

## Early Care & Education Classroom Bites

# Kale

### Did You Know

- Celebrate National Kale Day this October! For more information visit [nationalkaleday.org](http://nationalkaleday.org).
- There are over 50 varieties of kale. Lacinato kale is also called dinosaur kale for its bumpy leaves. Please pass the dino salad! There are also ornamental varieties in many colors including white, pink, and purple.
- Kale becomes sweeter after experiencing a light frost.
- Kale has been grown for more than 6000 years and is in the brassica family along with bok choy, collards, and broccoli.



Green Curly Kale



Red Curly Kale



Dinosaur Kale

### Gardening

Kale is a fantastic addition to any Montana garden. A hardy vegetable, kale thrives in our climate. Plant seeds directly in garden or container five weeks before last frost to two weeks after last frost. For fall plantings, plant 6-8 weeks before forecasted first frost. Most varieties will do well in containers at least 8 inches wide and 8 inches deep.

### Selection

Buy kale with firm, bright leaves. Baby kale should have small, tender leaves with few stems. "Mature" kale will be 12-16 inches in length with stems and relatively small leaves. Kale stems can be bitter. Remove larger stems or use baby kale.

### Storage

Store in perforated plastic bag in refrigerator up to 5-10 days.

### Cooking

Wash greens thoroughly before using to remove any soil. Cooked kale reduces in size by 75-80% compared to fresh greens.



**Blanch or Boil.** Bring water to a boil, enough to cover the kale. Remove dried or thick stems and place the kale into the boiling water to blanch 5-8 minutes or until desired tenderness is reached.

**Braise.** Cut kale to desired size. Remove dried or thick stems. Drizzle cooking oil in a heated pan, add low-sodium seasonings if desired. Cook over low heat for about 20 minutes, or until desired tenderness is reached.

**Preserve.** For more information on preserving kale, read MontGuides Drying Vegetables and Freezing Vegetables. Visit <https://nutrition.msuextension.org/> and click on the food preservation link or contact your Extension office to find the guide.

**Roast.** Cut kale to desired size. Place on foil-lined baking sheet and drizzle with olive oil and low-sodium seasoning. Bake at 300°F for 12-15 minutes or until crispy.

**Salad.** Add kale raw to salads for added flavor, texture and visual appeal. Tenderness can be achieved by massaging finely cut greens with acidic dressing. Add in nuts, seeds or dried fruit for added flavor and texture.

**Sauté.** Cut kale to desired size. Remove dried or thick stems. Drizzle cooking oil in a heated pan, add low-sodium seasonings if desired. Cook by stirring over high heat until desired tenderness, about 5-8 minutes.

**Season.** To enhance flavor, season with basil, bay, celery seed, garlic, oregano, tarragon, or thyme.

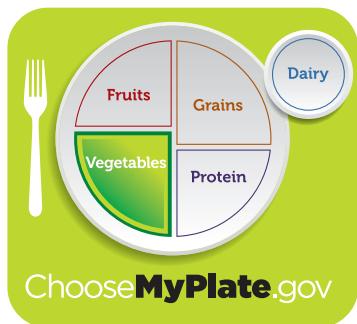
**Soup or Entrée.** Add kale to soups and entrees, such as lasagna, quiche, or pizza.

**Steam.** Remove dried or thick stems. Place kale in a pan with a small amount of water and low-sodium seasonings. Cook on medium heat for 2-4 minutes, depending on size and age of greens, until desired tenderness.

Adapted from the Kale Food Fact Sheet developed by Montana State University Extension. For the full fact sheet and other resources, visit: <https://nutrition.msuextension.org/>.

## Nutrition Information

Kale is packed full of nutrients. One cup of raw kale contains 684% of the recommended daily value of vitamin K, an essential nutrient that helps blood clotting. Kale is also an excellent source for vitamins A and C and provides calcium and iron. Calcium is necessary for building strong bones.



## Recipes

### Choose Your Own Adventure Kale Salad

Round up your favorite ingredients and build a delicious kale salad with this recipe framework.

Source: City Blossoms (<http://cityblossoms.org>)

#### Servings

6

#### Ingredients

6 cups kale

1/3 cup fat – suggestions: avocado, olive oil, vegetable oil, peanut butter, tahini, sunflower seed butter, and almond butter

1/3 cup acid – suggestions: citrus juice (lemon, lime, etc.), vinegar (red wine, balsamic, rice, apple cider, etc.)

