Curriculum Connections

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Collegiate School, Richmond, VA

National Children and Youth Garden Symposium, July 2012
American Horticulture Society
Fall
**Look and See**

Find a plant (or plant part) that matches the label in each box below. Then draw each plant or plant part in the space above the matching label.

<table>
<thead>
<tr>
<th>rough</th>
<th>smooth</th>
<th>feathery</th>
</tr>
</thead>
<tbody>
<tr>
<td>shiny</td>
<td>red</td>
<td>sharp</td>
</tr>
<tr>
<td>round</td>
<td>long</td>
<td>multicolored</td>
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</table>
Two kinds of edible seeds have been important to humans throughout history. These two types of seeds are grains, also called grasses, and legumes. Rice, wheat, barley, oats, rye and corn are all grains. Peas, beans, soybeans and peanuts are legumes.

Flour is made from grain seeds that are ground in a mill. Flour is an important ingredient of bread and can be made from most grains. Bread is the largest single source of food in many parts of the world.

Fast Facts about a Fabulous Four

Wheat grows in warm, dry climates. In the United States, wheat is grown in many states including those in the Great Plains. Wheat is also grown in Virginia. Cyrus McCormick grew up in Lexington, Virginia and he invented a machine called a reaper that made it easier to harvest wheat.

Oats are used mostly to feed farm animals. But it is also used to make cereal, bread and baby food.

Corn is the number one food crop in the United States. The "Corn Belt" includes the states of Iowa, Illinois, Nebraska, Minnesota, Indiana, Ohio, Wisconsin, South Dakota, Michigan, Missouri, Kansas and Kentucky. Corn is produced on every continent of the world except Antarctica. Corn bread is popular in many southern states.

Rye is a darker grain and can grow in colder climates. In ancient times, rye bread was more popular than wheat bread. It is also used as a cover crop to prevent weeds from growing in an empty field.
WHEAT

Two kinds of edible seeds have been important to humans throughout history. These two types of seeds are grains (grasses) and legumes. Rice, wheat, barley, corn and oats are all grains. Peas, beans, soybeans and peanuts are legumes.

Wheat has been grown by people for over 10,000 years and used to make bread, cereal, and noodles. The wheat seeds are called wheat berries. A wheat berry has three parts: the endosperm (starch), the germ (baby plant), and the seed coat (bran). Because all three parts of the wheat berry contain important nutrients, whole wheat bread is more nutritious than white bread, which does not contain the germ or seed coat.

In the United States, wheat is grown in many states including those in the Great Plains. Wheat is also grown in Virginia and other eastern states. There are two kinds of wheat: winter wheat and spring wheat. Farmers in Virginia plant winter wheat. It is planted in the fall and harvested in early summer. After harvesting, wheat can be ground into flour and made into bread.
Honey Wheat Muffins
Adapted from a Betty Crocker recipe

During the States' Fair study, many of your second graders learned that wheat is an important crop for the farmers in their state. They enjoyed tasting muffins made using whole wheat flour ground from wheat grown in the Lower School Garden. Here's the recipe. Enjoy!

Preheat oven to 400 degrees.

Ingredients:
1 cup all purpose flour
½ cup whole-wheat flour
2 tsp baking powder
¼ tsp salt
1 beaten egg
½ cup milk
½ cup honey
¼ cup cooking oil
½ teaspoon orange peel
½ cup finely chopped apple

In a mixing bowl stir together all-purpose flour, whole-wheat flour, baking powder and salt. Make a well in the center.
In another bowl combine beaten egg, milk, honey, cooking oil and orange peel. Add egg mixture all at once to dry mixture. Stir just till moistened (batter should be lumpy). Fold in chopped apple.

Grease muffin cups or line with paper cups. Fill 2/3 full.
Bake at 400 degrees for 18-20 minutes or until golden brown.
Irish Soda Bread Scones  
Made from Little Red Hen Winter Wheat

3 3/4 cups freshly milled flour*  
1 tsp salt  
1 1/2 tsp baking soda  
5 tbls butter  
1 egg  

2 tbls honey  
3/4 cup buttermilk  
3/4 cup orange juice  
3/4 cup raisins  
1 tbls orange peels (or orange zest)

Cut in butter to dry ingredients. Add egg and other liquids. Knead slightly.

