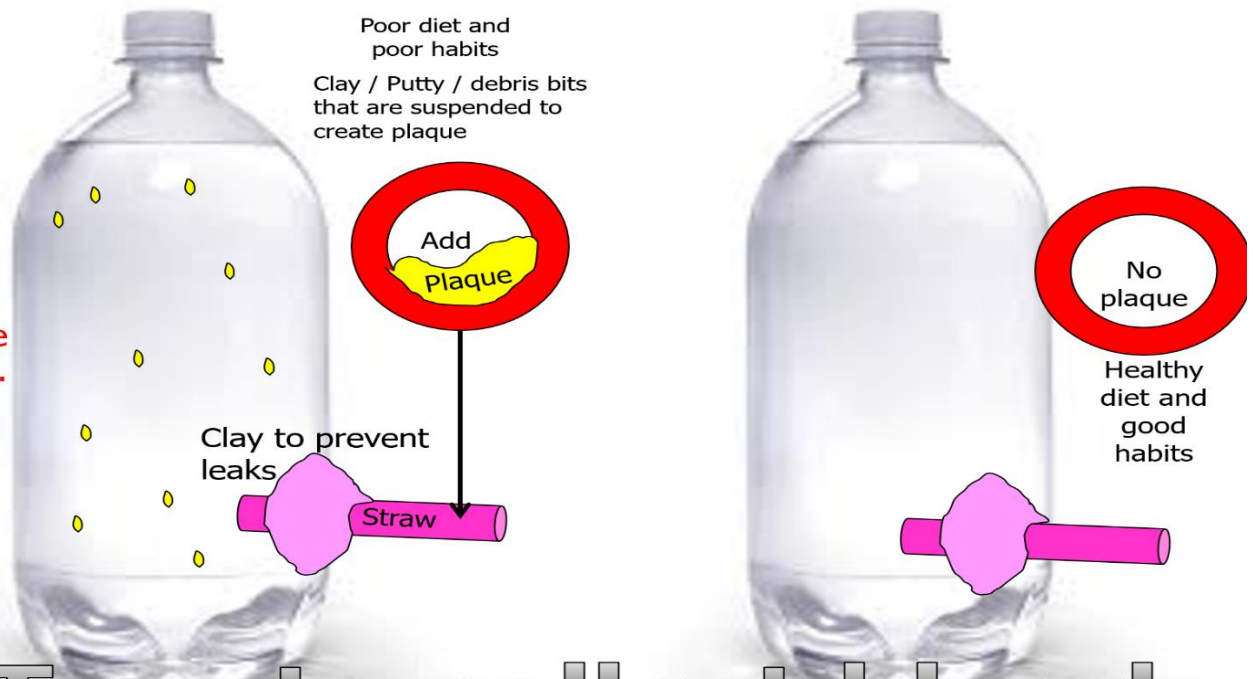
Cell membranes are made of a type of structural lipid.
Chlorophyll, which is important in photosynthesis, is a lipid.

Body fat is a good thing, it provides your body with extra energy.

However, too much body fat can also lead to a number of adverse health effects such heart disease.

Observe the demonstration and describe heart disease in the space beneath.

Fill each with red water (blood) to the same level holding end of straw. Release both at the same time. Observe / record the time it takes for the blood to empty.



Describe Heart Disease in the space below.

Heart disease happens when plaque builds up in the arteries and blood cannot flow through at the normal rate (and maybe even not at all, which leads to heart attacks).

Coronary Artery Disease (CAD) is caused by **plaque** buildup in the walls of the arteries that supply blood to the heart and other parts of the body.

Plaque is made up of deposits of **cholesterol** and other substances in the artery. Plaque buildup causes the inside of the arteries to narrow over time, which can partially or totally **block** the blood flow. This process is called atherosclerosis "Heart Attack".

Sex hormones (steroids), such as **testosterone** and **estrogen** are made of lipids.

Steroids: A naturally occurring complex ringed lipid in the body. They take part in many important body functions.

Anabolic steroids: A group of 100+ **man made** hormones used to stimulate muscle and bone growth.

What are the dangers associated with anabolic steroid use?

- Brain cancer
- Violent behavior
- Depression
- Yellowing of eyes



Part 4 Lesson 4 Types of Lipids / Fats

Types of Fats

Unsaturated fat ☺ (just a bit however)

- Help to **lower** blood cholesterol if used in place of saturated fats.
- Unsaturated fats have a lot of calories, so you still need to limit them. Most, but not all liquid **vegetable** oils are unsaturated.
 - The exceptions include coconut, palm, and palm kernel oils.)
- There are two types of unsaturated fats:
 - **Monounsaturated** fats: Examples include olive and canola oils.
 - **Polyunsaturated** fats: Examples include fish, safflower, sunflower, corn, and soybean oils.

Find the bogus fact about unsaturated fats below.

Unsaturated Fats:

- A.) **Increase blood cholesterol if used in place of saturated fats.**
 B.) Unsaturated fats have a lot of calories, so you still need to limit them. Most, but not all liquid vegetable oils are unsaturated.
 C.) The exceptions include coconut, palm, and palm kernel oils.)
 D.) There are two types of unsaturated fats:
 E.) Monounsaturated fats: Examples include olive and canola oils.
 F.) Polyunsaturated fats: Examples include fish, safflower, sunflower, corn, and soybean oils.