Salt OR miso OR soy sauce – to taste

Tasty extras – (these are all optional):

- **Something Sweet:** a little bit of honey, agave syrup, or orange juice added to your dressing can help balance flavors.
- **Spices:** chili powder, cumin, ground ginger, black pepper, red pepper flakes
- **Fruits & Vegetables** (fresh or dried): Mango, apples, pears, raisins, dried cranberries, coconut, tomatoes, pomegranate seeds, carrots, jicama, shredded beets, olives
- **Beans and Seeds:** sunflower, pumpkin (pepitas), flax, chia, garbanzos, lentils
- **Grains:** farro, wheat berries, couscous, brown rice, barley

- **Herbs:** cilantro, parsley, basil, chives, dill, fennel, mint, thyme
- **Cheese:** feta, parmesan, goat cheese, or any cheese cubed or shredded
- **Nuts:** almonds, crushed peanuts, pine nuts, walnuts, sunflower seeds

#### Preparation

1. Wash kale, trim dried or tough sections, and cut out stems. Cut kale into thin ribbons.
2. Mix fat, acid, and salt in a large bowl.
3. Add kale to bowl, toss with dressing, and massage. Massage the kale by placing the kale-acid-salt mixture in a Ziploc bag and massaging from the outside. The more you massage, the more tender it will be. The dressing should coat the leaves, and the leaves should slightly wilt and turn a more intense green.
4. When the massaging is done, add the pizzazz! Anything you would add to a regular salad can be added to a kale salad. See above for examples of tasty toppings.

### Kale Chips

Kale chips are a perfect way to try kale! A food dehydrator will also work for these tasty snacks.

Developed by: Edward Christensen, Assistant Food Service Manager, Missoula County Public Schools

#### Servings

6

#### Ingredients

1 1/2 cups Kale, raw, stemmed, and cut into chip-sized pieces  
1 tbsp Oil, olive, salad, or cooking  
1/4 tsp Salt

#### Preparation

1. Preheat oven to 225°F.
2. Remove large stems from leaves leaving the kale in "chip-size" pieces.
3. In single layer on sheet tray, place leaves face up, lightly spray with olive oil, and lightly season the kale with the salt.
4. Bake for 40-60 minutes, or until the kale is completely dehydrated and will easily release from the pan when you shake the pan back and forth. Using a low oven temperature ensures that you will not burn the chips.

# Activities

## Kale Investigation

Adapted from Hardy Greens Lesson, Upper Valley Farm to School

### Montana Early Learning Standards

- 2.3–Sensorimotor
- 2.5–Nutrition
- 3.1–Receptive Communication
- 3.5–Print Development/Writing
- 4.1–Curiosity
- 4.15–Scientific Thinking

### Description

Children will practice observation and drawing skills by identifying and labeling the parts of the kale plant. Children will use words such as stem, variety, hardy, bumpy, smooth, thick, thin to describe kale. Children will taste kale and explain why eating kale is healthy all year long.

### Supplies

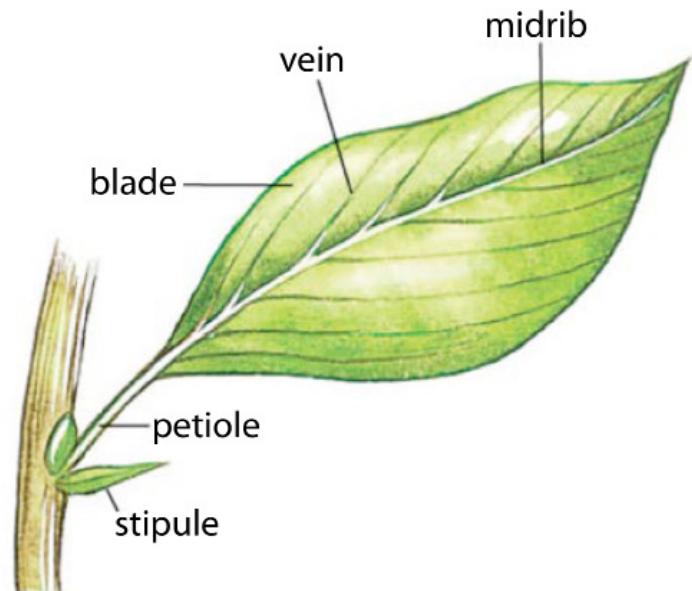
- Kale leaves of different varieties, one leaf per student for observations
- Kale leaves to taste
- Magnifying glasses
- Science journal or paper for each student
- Colored pencils
- Images showing the vein, stem, and leaf
- The book *Captain Kale and the Super Foods* by Amy Roth (for younger students)