Roll out dough on lightly floured surface until 1” thick. Cut with biscuit cutter. Place on greased pan.

OR

Instead of rolling and cutting, drop dough onto greased pan using a spoon.

Bake scones at 400 degrees for about 15 minutes.

*Second grade students planted winter wheat last fall and the wheat was then harvested in June. This fall our morning gardeners threshed the wheat. After the wheat berries were separated from the chaff, they were ground into flour in an electric mill. Today we enjoyed scones made from this whole-wheat flour and blueberry jam made from locally grown blueberries. Our current second graders have planted a new crop of wheat this fall. It has begun to grow and will keep the garden looking green over the winter. It will grow to maturity once spring arrives.
Mrs. Andrew's Class

Gardening, grows green

Rain to grow, rice

American crop

Indiana crop, Italian bread

Nebraska crop

Baked

Rice

Eat

Ate for lunch

Doughy
Soybean Plant  Use these words to complete the diagram.

soybeans  roots  pods  nodules  flowers  leaves  stem

The __________________ collect sun and carbon dioxide to make food for the plant.

The __________________ have the male and female reproductive parts of the plant.

The __________________ contain the soybean seeds.

Two to four __________________ grow in each soybean pod.

The __________________ support the leaves, flowers, and seeds. It also has tubes that take food from the leaves down to the roots.

The __________________ allow the plant to use the nutrients in the soil.

The __________________ support the plant. They also absorb water and nutrients from the soil.
Soybeans are used to make:

1. 
2. 
3. 
4. 
5. 
Soybean Fun Facts

1. The scientific name for soybean is *Glycine max*. It is one of the world’s best sources of protein and oil.
2. The soybean is a legume, a plant whose roots have nodules which take nitrogen from the air in the soil and convert it into food for the plant.
3. Each soybean plant produces 60 to 80 pods; each pod usually has three beans.
4. The average American consumes 7 gallons of soybean oil per year.
5. One-half of all daily U.S. newspapers are printed with soybean oil ink.
6. Soybeans were first grown in Manchuria, China, over 3,000 years ago.
7. During the U.S. Civil War, soldiers used soybeans as “coffee berries” to brew a coffee substitute, when real coffee wasn’t available.
8. In the early 1900’s, George Washington Carver discovered that soybeans were a versatile and valuable source of protein and oil.
9. The U.S. produces 60% of the world’s soybeans, and Japan is one of the largest purchasers of U.S. soybeans.
10. Soybeans are one of the #1 cash crops in the United States.

Soybean Growth

Number the pictures in order from 1 to 4 to tell how soybeans grow.

1. The soybean seed splits and the first tiny roots come out.
2. The stem grows upward as the roots grow down and soon leaves appear.
3. The pods grow and fill with soybean seeds.
4. As the plant grows, flowers appear and bloom.
Edamame Dip

www.recipeins.com

During the States' Study many second graders learned that soybeans are a leading crop in their state. We also grow soybeans in the Lower School Garden. The children enjoyed this dip made from soybeans harvested (then frozen) from the garden last summer. They came back for a second serving of carrots, celery and dip!

Ingredients:
10 oz frozen edamame-shelled
1 tbls garlic-chopped (or less)
3 tbls olive oil
½ lime-juiced (1 tbls)
1 tsp sugar
¼ c sour cream
¼ c ranch dressing
½ c chicken stock
salt and pepper to taste

Cook edamame in 2 cups of boiling water with 1 tsp salt until the edamame beans are soft. Drain and rinse under cold water until cool.

In a small saucepan, heat oil. Add garlic and cook over low heat, stirring occasionally until the garlic is pale golden, approx. 3-5 minutes.

Puree the cooled edamame with the garlic oil in a blender.
Add ½ cup of chicken stock and blend.
Add lime juice, sugar, sour cream and ranch dressing and blend. Add salt and pepper to taste.

Makes about 1½-2 cups.
Serve with carrot and celery sticks or other dipping vegetables or pita chips.

