



HARVEST LESSONS

INTRO TO PLANTS AND NUTRITION

Lesson Plan

EAT THE RAINBOW

HARVEST LESSONS ARE A FUN WAY FOR K-4 CLASSROOMS TO EXPLORE, TASTE AND LEARN ABOUT EATING MORE FRUITS AND VEGETABLES EVERY DAY.

ACTIVITY SUMMARY

ACTIVITY	GRADE LEVEL	CURRICULUM CONNECTION	TIME
#1: Dress up a Plant	K-2	Science: structures of organisms	10 min.
#2: Plant Parts We Eat	all	Science: classification, structures of organisms	10 min.
#3a: Intro to Eating the Rainbow	all	Health: nutrition	5 min.
#3b: Eating the Rainbow	all	Science: classification Art: color	15 min.
#4: Woah, Slow, Go Foods	3-4	Health: nutrition Science: classification	15 min.
#5: Making & Tasting Rainbow Spring Rolls	3-4	Health: nutrition Science: classification Math: graphing/tallying	30 min.

FOCUSING QUESTIONS

Why are fruits and vegetables good for my body? What is the difference between whole foods and processed foods? Are some foods better for my body than others?

GRADES K-1: What color is this? How is it good for you? (Put the food on the body. How does it help our body/functions?) What part of this plant are we eating? Review that plant part's job.

GRADE 2: What color is this? How is it good for you? (Put the food on the body.) What part of this plant are we eating? Review that plant part's job. Where does this food grow?

GRADES 3-4: Origins: Where does this food grow? Where did it originate? Put the food on the map. How is this food good for you? (Put the food on the body.)



OVERVIEW

The activities found in this lesson offer a variety of ways to introduce recurring themes in Harvest Lessons throughout the year. They can be used as a lesson alone, or to accompany other lessons.

GRADES K-2: Students will learn how different colored foods have different health benefits. They will understand that “eating the rainbow” (a variety of different colored fruits and vegetables) keeps you healthy and strong. Students will also learn about the differences between whole and processed foods, and how these differences affect whether a food is a “stop,” “slow,” or “go” snack. They will learn about the food groups and MyPlate graphic. They will also learn about plant parts we eat. They will make and eat rainbow spring rolls, and use what they’ve learned to analyze whether this snack is healthy.

GRADES 3-4: Students will learn about the food groups, snack traffic light, MyPlate graphic, the different parts of the plant we eat and how specific foods help different body parts. You may also choose to start a conversation about where different foods originated and where they grow best.

ACTIVITY #1 (10 MINUTES)

GRADES K-2

DRESS UP A PLANT

MATERIALS

- Magic wand (stick of any kind)
- Bag containing costume items representing parts of a plant
- Leaves or green clothing (shirt, scarf) for arms
- Flower hat, or flower (real or fake)
- Seed, bag of seeds or seed packet
- A stem to hold or a scarf or skirt for the student to wear on torso
- Fruit or fruit hat
- String, cardboard or raffia made to look like roots

PROCEDURE

Introduce yourself to the group with a surprising twist. “You may know I like to come in and do food lessons with you, that I’m Tommy’s mother, but did you know that I’m also a magician... no really today I am going to turn one of you into a plant. Who wants to volunteer?” Pull out your magic wand, and wave it over the chosen volunteer. “Did it work?” Well, no of course it didn’t. You can continue dramatically...



(activity #1 continued)

Try a couple more times, the next time, use some magic words, that's probably why it didn't work the first time. After it doesn't work a couple times, say, "Well, it turns out I do have some tricks in my bag." And reveal a bag containing plant parts (but not the parts). Ask kids what we would need to turn somebody into a plant.