\* If possible, harvest kale from your school garden, community garden, or nearby farm with your class for the activity or even complete step 1 and 2 in the garden with the kale plants.

### Directions

1. Introduce the lesson by telling children that today we are going to talk about leaves! Are there many leaves on the trees right now? Depending on the time of the month, there may be leaves on the trees or the leaves may have all fallen off for the winter. Ask children if they think there are still leaves we can eat even though it's getting closer to the winter? Explain that we can still eat greens in the colder months because there are some greens that survive the cold. Introduce the word "hardy". The leaves may not be growing very much during cold months, but they stay alive and we can continue to harvest their leaves!

2. Introduce kale! Kale is one of the hardest greens so farmers in Montana love to grow it. Introduce kale by holding up a leaf and having the children repeat the name of it. Point out the stem, and veins in the leaf. Read the book *Captain Kale and the Super Foods*, by Amy Roth.
3. Offer each child a clean leaf of kale to look at, touch, and smell. Engage the children in a discussion about their observations, use the following questions to help guide the discussion.
  - Is kale a fruit or a vegetable?
  - What color is it?
  - Do the leaves feel thick or thin?
  - How does the outside of it feel?
  - Is it soft or hard?
  - Is the stem on the kale leaf thick or thin?
  - Tear the kale leaf, what color do you see inside the leaf?
4. Scientific Drawing: Have children wash their hands. Hand out a leaf to each student and ask them to trace the outline of the leaf onto a sheet of paper.
5. Taste Test: Give children a taste of kale. If there is time, make kale salad, kale chips, or a smoothie with kale with the children to show them different ways to eat the kale.
6. Wrap up: Review the parts of the kale plant, the different varieties of kale, and the health benefits of kale. Challenge children to eat kale at home this month!



## Extend the Fun

### Leaf Rubbing

Children can make a rubbing of a kale leaf by placing a leaf under a piece of paper and rubbing a crayon over the paper that is covering the leaf.

After the leaf rubbing is made have the children look at their picture and point out any parts of the leaf that show up in their rubbing. This might include the stem, veins or outline.

MELS 2.1—Fine Motor Skills

### Plant Kale

Have children plant their own kale in a small cup or planter. The children can tend to their kale plant and watch as it grows.

MELS 4.15—Scientific Thinking

### The Good Food Song

Source: Original Author Unknown

Sung to: "Old MacDonald Had A Farm"

Vegetables are good for me,  
EE I EE I O

And so I eat them happily,  
EE I EE I O

With kale, kale here,  
and kale, kale there  
Here a kale, there a kale  
Everywhere a kale, kale.  
Vegetables are good for me,  
EE I EE I O

