

Teaching Points Grades 5-6

Reasons to Eat Cabbages

- ❖ Cabbage is a cruciferous vegetable of the Mustard family (Brassicaceae) and its varietal name, *B. oleracea Capita*, distinguishes this cruciferous vegetable as being “in the form of a head.” (The Brassicaceae family was formally called Cruciferae.)
- ❖ The flowers of this vegetable family are in the shape of a cross.
- ❖ *Cruciferous*, according to the dictionary means:
 1. Bearing a cross.
 2. (Bot.) Of, pertaining to, or resembling, a family of plants which have four petals arranged like the arms of a cross, as the mustard, radish, turnip, etc.
- ❖ They are an excellent source of vitamin C and vitamin K.
- ❖ A good source of vitamin A (includes red, purple and savoy varieties).
- ❖ A good source of folate (includes savoy and Chinese varieties).



How Much Do I Need?

- ❖ A serving of cabbage is one cup raw shredded leaves (about 2 cupped hands full).
- ❖ Cooked, this amount is ½ cup.
- ❖ Remind students that eating a variety of colorful fruits and vegetables throughout the day will help them reach their recommended needs.

Eat Your Colors

- ❖ Cabbages come in a variety of colors including green, white, yellow, red and purple.
- ❖ Their nutrient content classifies them in the green and blue/purple color groups.

What's In a Name?

- ❖ The word cabbage derives from the French word *caboché*, meaning “head”.
- ❖ The wild cabbage is grouped into seven major cultivars based on development. They include kale, collard greens, Chinese broccoli, cauliflower, cabbage, Brussel sprouts, kohlarabi and broccoli.
- ❖ There are more than 400 different cabbage varieties.

Just the Facts

- ❖ Many vegetables evolved from the original wild cabbage including broccoli, Brussels sprouts, cauliflower, collard greens, kale and kohlrabi.
- ❖ Many different cabbage varieties are being developed. For example, broccoflower which is a cross between broccoli and cauliflower.
- ❖ Primary uses of cabbages include coleslaw, fresh head, sauerkraut, various fresh cut products and dried.

A Shred of Cabbage History

- ❖ We know that as early as 600 B.C.E., cabbage was growing wild in Asia and the Mediterranean. Eventually cabbage was brought into Northern Europe by the Celts and later the Romans.
- In the Middle Ages, cabbage was a staple item because it would keep for a long time before spoiling. Remember there were no refrigerators back then.
- Long ago people used cabbage juice to heal wounds and as a cough medicine.
- In 1541, a French explorer Jacques Cartier, brought cabbage to North America.



- ❖ Since cabbage contains a lot of vitamin C, other explorers, including Captain Cook, traveled with it in order to prevent scurvy. Scurvy is a disease that happens when you do not get enough vitamin C from your diet. We rarely see this disease today.

How Do Cabbages Grow?

- ❖ Cabbage is the most easily grown of the Mustard family.
- ❖ Cabbage is a cool weather crop.
- ❖ Cool weather crops are grown for the following parts; roots (carrots), leaves (cabbages), stems (celery), and immature flowers (broccoli).

Student Sleuths

- ❖ Have students:
 1. Make a list of cruciferous vegetables that you eat and those they would try. *Examples include broccoli, kohlrabi, bok choy, Brussel sprouts, cauliflower, cabbage, collard greens, kale, Swiss chard, turnips.*
 2. Make a list of snack suggestions that include cruciferous vegetables, share with one another.
- ❖ **What phytochemicals do cruciferous vegetables contain and what health benefits do these provide to your body?** answers will vary
 - A phytochemical is a natural compound found in plant foods that works with nutrients and dietary fiber to protect the body against disease.
 - Phytochemicals complement and overlap many metabolic activities in the body, including:
 1. Antioxidant effects
 2. Detoxification
 3. Stimulates the immune system
 4. Regulates hormone metabolism
 5. Antibacterial and antiviral effects.
- ❖ Research suggests that phytochemicals, working together with nutrients found in fruits, vegetables and nuts, may help slow the aging process and reduce the risk of many diseases, including:
 - Cancer
 - Heart disease
 - Stroke
 - High blood pressure
 - Cataracts
 - Osteoporosis
 - Urinary Tract Infection



Have students research why red cabbage is part of the blue/purple color group (not the red group) and why white colored cabbage is part of the green group.

- Red cabbage is in the blue group due to the presence of anthocyanin, whereas lycopene is the predominant colored pigment in the red group.
- Anthocyanins are water soluble flavonoid pigments that appear red to blue, according to pH. They are found only in plants and give them their colors.
- White colored cabbage is in the green group rather than the white group due to the nutrients and phytochemicals.

Home Grown Facts

- ❖ California leads the nation in commercial cabbage production.
- ❖ The main growing regions are on the central coast (Monterey, San Benito and Santa Clara counties); southern coast (Santa Barbara, Ventura, San Luis Obispo, Los Angeles, Orange and San Diego counties); and southern desert (Imperial and Riverside counties).
- ❖ Cabbage is shipped year round in California.

Adventurous Activities

Science Investigations

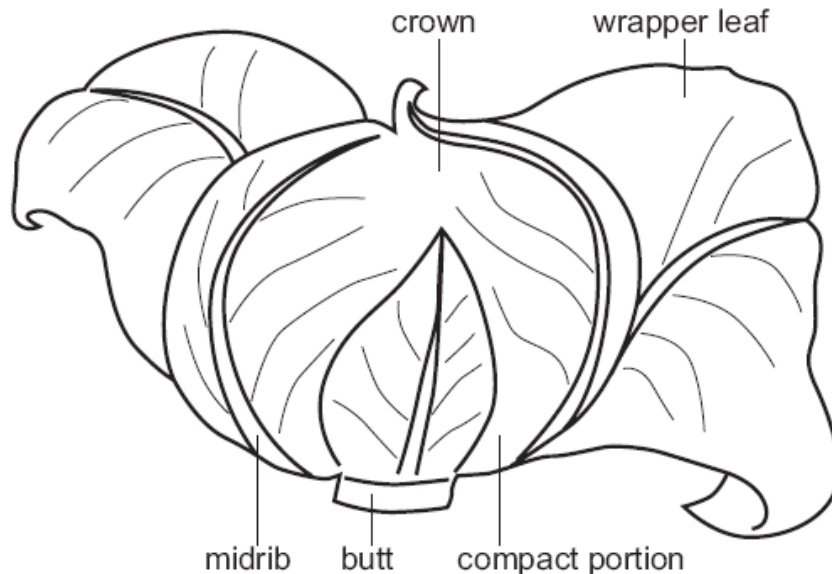
Use cabbage juice to determine whether a substance is an acid or a base.

Materials: can opener, 1 can red cabbage (not sauerkraut), colander, small bowl, measuring spoons, 3 glass jars, 1 tablespoon vinegar, 1 tablespoon baking soda, 1 tablespoon distilled water

Procedure:

- ❖ Open a can of cabbage
- ❖ Use a colander to drain cabbage juice into a bowl
- ❖ Put two tablespoons of juice into each glass jar.
- ❖ Add vinegar to the first jar. Record juice color.
- ❖ Add baking soda to the second jar. Record juice color.
- ❖ Add distilled water to the third jar. Record juice color.
- ❖ Add distilled water to the third jar. Record juice color.
- ❖ Discuss results.

For a sample discussion, visit the Educator's Corner at <http://www.harvestofthemonth.com/EdCorner/adv-activities.asp#f>



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