Unsaturated Fats:

- A.) Help to lower blood cholesterol if used in place of saturated fats.
 B.) **Unsaturated fats do not have a lot of calories, so you do not need to limit them. Most, but not all liquid vegetable oils are unsaturated.**
 C.) The exceptions include coconut, palm, and palm kernel oils.)
 D.) There are two types of unsaturated fats:
 E.) Monounsaturated fats: Examples include olive and canola oils.
 F.) Polyunsaturated fats: Examples include fish, safflower, sunflower, corn, and soybean oils.

Saturated Fats ☹

- These are the biggest dietary cause of high LDL levels ("**bad** cholesterol").
- Saturated fat should be limited to 10% of calories.
- Saturated fats are found in animal products such as **butter**, cheese, whole milk, ice cream, cream, and fatty meats.
- They are also found in some vegetable oils -- coconut, palm, and palm kernel oils.
 (Note: Most other vegetable oils contain unsaturated fat and are more healthy.)

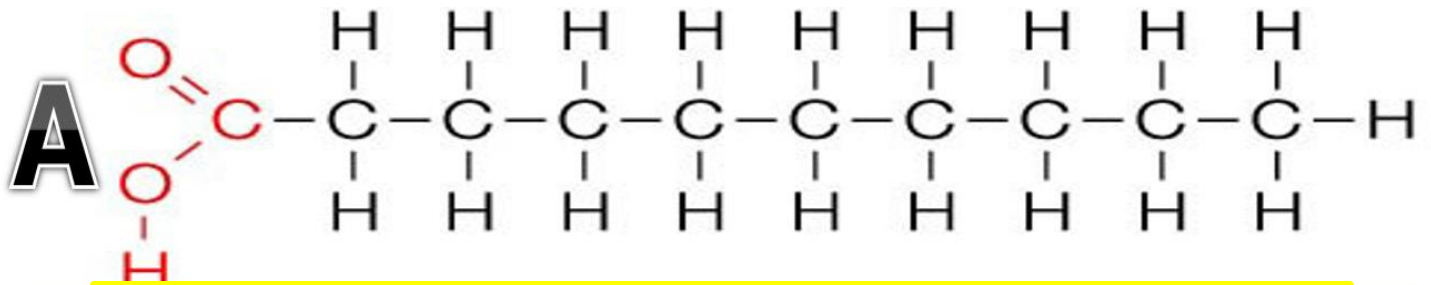
<p>SATURATED FATS and the bogus one is...</p> <p>A.) These are the biggest dietary cause of high LDL levels ("bad cholesterol").</p> <p>B.) Saturated fat should be limited to 90% of calories.</p> <p>C.) Saturated fats are found in animal products such as butter, cheese, whole milk, ice cream, cream, and fatty meats.</p> <p>D.) They are also found in some vegetable oils -- coconut, palm, and palm kernel oils.</p> <p>E.) (Note: Most other vegetable oils contain unsaturated fat and are more healthy.)</p>	<p>SATURATED FATS and the bogus one is...</p> <p>A.) These are the biggest dietary cause of high HDL levels ("good cholesterol").</p> <p>B.) Saturated fat should be limited to 10% of calories.</p> <p>C.) Saturated fats are found in animal products such as butter, cheese, whole milk, ice cream, cream, and fatty meats.</p> <p>D.) They are also found in some vegetable oils -- coconut, palm, and palm kernel oils.</p> <p>E.) (Note: Most other vegetable oils contain unsaturated fat and are more healthy.)</p>
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Trans Fats ☹☹☹☹ (Zero is the recommended daily amount)

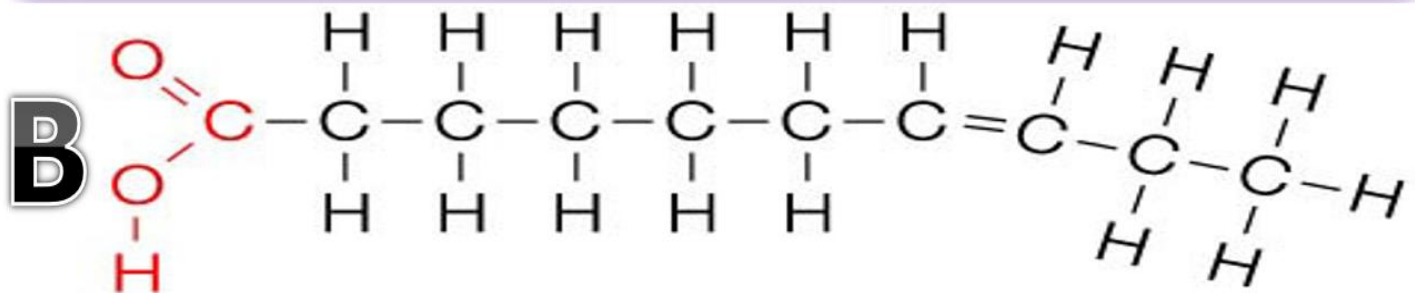
- These fats form when vegetable oil **hardens** (a process called hydrogenation)
- Raises **LDL** levels. They can also lower **HDL** levels ("good cholesterol").
- Trans-fatty acids are found in **fried** foods, commercial baked goods (donuts, cookies, crackers), processed foods, and margarines.

