

ALPHABET KITCHEN
PENNSYLVANIA ACADEMIC STANDARDS

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Recipe

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A- Ants on a Log

Pennsylvania Academic Standards for Science and Technology:
3.1.4.E

Long ago, people would go hungry when they ran out of fresh food. Today, we have the ability to keep food fresh for a long time and we can eat what we want throughout the year. How can we keep food fresh for so long? Through PRESERVATION, the molds, bacteria and enzymes that make food spoil have been destroyed or slowed down. The process of preservation changes the color, texture, taste or nutritional value of food. There are many ways to preserve food: drying, salting, smoking, pickling, canning, refrigerating and freezing. You probably already know that raisins are dried grapes. But, do you know HOW and WHY the drying process works?

You will need:

- A bunch of green seedless grapes
- 1 drying tray (spread cheese cloth over kitchen drying rack)
- A pot of boiling water
- A strainer

What to do:

Wash the grapes in cold water and remove those that are bruised. Pull out the stems and place the cleaned grapes in the strainer. Dip them into a pot of boiling water so that the skins break.

Spread the grapes on the drying tray so that they don't touch. There are two methods that you can use.

1. For 4 or 5 days, place the trays by a sunny window, turning them every hour so that the fruit dries evenly.
2. Or place the trays on the middle rack of a preheated oven (140 degrees) and let them remain overnight.

When you think they may be dry, remove one or two. Let them cool, and test them for moisture. If they still have water in them, let the fruit dry for another hour or so. Then test. If the grape is pliable and chewy, remove the rest from the drying tray. You have raisins!

How and why is the grape now preserved? When you dry out the grapes, you are taking away the moisture that fungi need to grow. If fungi are allowed to grow the grape will rot. As long as the dried fruit can't take in moisture from the air, it will stay edible for many months!

Information adapted from: *Simple Kitchen Experiments* by Muriel Mandell, copyright date 1993, by Sterling Publishing Company Inc.

B- Banana Caterpillar

Pennsylvania Academic Standards for Geography:7.1.3.A and B

Have you ever wondered where your food comes from? The correct answer is NOT “the grocery store”. Before it arrives at the supermarket, some of the food you eat has traveled across the world. The next time you are in the produce department, take a look at the sticker on a bunch of bananas. See if you can answer the following questions: Does the sticker tell you the name of the country where the bananas were grown? Are there different varieties (kinds) of bananas for sale? Are different bananas grown in different countries? Back at home; see if you can find the countries on a world map or globe. Draw a line with your finger on the map from the banana’s country to your state in the United States of America. By the location of the country, can you guess what type of climate (weather) the bananas were grown in? How long do you think it took the bananas to travel to your supermarket? Good luck, and remember, the next time you have a banana, you’ve just enjoyed a snack with a world traveler!

C- Cucumber Canoes

Pennsylvania Academic Standards: Science 3.4.7.D

Unfortunately, you wouldn't make it very far if you tried to ride a cucumber canoe down the river. However, a ride in a real canoe can be great fun. Have you ever wondered why canoes float? Here is a little experiment that you can do with materials you probably already have in your kitchen. You will be looking at both density and buoyancy. Density is the weight of an object compared to its volume or how compact an object is. Buoyancy is the upward force on an object in a fluid. Follow the instructions for the experiment and then see if you can answer the question: Why do canoes float?

Materials:

- 1 fresh egg
- 2 tall clear drinking glasses
- Water
- Salt, up to 1 cup
- A spoon

Experiment:

1. Fill one glass with water. Place the egg in the water and observe what happens. Does the egg float or sink?
2. Now place at least one inch of salt in the other glass and fill it with water. Stir in the salt so it dissolves. Place the same egg in the glass of salt water and observe what happens. Does the egg float or sink?

What happened? Density determines what will float and what will sink. More dense substances sink in less dense liquids. A fresh egg is a little denser than plain water so it sinks. When salt is added to water, particles of salt move in between water particles, making the salt water denser. The salt water is a little denser than the egg, so in salt water, the egg floats.

So, you still may be wondering why density differences determine what floats or what sinks? This is where the buoyant force comes in! A force is a push or pull. Water will exert an upward force on objects (like the egg or your canoe) that are put into it because water pressure increases with depth. **The Archimedes' Principle** says that the strength of the buoyant force is equal to the weight of the water that was moved out of the way by the object. Boats are shaped to displace a lot of water in order to have enough buoyant force exerted on them by the water to float. The canoe you ride in has enough buoyant force to stay afloat because of its shape. Think about the gigantic cruise ships in the ocean—now that's a lot of buoyancy!