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The Peanut Plant: Picture Perfect!

Label the parts of the peanut plant.

Leaf  Flower  Root  Peg  Stem  Peanut

Did YOU Know!

- The peanut is not a nut, but a legume related to beans and lentils.
- Peanuts are planted after the last frost in April or early May.
- Peanuts flower above ground and then migrate underground to reach maturity.
Where in the U.S. do Peanuts Grow?

Peanuts grow mainly in ten states. They include: Alabama, Florida, Georgia, Mississippi, New Mexico, North Carolina, Oklahoma, South Carolina, Texas and Virginia.

Color the states that grow peanuts and color the state that you live in.
Part Chart

Did you know that ...
- people eat different parts of plants?
- fruits and vegetables are plant parts?

Here are some plant parts that people eat.

<table>
<thead>
<tr>
<th>fruit</th>
<th>bulbs</th>
<th>flowers</th>
<th>tubers</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Plant Parts I Eat</th>
</tr>
</thead>
<tbody>
<tr>
<td>stems</td>
</tr>
<tr>
<td>fruit</td>
</tr>
</tbody>
</table>
Tops and Bottoms
in the
Garden

After harvesting carrots, basil, parsley and tomatoes in the Lower School Garden, we read Tops and Bottoms by Janet Stevens. Did you know we eat the root (bottom) of the carrot plant, the leaves (top) of the basil and parsley plants, and the fruit (middle) of the tomato plant? Then we enjoyed the healthy snack described below!

Carrot sticks dipped in Ranch dressing

Kabobs: Put the following ingredients on a toothpick.
chunk of mozzarella cheese
parsley or basil
half a cherry tomato
Put the parsley or basil in between the cheese and tomato. It is a very colorful and nutritious snack! Enjoy!
CHALLENGE!!
Build Our Sunflower!

The plant:
We measured the sunflower to be 63 inches tall. The flower head was 10 inches across. And one of the leaves was 12 inches long!
Remember that the yellow petals had faded and the seeds are beginning to form as the florets die. Remember also that insects pollinated the florets.

Materials:
Use your imagination to create a 3-D model of the sunflower. Use materials that you already have at home. This might include egg cartons, paper towel rolls, tissue paper from shopping bags, things you collect from a nature walk, markers, glue, crayons.

Size:
What scale will you use? Life size? Bigger than life? Smaller than life (1 inch on your model = 12 inches on the live plant)

When to bring it to school:
This is NOT a required project. It is just an idea for something fun to do. If you have time and decide to make a sunflower model please bring it in on Friday, Nov. 6. This is the day after conference day. Have FUN!

Put the scale and your NAME on your model.
Noah C  9/27/06

When I went hunting we saw a wolf. It had big teeth and a long nose. It was growling a lot. My dad tried to but he was too fast. I shot a duck and a bird. My brother shot a squirrel.
Lucy B. 9/27

Once upon a time I saw a sad, sad Easter bunny. I said what's wrong? He said someone saw me.
Spring
Potatoes

History:
-The Inca Indians in Peru were the first people to grow potatoes about 200 BC.

-Eventually, people in England learned about potatoes and then about 15 years after Jamestown was settled, an Englishman sent two chests containing potatoes and other vegetables to the Governor of Virginia.

-French Fries were first served in the U.S. when Thomas Jefferson served them in the White House when he was President.

-During the Alaska Gold Rush, potatoes were traded for gold because the miners needed good nutritious food.

-In 1995, the potato became the first vegetable to be grown in space.

Growing:
1. Cut chunks of potato making sure each chunk shows at least one growing eye. Some people leave the cut sections out to dry for a day or two before planting.
2. When you are ready to plant the potato chunks, use a trowel to dig a hole about 5 inches deep. Put the potato chunk in the ground with the sprout pointing upwards.
3. Then just cover the potato, but leave empty space in the hole above the potato.
4. As the sprout grows above the ground, add more soil until the hole is completely filled. This is called “hilling” or “mounding”.

Resources
Crockett’s Victory Garden by James U Crockett
www.healthypotato.com
Can you name the parts of a potato plant?