<p>TRANS FATTY ACIDS, Which is bogus below.</p> <p>A.) These fats form when vegetable oil hardens (a process called hydrogenation)</p> <p>B.) Raises HDL levels (Good cholesterol) and lower LDL "bad cholesterol".</p> <p>C.) Trans-fatty acids are found in fried foods, commercial baked goods (donuts, cookies, crackers), processed foods, and margarines.</p>	<p>TRANS FATTY ACIDS, Which is bogus below.</p> <p>A.) These fats form when vegetable oil hardens (a process called hydrogenation)</p> <p>B.) Raises LDL levels. They can also lower HDL levels ("good cholesterol").</p> <p>C.) Trans-fatty acids are found in fish, safflower, sunflower, corn, canola, olive and soybean oils.</p>
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Which is the saturated fat, and which is the unsaturated fat? Explain in the middle.



A is saturated fat because the carbon molecules are all bonded with hydrogen (saturated with hydrogen). B is unsaturated fat because there is a double bond between two of the carbon molecules. You can also see that the fatty acid chain has to bend in order to accommodate the double bond.



Which is one is the healthiest from the choices below based on the nutrition info?

Nutrition Facts			
Serving Size 173 g			
Amount Per Serving			
Calories 161		Calories from Fat 2	
% Daily Value*			
Total Fat	0g		0%
Saturated Fat	0g	A	0%
Trans Fat			
Cholesterol	0mg		0%
Sodium	17mg		1%
Total Carbohydrate	37g		12%
Dietary Fiber	4g		15%
Sugars	2g		
Protein	4g		
Vitamin A	0%	Vitamin C	28%
Calcium	3%	Iron	10%

*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.

NutritionData.com

Nutrition Facts			
Serving Size 1 cup (228g)			
Servings per Container 2			
Amount Per Serving			
Calories 280		Calories from Fat 120	
% Daily Value*			
Total Fat	13g		20%
Saturated Fat	5g		25%
Trans Fat	2g		
Cholesterol	2mg		10%
Sodium	660mg		28%
Total Carbohydrate	31g		10%
Dietary Fiber	3g		0%
Sugars	5g		
Protein	5g		
Vitamin A	4%	-	Vitamin C 2%
Calcium	15%	-	Iron 4%





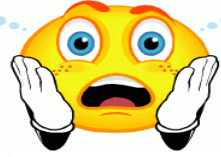

*Percent Daily Values are based on a 2,000-calorie diet. Your daily values may be higher or lower depending on your calorie needs.

	Calories:	2,000	2,500
Total Fat	Less than	65g	80g
Sat Fat	Less than	20g	25g
Cholesterol	Less than	300mg	300mg
Sodium	Less than	2,400mg	2,400mg
Total Carbohydrate		300g	375g
Fiber		25g	30g

Calories per gram:
 Fat 9 Carbohydrate 4 Protein 4

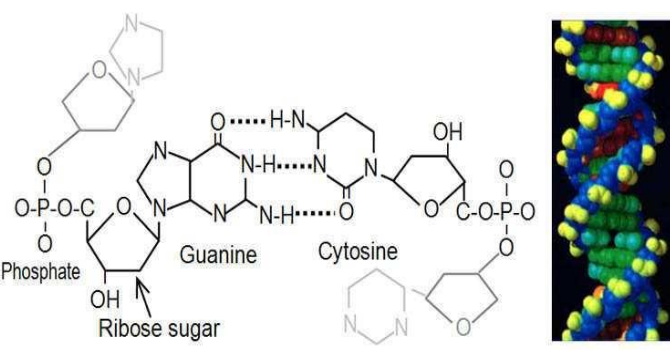
A is a healthier choice because it has less total fat, including less saturated fat, and snack B contains the least healthy kind of fat: trans fat. Snack A also has more dietary fiber, and more Vitamin C and iron, all of which will help your body and its systems.

What are the three types of fats

 <p>Unsaturated Fat</p> <chem>CCCCC=CCCC</chem> 	 <p>Saturated Fat</p> <chem>CCCCCCCC</chem> 	 <p>Trans Fat</p> <chem>CCCC=CCCC</chem> 
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Nucleic Acids – P O N C H (Nucleotide) "DNA"

◇Please record the name of the correct biologically important molecules beneath the picture.