As they name parts of the plant pull them out of your bag and put them on the student. As you add them, discuss at an age-appropriate level about each plant part's role, or job. Be sure to ask the students what they already know about each part:

- **Roots** – hold the plant in the ground, take in water and nutrients from the soil
- **Stem** – the “elevator,” moves food and water between the roots and the leaves, and supports the plant, helping the leaves reach the sun
- **Leaves** – the “kitchen,” or “restaurant,” makes food for the plant using chlorophyll to carry out photosynthesis, the chemical process that captures energy from the sun and turns it into sugar
- **Flower** – attracts bees and other pollinators with its color, scent, shape and nectar. The pollinators move pollen between different flowers and different plants, which allows the plants to reproduce (make more plants)
- **Fruit** – holds the seeds, tastes good so that you will eat it and spread the seeds
- **Seeds** – make more plants, contain a baby plant and the things that baby plant needs to get to a good place to grow and sprout

ACTIVITY #2 (10 MINUTES)

ALL GRADES

PLANT PARTS WE EAT

Ask students to list the six parts of a plant. As they are listed, discuss each part's “job.” Have the class gather in a circle and place a sign for each plant part within the circle. Have students pull out an item from the bag/basket, decide what part of a plant it is, and place it in the appropriate spot. Then go over all of the items as a class to make sure they were sorted correctly.

ACTIVITY #3A (5 MINUTES)

ALL GRADES

INTRO TO EATING THE RAINBOW

Ask the class “What does “Eating the Rainbow” mean? Why do we need to eat different colored foods? (Write responses on white/smart/blackboard). Go through colors of the rainbow, and teach students how different colored foods help your body.



(activity #3A continued)

Ask students to share examples of:

- **Red fruits and vegetables:** Help your heart, blood (circulation) and lungs (breathing)
- **Orange and yellow fruits and vegetables:** Help your eyes (vitamin A), keep you from getting colds (immune system, vitamin C), and keep your skin healthy.
- **Green fruits and vegetables:** Keep your bones and teeth strong (calcium, like milk), give you energy (B vitamins, iron)
- **Blue and purple fruits and vegetables:** Help your memory & brain
- **White, tan and brown foods:** Keep your heart healthy

A food that is artificially colored may come up in this conversation, and if it does, use this as a way to discuss artificial coloring. How can we know if a food is naturally colorful, or made in a laboratory? If this doesn't come up, you may choose to throw in an example.

ACTIVITY #3B (15 MINUTES)

ALL GRADES

EATING THE RAINBOW ART ACTIVITY

MATERIALS

- Paper
- Colored pencils, markers or crayons
- Large sheet of paper
- Tape

PREPARATION

Gather materials, and review what colors benefit different parts of our body. You may choose to have actual examples of different colored foods, including an example of a colorful food that is artificially colored.

PROCEDURE

Draw five arches of the rainbow, with space for red, orange, yellow, green, and blue/purple. Invite children to color foods of their choice, making sure to fill the rainbow. Cut and tape the drawings onto the poster. This may be a project that can stay in the classroom, and be added to.

Pin the food on the body: On a large sheet of paper, trace a child's body. With a red, orange, green, and blue or purple pen, review knowledge of how different colored foods help your body, and write them on the poster. Students may tape different colored fruits and vegetables to the affected parts of the body, and this poster should be brought back into the conversation when new vegetables are introduced.



ACTIVITY #4 (15 MINUTES)

ALL GRADES

“WHOA, SLOW, GO” FOODS

MATERIALS

- Woah, Slow, Go flier (find link following lesson plans)

PREPARATION

Ask teacher ahead of time for a space where kids can run for a red light/green light inspired game.

PROCEDURE

Introduce the concept of whoa, slow and go foods; brainstorm examples of each kind with a question zone for ones that they aren't sure about. Without judging, you can show students that there are different options, and that food choices are not always black and white. For older students, discuss how different foods are made - do you know how red/whoa foods are made?

Whoa Foods: These foods are special occasion foods, and are very processed, high in fat and sugar. Examples: Ice cream and French fries.

Slow Foods: These foods have been processed or combined to make food products. These are once in awhile foods, and we should think before we have them. Pancakes and waffles are a couple of examples.