Leaf, Ground, Bloom, Taproot, Potato, Main Stem
PEAS

People have almost always eaten peas! Scientists who study prehistoric times think that the ancient cave dwellers in Europe and Asia ate peas. The peas may have been larger and tougher than the peas we eat today, so the seeds were probably peeled and roasted over a fire.

Peas travel well because they can be kept dry for a very long time without spoiling. When the explorers sailed across the Atlantic Ocean to discover new lands, dried peas were a main part of their diet. In fact, it was Columbus who brought peas to the New World in 1492. Peas were one of the earliest crops planted in America. The dried peas were cooked and eaten as porridge for breakfast. The porridge could sit in the pot for a while without spoiling.

Pease porridge hot, pease porridge cold,
Pease porridge in the pot, nine days old;
Some like it hot, some like it cold,
Some like it in the pot, nine days old.

Try This!

Pease (clap both hands to thighs) porridge (clap own hands together) hot (clap partner's hands),
pease (clap both hands to thighs) porridge (clap own hands together) cold (clap partner's hands),
Pease (clap thighs) porridge (clap own hands) in the (clap right hands only) pot (clap own hands),
nine (clap left hands only) days (clap own hands) old (clap partner's hands).
(Repeat actions for second stanza)\[7\]

Resources:
Gardening Wizardry for Kids, Patricia Pike
Wikipedia

In ancient Greek and Roman times, fried peas were sold at circuses, much like we sell popcorn today.
Peas

Five plump peas
in a pea pod pressed,
One grew...
Two grew...
So did all the rest.

They grew...
And they grew...
And they grew
and never stopped.
They grew so fat that
the pea pod popped!

Traditional Rhyme
Lettuce

Start in spring or fall.
Grow indoors or outdoors, in containers or in the ground.

Lettuce was first grown in the areas near the Mediterranean Sea. Now it is so popular that Americans eat more than 30 pounds of lettuce every year. Lettuce is about 95% water, but the darker green lettuces have good nutritional value also. They contain high levels of Vitamins A and C, potassium, and fiber. Lettuce is usually planted in the spring and fall when the weather is not extremely hot or cold. www.freshforkids.com

Lettuce is lovely.
It is divine.
Eat lots of lettuce
And you will feel fine!

Kids Gardening
by Rafferty
The Man in the Onion Bed

I met a man in an onion bed.
He was crying so hard his eyes were red.
And the tears ran off the end of his nose
As he ate his way down the rows.

He ate and he cried, but for all his tears
He sang, “Sweet onions, oh, my dears!
I love you, I do, and you love me,
But you make me as sad as a man can be.”
Boo, hoo!

By John Ciardi
Extra Fun!
any time of year
Adventures
In
Eating

Recipes from the
Lower School Garden
Giant Beanstalk Stir-fry
Adapted from the recipe in Grow It, Cook It
Edited by Jill Bloomfield, DK Publishers

During the States' Fair Study students learned that sunny California has a long growing season. In honor of the many fresh foods enjoyed in California, your students sampled the Giant Beanstalk Stir-fry using green beans grown right in our own Lower School Garden.

Ingredients:
2 tbsp sunflower oil
1 clove of garlic, minced
3 spring onions, chopped
½ bulb fennel, sliced (core taken out)
3 cups green beans, cut into 1-inch pieces
2 tbls soy sauce
1 cup bean sprouts

Optional:
2 tbls cilantro
1 tbls rice vinegar

Heat the oil in an electric frying pan. Add the onion, garlic and fennel. Stir all the time for about two minutes. Add the beans and stir quickly, until the beans are cooked just to tender. Stir in the soy sauce. Then, turn off the heat and stir in bean sprouts. Serve hot!
Your children enjoyed tasting Gumbo made from the recipe below. They asked for the recipe, so here it is!
Gumbo is a traditional dish served in many southern states. Okra grown in the Lower School garden was used in this recipe. Changes were made in the recipe as noted.

**Gumbo with Okra** (from the US Botanic Garden website)
(Serves 6-8) For 8 servings: 253 Calories; 12gfat per serving

This gumbo is actually simple to make and still tastes oh so delicious! You just need a bit of patience in the beginning to make a lovely roux - the basis for all great gumbos! Don't forget to serve this with simple steamed rice, white or brown.