<chem>NC(=O)NC(=O)C</chem> <p>Protein</p>	<chem>C1OC(O)C(O)C(O)C1O</chem> <p>Carbohydrate</p>
 <p>Nucleic Acid</p>	<chem>CCCCCCCC</chem> <p>Lipid</p>

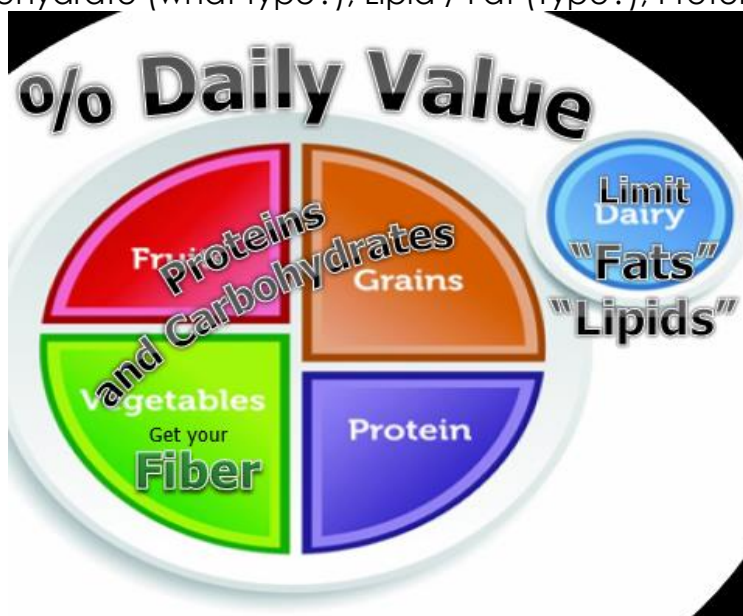
Part 4 Lesson 5 Quiz and Review

Quiz 1-10 Carbohydrate, Protein, Lipid, Nucleic Acid.

Note: Picture may be of an Amino Acid which are the building blocks of Proteins.

1) Protein	2) Carbohydrate (the simple sugar is sugar)	3) Protein
4) Carbohydrate	5) Nucleic Acid	6) Lipid
7) Carbohydrate (complex form)	8) Lipid (Unsaturated)	9) Lipid (Corn oil is unsaturated while margarine is saturated and trans fat).
10) Carbohydrate (complex polysaccharide)	*11) Kevin Bacon	

Create a well-balanced meal in the plate below. It should be balanced. Please label as much as you can about each food item in your meal. Example... Is it a carbohydrate (what type?), Lipid / Fat (Type?), Protein...



Part 4 Lesson 6 Junk Food Twinkie Study

Spend a few minutes making your best drawing of a Twinkie



What did you gain from studying a Twinkie and other junk foods?

Answers will vary, but a good answer might include references to proteins, lipids, nucleic acids, carbohydrates, sugar, fiber, etc.

How will a healthy diet affect your life?

Answers will vary

Are you planning to eat your Twinkie?
Why or why not?

Answers will vary

Part 4 Lesson 7 Fast Food

What is your favorite fast-food restaurant? Why?

Answers will vary

Obesity: A disorder involving excessive body fat that increases the **risk** of health problems.

-Obesity often results from taking in **more** calories than are **burned** by exercise and normal daily activities.

-Obesity occurs when a person's body **mass** index is 30 or greater. The main symptom is excessive body **fat**, which increases the risk of serious health problems.

-The mainstay of treatment is lifestyle changes such as **diet** and **exercise**.

Diabesity: Used to refer to a form of diabetes that typically develops in association with being obese.

Dangers of obesity

- increased risk of heart disease
- high blood pressure
- Type 2 diabetes
- breathing problems
- Increased risk of stroke
- Cancers

Economic Status and Obesity

- You may lack access to safe areas to exercise.
- You may not have been taught healthy ways of cooking.
- You can't afford fresh foods.
- Your parents work so much they don't have time to prepare healthy food so you eat processed food or fast food.
- Close extended family, your social networks influence your weight.
- You're more likely to become obese if you have obese friends or relatives.

Which one is not a reason why economic status has something to do with obesity?

- A.) You may lack access to safe areas to exercise.
- B.) You may not have been taught healthy ways of cooking.
- C.) You can't afford fresh foods.
- D.) Working class parents have plenty of time to prepare healthy meals for the family.
- E.) Close extended family, your social networks influence your weight.
- F.) You're more likely to become obese if you have obese friends or relatives.

Which one is not a reason why economic status has something to do with obesity?

- A.) You may lack access to safe areas to exercise.
- B.) You may not have been taught healthy ways of cooking.
- C.) You can afford and have access to fresh foods.
- D.) Working class parents do not have plenty of time to prepare healthy meals so they often provide processed or fast foods.
- E.) Close extended family, your social networks influence your weight.
- F.) You're more likely to become obese if you have obese friends or relatives.

AILING MAN SUES FAST-FOOD FIRMS

By Michael Y. Park, 2002

A New York City lawyer has filed suit against the four big fast-food corporations, saying their fatty foods are responsible for his client's obesity and related health problems.

Samuel Hirsch filed his lawsuit Wednesday at a New York state court in the Bronx, alleging that McDonald's, Burger King, Wendy's and KFC Corporation are irresponsible and deceptive in the posting of their nutritional information, that they need to offer healthier options on their menus, and that they create a de facto addiction in their consumers, particularly the poor and children.

"You don't need nicotine or an illegal drug to create an addiction, you're creating a craving," Hirsch said. "I think we'll find that the fast-food industry has not been totally up front with the consumers."