The next time you are crunching away on a Cucumber Canoe and the question of how a boat floats comes up; you can quote the Archimedes' Principle and really impress your friends. You just might teach them something too!

*Experiment and information was adapted from: **Flash!, Bang! Pop! Fizz! Exciting Science for Curious Minds** by Janet Parks Chahrouh, copy right 2000 by Barron's Educational Series, Inc.

D-Dino Dessert

Pennsylvania Academic Standard: Science 3.3.4 D

The Dino Dessert may be a real treat for us, but if the dinosaurs were alive today, some of them wouldn't find it so appealing. In fact, some dinosaurs would much rather eat you! See if you can match the description of a type of dinosaur with the diet it ate.

- | | |
|-----------------|-----------------------------------|
| ___ Carnivorous | A. feeding on plants and animals |
| ___ Herbivorous | B. any flesh (meat) eating animal |
| ___ Omnivorous | C. feeding on plants |

Can you name both an extinct and a living animal that fits into each category?

Answers:

- B- Carnivorous
- C- Herbivorous
- A- Omnivorous

An interesting Dinosaur fact: Stones called *gastroliths* have been discovered alongside dinosaur fossils. The dinosaurs actually swallowed the stones to help them grind the food in their stomachs. The stones eventually became worn smooth after years of tumbling around inside the dinosaur's stomach, grinding up tough leaves and twigs. Can you name any animals alive today that swallow stones to help digest their food?

E- Edible Spiders

Pennsylvania Academic Standards: Reading, Writing, Speaking and Listening 1.4.3.A

You may or may not like real spiders, but chances are you probably have read about them. Stories about spiders both real and pretend can be found everywhere. When you were younger do you remember saying the poem “Little Miss Muffet” or singing about the “Itsy Bitsy Spider”? Maybe you read the *Miss Spider* children’s books or the classic *Charlotte’s Web* by E.B.White. Now it is your chance to make a contribution to all of the pieces written about spiders. Simply follow the steps below and create a spider poem of your very own.

1. Think about spiders. What do they look like? Describe their shape. Where do spiders live? What do spiders do? Use your imagination and think about what spiders would say if they could talk. Write these ideas down on paper.
2. After you have written down your ideas. Go back over your list; pick one or two ideas that you like the best. Put a check mark by your favorite ideas.
3. Using the ideas that you checked, write the ideas into a short poem.
4. Now look carefully at what you have written. Did you tell what spiders are like? Did you divide your poem into lines so that it looks like a poem? Make the changes you would like to your poem. Then copy it on a fresh sheet of paper.

Now that your poem is finished, whip up some Edible Spiders, invite some friends over and have a poetry reading.

Poetry checklist was adapted from: **Writing in Action**, by Kim Mason, copyright 1997, published by Loyola Press.

F-Fish Food

Pennsylvania Academic Standards: Mathematics 2.3.3 A

Did you know that ingredients can be measured in three different ways? You can measure by weight, by volume or by counting. Looking at the recipe for Fish Food, name the ingredient you measured by volume? Name the ingredients you measured by weight? Did you measure anything by counting?

While cooking you will often use the different forms of measurement. Because you may not always have the exact measuring tool required in a recipe, it is helpful to know that certain units of measure have **equivalents** (or different ways of measuring the same amount). Now get out some water, measuring spoons, measuring cups and even a stick of butter to see how well you know these common kitchen equivalents:

- A. 1 tablespoon = _____ teaspoons
- B. 1 cup = _____ tablespoons
- C. 1 cup = _____ fluid ounces
- D. 1 quart = _____ pints
- E. 1 quart = _____ cups
- F. 1 quart = _____ fluid ounces
- G. 1 gallon = _____ quarts
- H. 1 stick of butter = _____ cup
- I. 1 stick of butter = _____ tablespoons

Answers:

- A. 3 teaspoons
- B. 16 tablespoons
- C. 8 fluid ounces
- D. 2 pints
- E. 4 cups
- F. 32 fluid ounces
- G. 4 quarts
- H. $\frac{1}{2}$ cup
- I. 8 tablespoons

G- Graham Cracker Stoplight

Pennsylvania Academic Standards: Health, Safety and Physical Education:10.5.3.A

Graham Cracker Stoplights are fun to make and eat, but real stoplights are there to protect you. Did you know that when you are riding your bike you are expected to obey traffic laws just like motor vehicles? See if you can correctly answer the following questions in the bike safety quiz. Good luck and stay safe!

