

The Story of Kale

Grade 2

Science and Technology Curriculum: Air and Water in the Environment



Objective: Students will investigate air and water within the context of producing a kale chip. First, using tableau, they will follow the path of a kale seed as it grows, is harvested, and becomes processed into a kale chip. They will then work through stations focusing on various parts of the process – vermicompost, seeds/seedling planting, and an edible ending with kale chips.

Overall Expectations:

3. Demonstrate an understanding of the ways in which air and water are used by living things to help them meet their basic needs

Specific Expectations:

3.3 Describe ways in which living things, including humans, depend on air and water (e.g., most animals, including humans breathe air to stay alive; wind generates energy, disperses seeds; all living things need to drink to absorb water to stay alive; water is used for washing and bathing, transportation, energy generation)

Materials:

‘From Seed to Chip’ Story, printed in booklet form

Bunch of Fresh Kale

Pots for kale planting

Kale seeds

Planting medium

Watering Cans

Trowels

Vermicompost bin

Kale Chips

2 Hand Washing Bins – Soapy Water + Rinse

Paper Towels/Cloth Towels

Introduction – From Seed to Chip (20 mins)

- Outside (or inside in inclement weather), have the students form a standing circle.
- Have students take a deep breath in – what are you breathing in? (Air) Can we see air? (Wind) – We need air to live – what else do we need to live? (Water, food, shelter, warmth)
- Tell them that they are going on a journey today – one they have probably never been on before! This journey will follow air and water and food as they travel through plants, animals, and humans just like us!
- Introduce the students to your good friend: Kale! (Show bunch of fresh kale.) Give some background information on kale (it needs air, water, and food too!) and tell the students that kale has been on a long journey to get this big and green, and that it also has a long way to go because this bunch of kale has always dreamed of being a kale chip!

- Show a kale seed and a bag of kale chips – explain that kale started off as a little baby seed, and wants to one day become a kale chip. Place the seed, the fresh kale, and the kale chips around the circle in that order.
- Tell the students that your friend, Kale, has a bad memory and can't remember how he got here or where he is going. Show them 'The Story of Kale' book and tell them that maybe if we act out the steps, Kale will remember.
- Read the story slowly, line by line and give students time to act out each line of the story by shaping themselves to represent the story

Little Book (letter sheet folded in half to 4-1.4" x 5-1/2", the title clearly visible in large letters on the "cover" = "The Story of Kale")

Inside text:

The Story of Kale: From Seed to Kale Chip

Once upon a time, a tiny kale seed sat buried in the ground.
 When it rained, the seed soaked up the water and got BIGGER.
 Soon, a little sprout popped out the top of the seed.
 Next, little roots started to grow out of the bottom of the seed.
 The sprout started to grow bigger and taller until it POPPED out of the ground.
 The roots grew deeper into the soil and sucked up water.
 The leaves on the sprout grew bigger and sucked up air.
 The kale plant grew more leaves that were green and VERY curly.
 One day, a gardener was checking her garden.
 She noticed the big, green, leafy kale and her tummy started to RUMBLE.
 She bent down and gently pulled the kale plant out of the soil.
 She brought it into the house and broke the leaves apart.
 She washed the kale leaves under cool water from the tap.
 She dried them carefully with a towel, and put them in a bowl.
 She took some olive oil and some salt and poured them on the kale pieces.
 The kale was tossed around in the bowl with the oil and salt.
 The gardener took the kale pieces and laid them on a baking tray, one by one.
 She carefully placed them in the oven and watched them through the window.
 The hot air in the oven dried the water out of the kale and it became all crispy - like a CHIP!

Planting activity/compost screening

Divide into 2 groups. One group plants kale while the other group investigates the worm bin and screens castings, then switch.

Kale Chips (for prep the night before):

Wash and dry a bunch of kale, making sure to dry off the leaves completely. Tear the leaves into 2" pieces, removing the ribs. Massage the torn leaves with olive oil and salt and optionally other flavours eg. curry, lemon pepper... Place in one layer on baking sheet and bake for 15 mins. @ 350°F until crispy. Do not pack in airtight container overnight as they may rehydrate. Leave layered in paper toweling overnight in the oven, and pack in airtight container in the morning.