The suit does not specify the amount of damages Hirsch and his client are seeking. Industry officials lambasted the legal action.

"It's senseless, baseless and ridiculous," National Restaurant Association spokeswoman Katharine Kim said. "There are choices in restaurants and people can make these choices, and there's a little personal responsibility as well."

KFC spokeswoman Amy Sherwood said her company couldn't comment on the lawsuit because it hadn't yet been served, but dismissed the idea that the fried-chicken chain ought to be held responsible for anyone's health problems.

"Eating sensibly combined with exercise is the best solution for a healthy lifestyle," she said. "KFC offers a variety of menu offerings for those who want a more healthy choice."

Walter Olson, a Manhattan Institute fellow specializing in legal-system issues, called the suit a blatant attempt to cash in on the recent publicity over obesity and the tobacco settlements. He also said it disregarded the idea that people are responsible for their own actions. "Most people are aware if eating double cheeseburgers, it's not the same as celery," he said. "We all have appetites, but people have no trouble walking down the street and buying a different kind of food. They're not somehow forced to keep going back and keep supersizing. Overeating is a bad habit and is one of the pitfalls of human nature."

So far, there's only a single complainant named in the suit, but Hirsch said at least two other clients would be filing soon in what he aims to make into a class-action lawsuit. All were regular fast-food consumers who suffer from ailments ranging from obesity to diabetes.

The lead plaintiff, 56-year-old maintenance supervisor Caesar Barber, ate at fast-food restaurants four or five times a week and blames his fatty diet for his obesity, diabetes, high blood pressure and cholesterol and the two heart attacks he has suffered.

"I trace it all back to the high fat, grease and salt, all back to McDonald's, Wendy's, Burger King, there was no fast food I didn't eat, and I ate it more often than not because I was single, it was quick and I'm not a very good cook," Barber said in an interview with Foxnews.com.

"It was a necessity, and I think it was killing me, my doctor said it was killing me, and I don't want to die."

Frances Winn, a 57-year-old retired nurse, said her habit of eating at fast-food restaurants at least twice a week since 1975, caused her to go from a size 6 to a size 18, and inflicted her with hypertension, high cholesterol and a hyperthyroid problem.

Israel Bradley, 59, said his ritual of eating a pound of French fries a week gave him high blood pressure, diabetes, made him obese and forces him to walk with a cane. In 1993, he passed out and had to be rushed to the emergency room because of the medical problems caused by his diet. "I got addicted to it," he said.

Winn and Bradley would both file New York state suits soon, Hirsch said. The aim of the legal action is to force the fast-food industry to "offer a larger variety to the consumers, including non-meat vegetarian, less grams of fat, and a reduction of size" of their meals, along with federal legislation that would require warning labels on fast food similar to those on tobacco products, Hirsch said.

"Hopefully it will change the eating habits of the American public," he said.

In December, then Surgeon General David Satcher declared obesity America's soon-to-be number one killer, and urged for there to be a healthier range of food available to consumers.

Summarize the article, Who, What, Where, When, Why?

Who: Samuel Hirsch (a New York City lawyer) and his clients Caesar Barber, Frances Winn and Israel Bradley (Winn and Bradley are soon-to-be clients).

What: A lawsuit has been filed against fast food companies to try to get them to offer more options (healthier ones) to consumers.

Where: New York City

When: 2002

Why: Obesity rates and other health problems are rising and people are blaming it on their

What is Samuel Hirsch's claim in this case? That is, what were the negative effects of eating fast food and why are these ailments not his fault?

Negative effects of eating fast food: obesity and other health problems.
Why it's not his fault: Fast food companies are not upfront with the nutritional information about their food, and consuming it leads to an addictive craving.

You're the attorneys for the fast-food firms, what would you say to the court?

Answers will vary, but a good answer may include points like this:
The menus have options for healthier choices, but it's not all up to the fast food chains. People have to take personal responsibility and choose the healthier options, and exercise is another part of healthy living. Fast food restaurants are not forcing people to come back and eat their food on a regular basis, consumers are choosing to do that.

4) You are the judge in this case. What is your ruling? Why?

Answers will vary

5) What should fast food do to promote healthier eating habits in people?

Answers will vary, but a good answer may include points like this:

- Display nutritional info clearly
- Include more fruit and vegetable options in their meals
- Promote exercise
- Follow serving sizes rather than offering large meals (which keep getting larger)

6) Describe your diet, is it healthy or not?

Answers will vary

Why Fast-Food Sells

It's Cheap

It's Fast

It Tastes Good (Saturated Fats) "opinion"

It's Readily Available "everywhere"

Consistency - I know what I'm getting.

Comes with cheap plastic toys

It's a safe place to be.

Heavy media advertising.

Quiz 1-20 Name that person or other...