1. You are approaching a busy intersection. What should you do?
 - A. Speed up to keep up with the traffic.
 - B. Slowly ride across the intersection when the traffic light facing you turns green.
 - C. Get off your bike and walk it across the intersection with the green light.

2. If you do have to ride on the street, you must always ride on the
 - A. left side
 - B. right side
 - C. middlebecause it is the law, and drivers will see you better.

3. When biking with friends, always ride
 - A. in a single file.
 - B. side by side.
 - C. in a large group across the road.

4. What is the best protection against head injuries if you have a crash while riding your bicycle?
 - A. your football helmet
 - B. an approved bicycle helmet
 - C. knee and shoulder pads

5. When crossing a street make sure you stop, look left, look right, and look_____ again before you cross the street.

6. True or False? You should always use hand signals when making turns.

Answers:

1. C
2. B
3. A
4. B
5. left
6. True

H-Ham and Cheese Muffin/Bagel

Pennsylvania Academic Standards: Science:3.8.7.A and 3.3.7 A

While you are eating your ham and cheese muffin, look around the kitchen at all of the machines your family uses daily. Make a list of the machines you see. Your list might included these items: microwave, refrigerator, oven, stove, coffee maker, toaster, blender, food processor, can opener, etc. Machines make our lives easier and give us time to do other things. Hundreds of years ago, most of the day was spent doing household chores. People had to carry water from a well into the house, gather wood to cook over an open fire and clean the house and clothes by hand. To better appreciate the way machines make our lives easier try the following activities with your family and friends:

Activity #1

Ham and Cheese Muffin 150 Years Ago

Using the recipe for the Ham and Cheese Muffin write down the directions as if you were making the muffin 150 years ago. Remember you cannot rely on modern machines because they have not been invented yet. Your directions might look like this:

Directions

1. Gather the wheat from the field and mill it into flour.
2. Make whole grain bread dough, let the dough rise.
3. Gather wood and start a fire for cooking.
4. Bake the whole grain bread

To get the ham, you must either slaughter a pig or use meat that has been preserved with salt (no refrigeration). The cheese (low fat was not an option) would have to be aged from milk that you gathered from your cow or goat.

Questions to answer:

The modern recipe for Ham and Cheese Muffins takes approximately 3 minutes or less to prepare. One hundred and fifty years ago, how long do you think the recipe would have taken?

Which modern machine would you miss the most if you had to prepare the recipe following the new directions that you wrote?

Activity #2

HOW DOES A MICROWAVE WORK?

Your family probably uses a microwave every day, but did you ever stop to think about how it works? Try to answer the following questions about the microwave oven. Use the Internet as a resource to help you find the answers if you have trouble completing the questions.

1. The microwave oven uses powerful _____ waves to cook food.
A. nuclear, B. radio, C. light, D. ocean.
2. The microwaves used in cooking are very _____ in length.
A. short, B. long, C. wiggly.
3. True or False? Microwave ovens are quicker than traditional ovens because the waves heat the inside as well as the outside of food.
4. True or False? Microwaves actually cause the water molecules in food to vibrate quickly. When molecules of any substance vibrate quickly, the substance heats up.

Answers:

1. B
2. A
3. True
4. True

Information adapted from: *How Things Work* By Alison Porter, copyright date 2003, published by Barnes and Nobel, Inc.

I-Ice Cream in a Bag

Pennsylvania Academic Standards: Science and Technology 3.4.7 A

Did you know that delicious bowl of ice cream you just made is a rather complex scientific experiment? Making ice cream involves changing the state of the cream mixture from a liquid to a solid. There are three states of matter we see on Earth: solid, liquid, and gas. A gas that loses enough heat turns into a liquid. A liquid that loses enough heat freezes into a solid. See if you can answer the following question using the Internet or your science textbook.

Facts:

- ***Freezing point** is the temperature at which freezing of a substance occurs.
- *The freezing point of the cream mixture is 14 degrees F
- *The freezing point of water (ice) is 32 degrees F

Question:

How does adding rock salt change the freezing point of ice?