3 tblsp. + 1 tsp. Canola Oil, divided
12 oz. package Andouille Sausage (Canadian Bacon was used, instead), sliced about ¼ inch thick
2 tblsp. Unsalted Butter
½ cup All-Purpose Flour
2 medium Onions (1 onion is plenty), finely chopped
1 green Bell Pepper, chopped
2 ribs Celery, finely chopped
5 cloves Garlic (only two cloves were used), minced
1 tsp. Sea Salt 1 (28-ounce) can Diced Tomatoes
4 C Chicken Broth
1 C Clam Juice 16 oz. (omitted)

Fresh Okra, tops trimmed and halved lengthwise, or frozen Okra
3 bay leaves
1 tblsp. Worcestershire sauce
1 tblsp. Fresh Thyme leaves (or dried)
½ t (or less) Cayenne

2 pounds medium Shrimp, peeled and deveined- (can use already cooked shrimp)
1 Lemon, juiced and the lemon zest
(Sea Salt, 6 stalks green onions- omitted), chopped handful fresh flat-leaf parsley, chopped (or dried)

Serving suggestion: Steamed brown or white rice and Tabasco sauce for sprinkling.
Over medium high heat, in a nonstick skillet, heat one teaspoon canola oil, and add the sliced andouille sausage (or ham). Cook for about 5 minutes, stirring every couple of minutes. This sausage is already fully cooked, so you are just heating it through and creating a crust.
Meanwhile, in a large heavy skillet or Dutch oven, heat 2 tablespoons oil with the butter over medium heat. Slowly sprinkle in the flour, while whisking it in. Continue to whisk the oil/butter/flour mixture for about 10 minutes. Be careful not to burn this mixture. You are creating a dark roux, so you want it to get to a dark golden color.
When the roux is ready, add the chopped vegetables; the onions, bell pepper, celery and garlic. Add the last tablespoon of oil, and the sea salt. Cook this mixture until softened, about 10 minutes, stirring periodically. Next, add the diced tomatoes, chicken broth, clam juice, okra, bay leaves, Worcestershire sauce, fresh thyme and cayenne. Bring to a boil, lower the heat to simmer, cover, and cook for 15 minutes. Uncover the pot, add the shrimp, lemon juice and zest, (green onions) and parsley; cook until the shrimp turn pink, about 3 minutes. Turn off the heat, and allow this mixture to sit for a few minutes before serving. Check for seasonings, and adjust if necessary. Ladle into a shallow bowl, and scoop some rice on top. Enjoy!
©Recipe by: Tania Hayek Mercer

okra blossom

Mrs. Clare Okra
Nourishing You

Benefits:

**Okra** – This unique vegetable contains a powerful compound, glutathione, which shows potential to stave off particular types of cancer. It prevents cancer causing chemicals from tampering with DNA.

**Tomato** – In addition to providing more than half of your daily Vitamin C requirement, tomatoes are bursting with a disease fighting carotenoid called Lycopene. Research shows that lycopene may help to prevent prostate cancer and heart disease.
Plant a Crop

Use the key below and follow the directions to plant a crop. Draw your crops.

1. Plant apples in E-5.
2. Plant corn in C-2.
3. Plant tomatoes in C-1 and D-4.
5. Plant beans in B-6 and D-3.
6. Plant carrots in F-1 and potatoes in F-2.
7. Plant wheat in B-2 and B-3.
The Garden Habitat

What do you see that would provide part of a good habitat for birds?
Name it. Draw it. Then, use a sentence to describe it and explain why it could be part of a bird’s habitat.

<table>
<thead>
<tr>
<th>Name: __________________________</th>
<th>Date: ______________</th>
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</thead>
</table>

<table>
<thead>
<tr>
<th>object: ________________________</th>
<th>object: ______________</th>
</tr>
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</table>

Label your drawing in the "Object" blank. Look at the object carefully. Use color whenever possible (colored pencils are ideal for this). Be thoughtful about choosing words to describe the object.

www.jmgkids.us/lit