1) Amelia Earhart	2) Nelson Mandela	3) Mikhail Gorbachev	4) Mother Teresa
5) Samuel Langhorne Clemens (Mark Twain)	6) James Cleveland "Jesse" Owens	7) Stephen Hawking	8) Nikola Tesla
9) Mahatma Gandhi	10) Jackie Robinson	11) Ronald McDonald	12) Wendy's
13) Snap, Crackle, and Pop. Rice Krispies	14) Colonel Sanders	15) Cap'n Crunch	16) Lucky the Leprechaun. Lucky Charms Cereal
17) Tony the Tiger	18) Chester Cheetah	19) Keebler Elf	20) Count Chocula
*21) Chuck E. Cheese	*22) Theodore Roosevelt		

Bonus:

Part 4 Lesson 8 Eating Healthy

Getting control of your weight. What you can do...

- Start a weight-management **program**.
- Change eating **habits** (eat slowly, develop a routine).
- Plan** meals and make better food selections (eat less fatty foods, avoid junk)
- Control **portions** and consume less calories.
- Increase **physical** activity (especially walking) and have a more active lifestyle.
- Know what you eat at **school**.
- Eat meals as a **family** instead of while watching television or at the computer.
- Limit **snacking**.
- Attend a support group / Ask for support from a qualified person

Which sentence from the selection below should not be part of a weight loss plan?

- A.) Start a weight-management program.
- B.) Change eating habits (eat slowly, develop a routine).
- C.) Plan meals and make better food selections (eat less fatty foods, avoid junk and fast foods).
- D.) Skip one meal a day.**
- E.) Increase physical activity (especially walking) and have a more active lifestyle.
- F.) Know what you eat at school.
- G.) Eat meals as a family instead of while watching television or at the computer.
- H.) Limit snacking.
- I.) Attend a support group.

Which sentence from the selection below should not be part of a weight loss plan?

- A.) Start a weight-management program.
- B.) Change eating habits (eat slowly, develop a routine).
- C.) Plan meals and make better food selections (eat less fatty foods, avoid junk and fast foods).
- D.) Increase physical activity (especially walking) and have a more active lifestyle.
- E.) Know what you eat at school.
- F.) Eat meals as a family instead of while watching television or at the computer.
- G.) Snack whenever possible.**
- H.) Attend a support group.

Try and stay healthy

- Use **fats** and **oils** sparingly.
- Use the **Nutrition Facts Label** to help you choose foods lower in fat, saturated fat, and cholesterol.
- Eat plenty of grain products, **vegetables**, and fruits.
- Choose **low**-fat milk products, **lean** meats, fish, poultry, beans, and peas to get essential nutrients without substantially increasing calorie and saturated fat intakes.

Which one from the list below is not a way to try and eat healthy?

- A.) Use fats and oils sparingly.
- B.) Use the Nutrition Facts Label to help you choose foods lower in fat, saturated fat, and cholesterol.
- C.) Eat plenty of grain products, vegetables, and fruits.
- D.) Choose a diet with lots of dairy products, and find a way to increase caloric intake and saturated fat by visiting fast food restaurants.**

Which one from the list below is not a way to try and eat healthy?

- A.) Use fats and oils as often as possible.**
- B.) Use the Nutrition Facts Label to help you choose foods lower in fat, saturated fat, and cholesterol.
- C.) Eat plenty of grain products, vegetables, and fruits.
- D.) Choose a diet with lots of dairy products, and find a way to increase caloric intake and saturated fat by visiting fast food restaurants.

Continuation of ways to eat healthy

Eat a **variety** of foods

Balance the food you eat with **physical** activity.

Choose a diet **low** in fat, saturated fat, and cholesterol

Choose a diet moderate in **sugars** and **salt**.

Choose a diet that provides enough **calcium** and iron to meet their growing body's requirements.

Super Size Me

Please respond to the four questions below during the movie.

What was the purpose of Morgan Spurlock's mission? What did he do before, during, and at the end of this study?

Purpose: To see how a strictly fast-food diet will affect his body and health.

Before, during, and after the experiment, he was evaluated by different doctors (specialists) and a dietician. He also does weigh ins.

What were the rules he had to follow?

- Must fully eat 3 McDonald's meals per day (breakfast, lunch, and dinner)
- Must consume every item on the menu at least once over the 30 days
- Must only food and drinks that are offered on the menu. No outside food is allowed.
- Must Super Size the meal if offered, but can't request it himself.
- (He will attempt to walk about as much as the average US citizen (about 5,000 steps a day))

How did this Fast Food lifestyle change his physical and emotional health?

- He gained weight in a short amount of time
- He experienced depression, lethargy, headaches—he was addicted to the fast food
- Energy loss

Did this movie do anything to help change your views of the Fast Food industry? Do you eat Fast / Junk?

Answers will vary

Part 4 Lesson 9 Factory Farming

Do a key word search: Factory Farming

What are the pro's and con's. Be Careful! Proceed cautiously



- Lower cost of animal products
- More available food for increasing human population on less land
- (\$) Capital: supporters argue that factory farmers do invest in the communities in which they operate. Also employment.



- Animal cruelty and substandard production techniques
- Health risks when consumed (more animal antibiotics required in close quarters)
- Pollution: carbon dioxide and methane emissions (increased climate change)
- Loss of the spiritual ecology behind the nature-human relationship
- Monoculture: factory farming typically devastates the ecosystem in an area by wiping out large tracts of land to produce one crop.

Is this farm below where we get our food? Explain. Color for fun.