Answer:

Adding the salt to the ice does three things:

1. It lowers the freezing point of the water to approximately 1 degree F.
2. It melts some of the ice in the bag.
3. It lowers the temperature of the salt/ice/water mixture.

Since melting requires energy, heat gets stolen from the salt/ice/water mixture, making it colder than it was without the salt. If the mixture gets down to 10 degrees F, the ice cream chills down past its own freezing point (14 degrees F) and turns into a solid ice cream.

Information adapted from: ***Flash! Bang! Pop! Fizz! Exciting Science for Curious Minds*** by Janet Parks Charhrou, copyright 2000, published by Barron's Educational Series, Inc.

J-Jack Rabbit Salad

Pennsylvania Academic Standards: Science 3.3.4 A

After eating a tasty Jack Rabbit Salad, ask yourself this question: “How much do I know about vegetables?” Botanists divide vegetables into EIGHT categories. Before checking out the list, see if you can name some of the categories.

The categories are: leaf, stem, root, tuber, flower and bud, seed and seedpod, fruit-vegetable, and fungi. See if you can identify the following vegetables according to the part of the plant we eat.

- A. ROOT
- B. TUBER
- C. STEM
- D. LEAF
- E. FLOWER and BUD
- F. SEED and SEEDPOD
- G. FRUIT-VEGETABLE
- H. FUNGI

1. Asparagus _____
2. Beets _____
3. Broccoli _____
4. Brussels Sprouts _____
5. Carrots _____
6. Cauliflower _____
7. Cabbage _____
8. Celery _____
9. Corn _____
10. Cucumber _____
11. Eggplant _____
12. Kale _____
13. Leek _____
14. Lettuce _____
15. Morels _____
16. Mushrooms _____
17. Okra _____
18. Onion _____
19. Parsnip _____
20. Peas _____
21. Pepper _____
22. Potato _____
23. Pumpkin _____
24. Radish _____
25. Spinach _____

26. Squash _____
27. Sweet potato _____
28. Tomato _____
29. Turnip _____
30. Water chestnut _____
31. Yam _____

Answers:

1. c
2. a
3. e
4. d
5. a
6. e
7. d
8. c
9. f
10. g
11. g
12. d
13. c
14. d
15. h
16. h
17. g
18. c
19. a
20. f
21. g
22. b
23. g
24. a
25. d
26. g
27. b
28. g
29. a
30. b
31. b

*The vegetable quiz was adapted from: *Simple Kitchen Experiments*, by Muriel Mandell, copyright date 1993, published by Sterling Publishing Company, Inc.

K-Kids Kabobs

Pennsylvania Academic Standards: Health, Safety and Physical Education 10.1.3 C

Have you ever heard the saying “Strive for Five” or “Five a Day the Colorful Way”? Why do you think it is important to eat a colorful variety of fruits and vegetables? Because colorful fruits and vegetables provide your body with the wide range of vitamins, minerals, fiber and phytochemicals needed to keep you healthy. Did you know it is recommended that you eat at least **FIVE** servings of vegetables and fruit every day? Did you also know that there are **five** color categories that most fruits and vegetables can be placed into? See if you can guess the **five** color categories and then try to name **five** fruits or vegetables that belong in each group. After all of that there is one last thing to do, give yourself a big high five!

FRUIT AND VEGETABLE COLOR CATEGORIES:

Here are the categories with a few examples of each group:

Blue/Purple

Blackberries
Blueberries
Eggplant
Purple Cabbage
Plums
Raisins

Green

Green Apples
Green Grapes
Kiwifruit
Limes
Artichokes
Broccoli
Green Beans
Peas
Zucchini

White

Bananas
White Peaches
Brown Pears
Cauliflower
Mushrooms

White Corn
Potatoes

Yellow/Orange

Cantaloupe
Grapefruit
Lemons
Mangoes
Nectarines
Oranges
Butternut Squash
Carrots
Pumpkin
Sweet Corn

Red

Red Apples
Cherries
Red Grapes
Strawberries
Watermelon
Beets
Red Peppers
Radishes
Tomatoes

L-Lettuce Boats

Pennsylvania Academic Standards: Science and Technology 3.3.4 A

If you enjoy eating a salad, you may enjoy growing a salad. It is simple, fun and nutritious. Just follow the steps below and in a few days, you will have grown your own lunch!