MELS 4.8—Music

## Book Nook

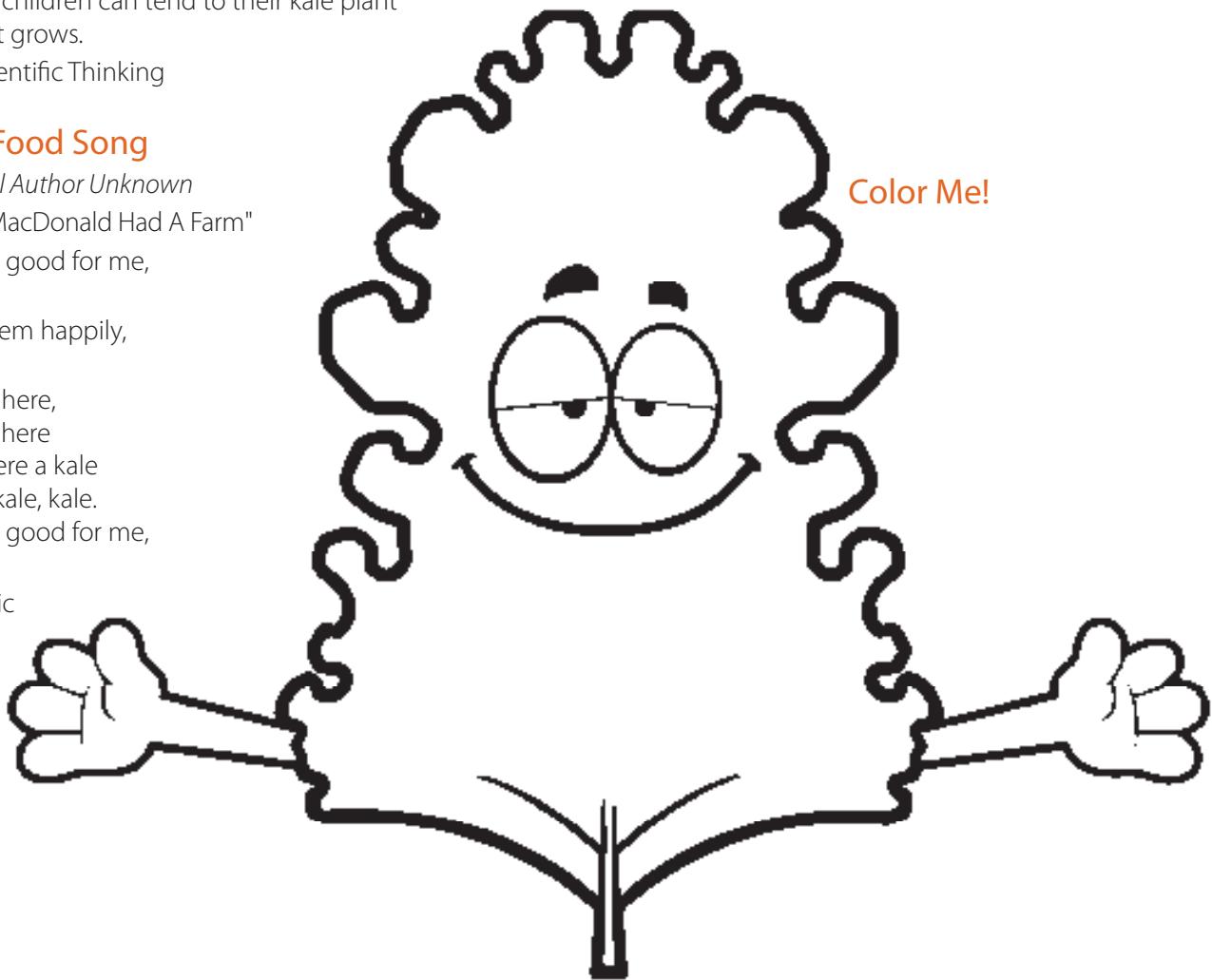
*Captain Kale and the Superfoods*,  
by Amy Roth

*The Tale of Kale: Based on a Real  
Kid's Real Story*, by Lisa Borden



## Dig Deeper

For sources and photo credits along with more recipes, lessons, quick activities, resources, and guides, visit: [mtharvestofthemonth.org](http://mtharvestofthemonth.org).



## 4 Montana Harvest of the Month: **Kale**



The Montana Harvest of the Month program showcases Montana grown foods in Montana communities. This program is a collaboration between Montana Farm to School, Office of Public Instruction, Montana Team Nutrition Program, National Center for Appropriate Technology, Montana State University Extension, Gallatin Valley Farm to School, FoodCorps Montana, and Montana Department of Agriculture. More information and resources are available at: [mtharvestofthemonth.org](http://mtharvestofthemonth.org).

Funds were provided in part by a USDA Team Nutrition Training grant, a USDA Farm to School grant, Montana Healthcare Foundation, Northern Pulse Growers Association, Montana Department of Health and Human Services, and Montana School Nutrition Association. USDA is an equal opportunity provider and employer. The Montana State University Extension Service is an ADA/EO/AA/Veteran's Preference Employer and Provider of Educational Outreach. This publication was supported by the Grants or Cooperative Agreements Numbers, 6 U58DP004818-03-01 & 5 U58DP004818-03-00.