No. We typically get our food from factory farms, where efficiency of food production is prioritized over the wellbeing of animals or diversity of crops.

Explanations will vary



Part 4 Lesson 10 Eating Disorders

Anorexia is an eating disorder where people starve themselves.

There are two types of anorexia.

Restricting type: Weight loss is achieved by **restricting** calories (following drastic diets, fasting, and exercising to excess).

Purging type: Weight loss is achieved by **vomiting** or using laxatives and diuretics.

Anorexia has three main features.

A **refusal** to maintain a healthy body weight.

An intense **fear** of gaining weight.

A **distorted** body image.

Bulimia nervosa: Binge eating and then purging (throwing up).

How to be supportive.

Don't try to **solve** the individual's problems. It is ultimately their choice to decide when they are ready.

Don't make **negative** comments about their body.

Seek **advice** from a health professional and bring people together to create a ring of support.

Don't **force** the person to eat. They need compassion and understanding.

Don't make **threats**, scare, and use put downs.

Remember, this issue is not about food but how the individual **feels**.

Which is not a way to be supportive?

A.) Don't try to solve the individuals problems. It is ultimately their choice to decide when they are ready.

B.) Don't make negative comments about their body.

C.) Seek advice from a health professional and bring people together to create a ring of support.

D.) Force the person to eat. They need to eat as many calories as possible.

E.) Don't make threats, scare, and use put downs.

F.) Remember, this issue is not about food but how the individual feels.

Which is not a way to be supportive?

A.) Don't try to solve the individuals problems. It is ultimately their choice to decide when they are ready.

B.) Make comments about how unhealthy the person looks because of their thinness.

C.) Seek advice from a health professional and bring people together to create a ring of support.

D.) Don't force the person to eat. They need compassion and understanding.

E.) Don't make threats, scare, and use put downs.

F.) Remember, this issue is not about food but how the individual feels.

Unit Notes:

Across

2. _____ fiber absorbs water, creates bulkier stools and helps to regulate the stool pattern.
5. Any of a class of organic compounds that are fatty acids or their derivatives and are insoluble in water but soluble in organic solvents. They include many natural oils, waxes, and steroids.
6. Type of Fat. (just a bit however) – Help to lower blood cholesterol if used in place of saturated fats.
10. Type of unsaturated fat: : Examples include olive and canola oils.
12. This is is an eating disorder where people starve themselves.
13. A naturally occurring complex ringed lipid in the body. They take part in many important body functions.
14. Type of unsaturated fat. : Examples include fish, safflower, sunflower, corn, and soybean oils.
16. _____ steroids: A group of 100+ man made hormones used to stimulate muscle and bone growth.
17. _____ Artery Disease (CAD) is caused by plaque buildup in the walls of the arteries that supply blood to the heart and other parts of the body.
19. Used to refer to a form of diabetes that typically develops in association with being obese.
21. These are large, complex molecules. Composed of Amino Acids
22. Simple Sugars that are Broken down quickly. One sugar
24. The storage form of glucose, comes from starch in plants. The branched structure of glycogen allows sugars to be removed easily for energy from many ends.