Growing your own Cress

What you will need:

- A packet of Cress seeds
- Paper towels
- Plate
- Water

1. Place several layers of paper towel on the plate and sprinkle with water until damp. Scatter seeds on top. Place on a sunny windowsill.
2. Keep seeds and paper damp and watch the cress grow. When grown, cut with scissors and eat.

Questions to think about:

What would happen if the paper towels dried out?

What would happen if you moved the plate away from the sunny windowsill?

How does the taste of salad cress compare to Iceberg or Romaine lettuce leaves?

M-Monkey Milkshake

Pennsylvania Academic Standards: Mathematics 2.2.5 C

Here is the problem: You have invited your two best friends to your house after school. You want to make Monkey Milkshakes but the recipe only serves two. How can you increase the recipe to make three servings? See if you can figure out the correct amount for each ingredient.

Monkey Milkshakes 2 Servings

1 cup milk
¼ cup peanut butter
1 ripe banana
2 teaspoons sugar
4 ice cubes

Monkey Milkshakes 3 Servings

_____ cups of milk
_____ cup of peanut butter
_____ ripe bananas
_____ teaspoons sugar
_____ ice cubes

Answers:

1½ cups of milk
¾ cup of peanut butter
1½ ripe bananas
3 teaspoons sugar
6 ice cubes

N-Nature Mix

Pennsylvania Academic Standards: Health, Safety, and Physical Education 10.3.3 A

Can you think of a better way to enjoy a beautiful day than hiking outdoors? If you have never tried hiking before, now is your chance. You already have a great recipe for a mid-hike snack. But there is a little more preparation needed before you take off on a hiking trail. See if you can answer the following questions to prepare yourself for a hike.

1. True or False? It is perfectly safe to hike alone.
2. The average person requires _____quarts of water per day.
3. True or False? It is safe to drink water found in nature if it looks clear.
4. True or False? It is helpful to eat a high carbohydrate snack while hiking to maintain your energy.
5. A backpack should not exceed _____pounds for a day hike.
6. True or False? Construction and hiking boots offer the same protection and comfort.

Answers:

1. False. Never hike alone and always tell someone where and when you are hiking.
2. The average person requires 3 to 4 quarts of water per day. Make sure you pack enough for your hike.
3. False. Water found in nature should always be treated before drinking.
4. True. Pack along a big bag of Nature Mix
5. A backpack should not exceed 10 pounds for a day hike.
6. False. Hiking boots that are well broken in, absorbent socks, and some foot powder is ideal for hiking. Construction boots are too heavy and not designed for walking on uneven ground.

If you are unsure where to go you might want to check out this web site:

www.TrailSource.com

So what are you waiting for? Make some Nature Mix, break in those hiking boots and invite a friend to go hiking!

O-Orange Banana Sunrise

Pennsylvania Academic Standards: Geography 7.2.3 A

Many of the ingredients used in the Orange Banana Sunrise are grown and produced in the United States. Using the Internet, can you research and find the state that produces the most Orange Juice, Cranberry Juice and Honey? Once you've identified the states, research the physical characteristics (desert, plains, mountains) and the climate (dry, wet, hot, cold). How does the state's physical characteristics and climate affect the production of oranges, cranberries and honey? What other types of vegetation are grown and produced in the state?

P-Peachy Pooch

Pennsylvania Academic Standards: Reading, Writing, Speaking and Listening:

1.4.3.A

Just reading the name of the recipe “Peachy Pooch” can bring a smile to your face. Words have the ability to affect how we feel. Poetry is one way that writers can share their feelings through the poems they write. Using poetry can be a fun way to express your feelings too. Haiku is a kind of poem that people all over the world like to write and enjoy. Haiku poems are very short- only three lines long- and they give the writer something to think about. The Japanese began haiku as a way to write about nature. You can write your own haiku by following the easy steps listed below.

1. Think about something in nature that you would like to write about. It could be a dog, a flower, a squirrel, a dolphin or the sky.
2. A haiku poem only has three lines. The first line must have five syllables, the second line seven, and the third line five. This pattern is called a “5-7-5” syllable count.
3. Write your poem using the “5-7-5” syllable count.
4. Share your haiku poem with your family, friends and teachers. Challenge them to write their own haiku poems to share with you!

*Haiku description adapted from: *Writing in Action* by Kim Mason, published by Loyola Press, copy write 1997.

Q- Quick Purple Cow

Pennsylvania Academic Standards: Health, Safety, and Physical Education 10.1.3 B

Just reading the recipe for a Quick Purple Cow can make you feel thirsty. Have you ever wondered how your body knows when you need a drink? See if you can answer the questions in the following quiz. But before you begin, mix up a frosty Purple Cow, take a big drink and read on.

Thirsty Quiz: True or False?

1. You should drink six 8 oz. glasses of water each day.
2. You can survive longer without food than without water.
3. Your body is $\frac{1}{2}$ water.
4. Water is necessary to keep your blood flowing.
5. When you drink, water passes through the wall of the stomach into the blood.
6. When your blood is concentrated, it is very watery.
7. You lose water from your body by breathing, crying, sweating and going to the bathroom.
8. You replace water in your body by drinking and eating.
9. Fruits and vegetables contain very little amounts of water.
10. If there is not enough water in your blood, your brain sends the signal to your body that it is time to get a drink.

Answers:

1. True
2. True
3. False, your body is actually $\frac{2}{3}$ water.
4. True
5. False, water passes through the walls of the intestines.
6. False, when your blood is concentrated it is thick and you will feel thirsty.
7. True
8. True
9. False, fruits and vegetables contain large amounts of water.
10. True

Information was adapted from: *Munch! Crunch! Lunch! What's for Lunch?* By Janice Lobb, copyright date 2000, published by Snapdragon Publishing Ltd.

R-Red Apple Smiles

Pennsylvania Academic Standards: Science and Technology

3.4.4A

What happens to sliced apples if you don't eat them right away? – They turn brown and yucky! Have you ever wondered why this happens? Try the following experiment to see if you can prevent fruit from going brown.

You will need:

1 banana
Cutting board
Knife
2 small bowls
¼ cup orange juice

Procedure:

1. Using the knife carefully slice the banana on the cutting board.
2. Place half of the slices in one bowl and half of the slices in the other bowl.
3. Drizzle the orange juice over the bananas in one bowl.
4. Let the bananas stand for 15 minutes.
5. Which fruit turned brown?

What happened?

When fruit is sliced, oxygen in the air reacts with chemicals in the fruit to make it turn brown. The process is called oxidation. The banana without the orange juice turned brown but the banana with the orange juice did not. Vitamin C, and antioxidant present in orange juice, prevented the oxidation process from taking place.

Experiment adapted from: ***The Science Chef*** By Joan D'Amico and Karen Eich Drummond, copyright date 1995, published by John Wiley & Sons, Inc.

S-Sunshine Salad

Pennsylvania Academic Standards: Health, Safety, and Physical Education 10.2.3B

Before you recycle the yogurt container from your Sunshine Salad, take a moment and look at the Nutrition Facts on the food label. Have you ever stopped to read all of the information given on your food? If you haven't, give it a try and here are a few tips on reading the food label.

Categories on a Food Label:

Nutrition Facts- This section tells you the serving size and how many servings are in the package. If the servings per container were 1, you would have to eat all of the food in the package to get the amounts of the nutrients listed.

Amount per servings-This section tells you the number of calories in the serving and the number of calories from fat.

% Daily Value- The % Daily Value column tells you how much of the daily recommended amount of a nutrient this food contributed to a 2,000 calorie diet. Your daily values may be higher or lower depending on how many calories you need.

Total Fat, Cholesterol, Sodium, Total Carbohydrate, Protein, Vitamins and Minerals - The nutrients listed are those most important to the health of the average American. You should try to eat 100% or your carbohydrate, fiber, vitamin and mineral values in one day, over several meals.

Information adapted from: ***The Science Chef*** by Joan D'Amico and Karen Eich Drummond, copyright 1995, published by John Wiley & Sons, Inc.

T-Turkey Twirl

Pennsylvania Academic Standards: Health, Science, and Physical Education:
10.1.3 B

Have you ever noticed what happens to your stomach after a long morning of schoolwork, sports or playing? – Around lunchtime, your stomach starts to rumble!