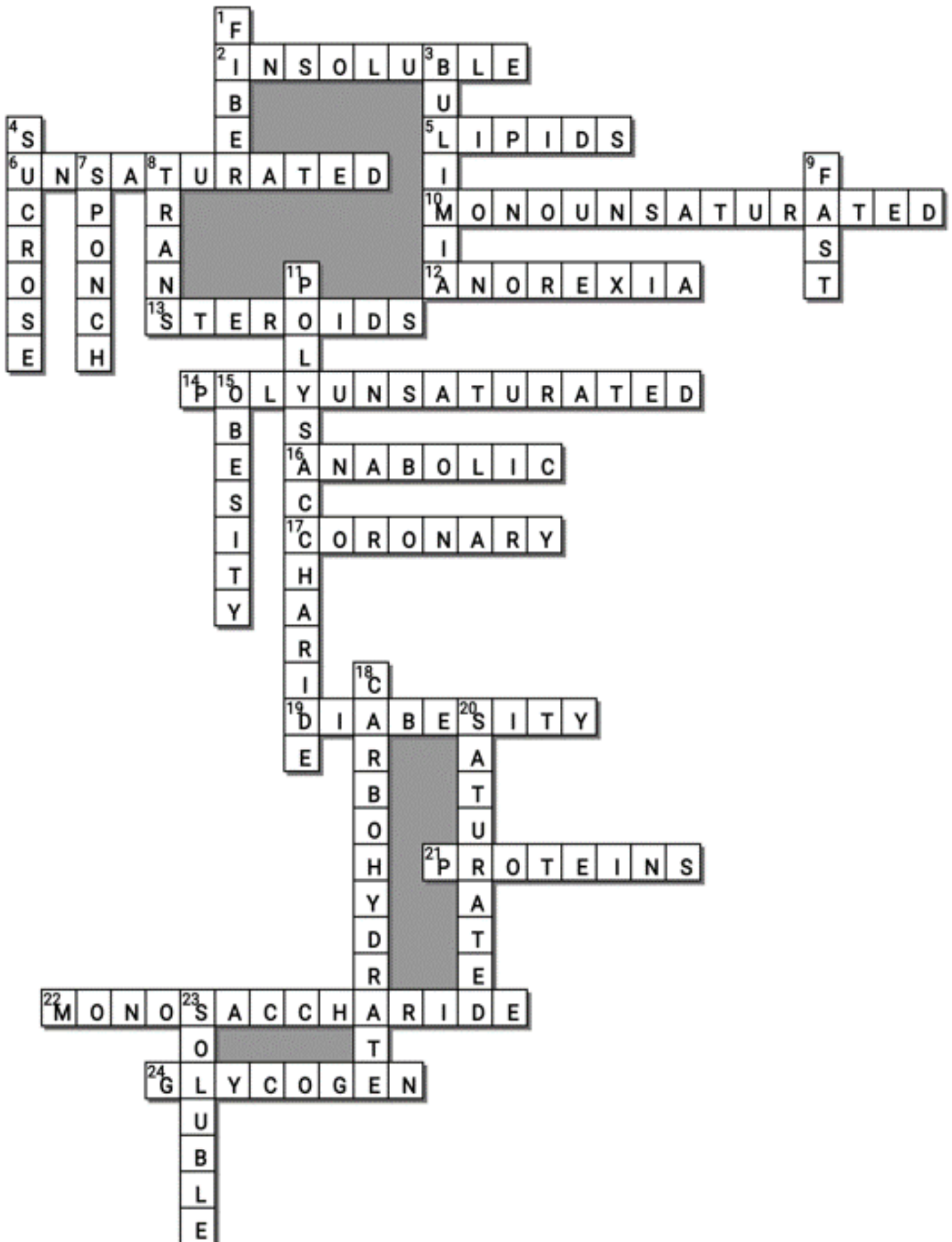
Down

1. A carbohydrate the body cannot digest
3. This is an eating disorder where an individual will binge eat and then purging (throwing up).
4. Glucose + Fructose =
7. These six elements are the most biologically important
8. Type of Fat. (Zero is the recommended daily amount) -These fats form when vegetable oil hardens (a process called hydrogenation)
9. _____-Food: A type of mass-produced food designed for commercial resale and with a strong priority placed on "speed of service" versus other relevant factors involved in culinary science
11. Many sugars linked together. Longer lasting energy
15. A disorder involving excessive body fat that increases the risk of health problems. -Obesity often results from taking in more calories than are burned by exercise and normal daily activities.
18. This is a biomolecule consisting of carbon, hydrogen and oxygen atoms, usually with a hydrogen–oxygen atom ratio of 2:1 and thus with the empirical formula
20. Type of Fat. These are the biggest dietary cause of high LDL levels ("bad cholesterol").
23. _____ fiber: Absorbs water and becomes gelatinous and sticky. The down side for soluble fiber is that harmless gas forming bacteria in the colon

-----Teacher can remove this word bank to make puzzle more challenging-----

Possible Answers

ANABOLIC, ANOREXIA, BULIMIA, CARBOHYDRATE, CORONARY, DIABESITY, FAST, FIBER, GLYCOGEN, INSOLUBLE, LIPIDS, MONOSACCHARIDE, MONOUNSATURATED, OBESITY, POLYSACCHARIDE, POLYUNSATURATED, PROTEINS, SPONCH, SATURATED, SOLUBLE , STEROIDS, SUCROSE, TRANS, UNSATURATED



Part Review Game

Name: _____

1-20 = 5 pts **Part 4 Lesson 11**

*20-*25 * = Bonus + 1 pt,

(Secretly write owl in correct space +1 pt)

Score ____ / 100

Final Question = 5 pt wager

TIME TO SPONCH	NAME THAT MOLECULE	HEALTHY EATING	HEALTHY LIVING	JUNK FOOD Bonus round 1 pt each
1) O= 65% C= 18.5% H= 9.5%	6) Glycogen	11) A is the healthiest	16) Calorie	*21) Willy Wonka and the Oompa Loompas
2) 1:2:1 Carbon, hydrogen, oxygen	7) Fiber (insoluble)	12) H is the most unhealthy	17) G-All of the above	*22) Beast Burger
3) Calcium (Ca) Iron (Fe) (other possible answers: sulfur, sodium, magnesium, copper, zinc, lead, chlorine, iodine, etc—see slide)	8) Protein	13) High fructose corn syrup	18) Anorexia	*23) Bugels
4) A= Lipid (fat) B= Protein C= Carbohydrate	9) Coronary Heart Disease (CHD) aka—heart attack	14) MSG	19) Bulimia Nervosa	*24) Little Debbie
5) A= Disaccharide. Ex) sucrose, maltose, lactose B= Monosaccharide. Ex) glucose, fructose C= Polysaccharide. Ex) starch, fiber, glycogen, cellulose, chitin	10) A= Saturated fats B= Trans fats C= Unsaturated fats	15) Additives or preservatives	20) Anabolic steroids	*25) Devil Dogs

Final Question Wager ____/5 Answer:

G, Only choose items from the dollar menu at fast food restaurants