How does your body know it is hungry? The brain needs a sugar called **glucose** to give it energy. The glucose is carried in your blood from your stomach to your brain. If the brain's supply of glucose is running low, you may feel tired, or even get a headache. When the brain senses that the stomach is empty it tightens up the stomach muscles. This shakes the liquid in your stomach and makes a rumbling sound. It can sometimes be embarrassing, but a rumbling stomach is just your body's way of telling you it is time to eat!

Try this experiment for a few days, to see which foods keep you from getting hungry.

1. Try keeping a diary of what you have eaten for two or three days. Make a note of every time you feel hungry, and then think about how long it has been since you last had something to eat or drink.
2. Look carefully at what you eat and drink. Does it contain glucose or starch? How soon do you feel full? How long before you feel hungry again?
3. Look at your results. You should find that a square meal containing a balance of Carbohydrates, proteins, and vitamins keep you going. Fatty foods also give your body energy, but they are not good for keeping the brain alert.

Experiment and information adapted from: ***Munch! Crunch! What's for Lunch!*** By Janice Lobb, copy right date 2000, published by Snapdragon Publishing Ltd.

U-United States Toast

Pennsylvania Academic Standards: History 8.3.3 A

While enjoying your edible version of “Old Glory”, have you ever stopped to think about the history behind the United States Flag? Using the Internet or your history textbook try to find the answers to the following questions. Once you start learning more about the flag, you may enjoy learning about the individual state flags also. Feel free to add questions and be sure to share your findings with your teachers, family and friends.

Questions to think about?

What do the stars and stripes represent on the United States Flag?

How many stars and stripes appeared on the first flag?

How many different versions of the United States Flag have there been?

Name the famous American credited for sewing the first United States Flag.

When was the first Flag Day?

Why do we celebrate Flag Day?

Are there special rules about folding a flag and disposing of old flags?

V-Vanilla Cream Smoothie

Pennsylvania Academic Standards: Health, Safety, and Physical Education 10.1.6 E

Calcium is a major component in the minerals that make up two thirds of the weight of your bones. Without calcium you cannot build strong bones that provide the support your body needs. Nor can you grow the teeth that allow you to bite and chew food. Doctors recommend that pre-teenage and teenage people consume 1,200 to 1,500 mg of calcium each day. Using the information provided, see if you can determine how many servings of each item you would need to meet your daily calcium requirement:

You will need:

Pencil
Notebook
Calculator
Food Source Table

FOOD SOURCE TABLE

<u>Dairy</u>	<u>Calcium (mg)</u>
1 cup of skim milk	350
1 cup of low-fat yogurt	372
1 ounce of cheddar cheese	200
½ cup of low-fat cottage cheese	70
<u>Non-Dairy</u>	<u>Calcium (mg)</u>
1 cup of cooked broccoli	90
1 cup fortified orange juice	300
1 cup of white beans	130
3 ounces of sardines (bones in)	350
3 ounces of canned salmon (bones in)	200

Now make a menu that includes a variety of foods and also reaches your daily calcium requirement.

Information and activity adapted from: **Health Science Projects about Nutrition** by Robert Gardner, copyright date 2002, published by Enslow Publishers, Inc.

W-Wild Swam Salad

Pennsylvania Academic Standards: Health, Safety, and Physical Education 10.1.3.B

Did you know that our senses tell us about the food we eat? Several hundred tiny bumps called taste buds, on the surface and sides of the tongue help us taste food. Each bud can only taste one of four flavors-- salty, sweet, sour, and bitter. There are two different flavors in the Wild Swamp Salad --salty and sweet. Try testing your own taste buds by following the exercise below.

You will need:

3 small cups
Teaspoon
Water
Salt
Lemon Juice
Sugar
Paper towel
Pen and paper

1. Fill the cups $\frac{1}{2}$ full with water. Stir in 2 teaspoons of salt into one cup, 2 teaspoons of lemon juice into one cup and 2 teaspoons of sugar into the last cup.
2. Wipe off your tongue. Place a tiny drop of the salty water on different parts of your tongue (the tip and the edges work best). On which part of your tongue was the sensation of saltiness the strongest? Rinse your mouth with water, wipe off your tongue between tastes, and repeat. Write down your observations as you test each taste.

What happened?

You probably sense saltiness and sweetness best at the tip of your tongue. Many people taste sourness at the sides. Bitterness is usually in the back but you did not test for bitterness. The taste buds in these areas contain nerve endings that respond strongly to each particular taste, and they send their message on to the brain.

Experiment adapted from: *Simple Kitchen Experiments* by Muriel Mandell, copyright date 1993, published by Sterling Publishing Co., Inc. New York

X-X-Ray Gelatin

Pennsylvania Academic Standards: Science and Technology 3.6.4 B

It is fun to look at the fruit in your gelatin and pretend it is an x-ray. However, the discovery of real x-rays was no laughing matter. X-rays were a significant medical breakthrough even though they were discovered by chance! Using the Internet or your science textbook try to answer the following questions to learn more about amazing x-rays!

1. Who discovered x-rays?
2. When were x-rays discovered?
3. How do x-rays work?
4. What material is used to protect the body from radiation during an x-ray?

Answers:

1. Wilhelm Konrad Roentgen discovered x-rays.
2. X-rays were discovered in 1895.
3. X-rays pass through soft tissue in the body and darken a photographic film on the other side. Dense parts, such as bones and teeth, block the rays so that a clear “shadow” is made on the film.
4. Lead will block the harmful radiation during an x-ray.

X-ray facts taken from: **How Things Work** By Alison Porter, copyright date 1996, published by Barnes and Nobel Inc.

Y-Yogurt Fruit Dip

Pennsylvania Academic Standards: History 8.4.3 A

Yogurt Fruit Dip calls for 1/8 teaspoon of ground cinnamon. Did you know that Cinnamon is actually a small evergreen tree (about 10-15 m tall)? The tree belongs to the Lauraceae family from Sri Lanka and Southern India. The inner bark is dried and then ground up and used as a spice. Cinnamon has an ancient history. It can be traced back as early as 2000 BC. It was so precious it, was used as a gift for monarchs, burned at funerals and used in trade. Cinnamon is even mentioned in the Bible (Exodus 30:23). Today, studies have found medical benefits of cinnamon for people with Type II Diabetes. As you just learned about cinnamon, in some cultures, spices are not only for flavoring food. Spices can have medical and religious uses too. If you are feeling adventurous and would you like to learn more about the history of the spices, then the next two activities will be just what you are looking for.

Spicy Challenge:

Part 1

Over the next few months, set a goal for your self to try several of the spices listed. If you have already tasted some of the spices, look for a new recipe using the spice. Happy tasting!

Part 2

Here is a list of commonly used spices and herbs. See if you can find the history and various uses. You just might be surprised at the interesting history behind the common spices and herbs in your kitchen. Check out the free encyclopedia of spices and herbs at <http://en.wikipedia.org>

Allspice
Basil
Celery salt
Chili powder
Cilantro or Coriander
Cumin
Dill
Garlic
Ginger root
Licorice
Marjoram
Mint

Mustard seed
Nutmeg
Oregano
Paprika
Parsley
Rosemary
Saffron
Sage
Sesame seed
Thyme
Vanilla
Wasabi

Z-Zig Zag Toast

Pennsylvania Academic Standards: Science and Technology 3.4.4 A

Before you paint the Zig Zag stripes onto your bread, take a close look at it. What do you see? ---Holes and lots of them. Have you ever wondered why there are so many holes in bread? Try making a batch of rolls for yourself (have an adult help you with the oven) to see why bread is so full of holes!

You will need:

Yeast

Warm water

Sugar

Flour

Or a box of bread mix

1. Follow the directions on the back of the yeast packet, or use a box of bread mix.
2. When you have mixed all of the ingredients together, cut through the dough carefully and take a look. You should see little bubbles forming in the dough.
3. Shape the dough into little rolls and let it rise according to the directions. Did your rolls almost double in size? Carefully cut through one of the rolls. It should be full of air bubbles.
4. Cook the rolls. When they are cool. Open up a roll, when the dough cooked it set around the bubbles so that they do not collapse or escape. Enjoy your rolls!
Yummy!

What happened?

The yeast in the recipe is really a fungus. It changed the sugar in the dough to alcohol and a gas called carbon dioxide. The bubbles in the rolls are full of the carbon dioxide gas, they help make the rolls expand or rise. When the rolls are baked in the hot oven, the alcohol evaporates and the dough sets around the gas bubbles. You are left with fluffy, tasty rolls!

Information adapted from: ***Munch! Crunch! What's for Lunch?*** By Janice Lobb, copyright date 2000, published by Snapdragon Publishing Ltd.