Go Foods: Whole foods that give us energy to go, and are the best choices for a healthy diet. Fruits and vegetables, whole grains, and low-fat dairy are some examples.

When a Go food is called, children may take giant steps. When a Slow food is called, they may take baby steps, (one foot in front of the other.) When a Woah food is called they must stop. Begin with the volunteer calling out foods, and the first to arrive at the end may become the caller. Not all children will get a chance to call, but pass this game along to their gym or health teacher.

Following this discussion, you may lead this activity into a running game based on red light green light.



ACTIVITY #5 (30 MINUTES)

ALL GRADES

TASTE TEST: MAKE RAINBOW SPRING ROLLS

Serve with *Lemon Tamari Dipping Sauce* or *sweet chili sauce/duck sauce (not homemade)*

RAINBOW SPRING ROLLS

PREPARATION

Be prepared to spend an additional 30-45 minutes grating and chopping rainbow vegetables to fill the spring rolls, and preparing the dipping sauce.

MATERIALS

Measuring spoons, lemon juicer, lemon grater, small bowl, large deep plate or pan filled with water for soaking rice paper, rice paper, locally grown vegetables, grated and chopped, covering as many colors of the rainbow as possible (e.g.: carrots, beets, spinach/kale/chard, red cabbage, sprouts)

INGREDIENTS

1 tsp dried ginger or 1 Tbsp fresh ginger, minced	1 Tbsp (about 4 sprigs) chives, minced
¼ cup tamari or soy sauce	1 Tbsp cilantro, minced (optional)
1 tsp lemon zest freshly grated	1 tsp garlic, minced (optional)
1 fresh lemon juiced	1 Tbsp sesame oil (optional)
1 tsp honey	¼ tsp hot pepper ground
1 tsp brown rice vinegar	

PROCEDURE

To begin you will demonstrate for the class. Soak rice paper in water for about 20 seconds until the paper is pliable, but not turned to mush. Count as a class, (if the class is learning a foreign language, try counting in another language). Lay out the rice papers, fill with each vegetable, encouraging children to eat every color, because every color does something different for our bodies. As you add foods, review different colors roles. Fold two ends in and roll tightly like a burrito.

Taste Test: Introduce what is a taste test? Encourage all children to try something even if they don't think they will like it. "Don't yuck my yum" is a helpful phrase to keep kids positive. Teach some vocabulary to describe flavors. Make a bar graph or tally chart showing how many people liked it and didn't like it.



CLOSINGS

ACKNOWLEDGEMENTS

Vermont FEED | www.vtfeed.org

Shelburne Farms | www.shelburnefarms.org

Food Works | www.foodworksvermont.org

BACKGROUND INFORMATION

Go Foods, Slow Foods, No Foods

www.lets-go.org/wp-content/uploads/ASTab09D07-Go-Foods-Slow-Foods-Whoa-Foods-Tab-5-COLOR-DOUBLE-SIDED.pdf

APPENDIX SEE ACTIVITY DETAILS THAT FOLLOW



TEACHING NUTRITION WITH COLORS

ORANGE/YELLOW

You'll find ample amounts of antioxidants, such as vitamin C and beta carotene (vitamin A) in yellow and orange fruits and vegetables.

Choices: apricots, cantaloupe, mangoes, oranges, tangerines, butternut squash, carrots, pumpkin, sweet potatoes

RED

Red is a flag for such health-promoting compounds as lycopene and anthocyanins. The darker and richer the tones, the more phytonutrients you'll get in return.

Choices: cherries, cranberries, red grapes, raspberries, strawberries, watermelon, beets, red peppers, tomatoes

BLUE / DARK PURPLE

Dark-colored fruits and vegetables are good sources of anthocyanins, the purplish phytonutrient that put blueberries on the map as a superfood. Other blue and purple foods offer similar benefits.

Choices: purple grapes, plums, raisins, dried plums, purple asparagus, purple cabbage, purple carrots, eggplant, purple potatoes and purple cauliflower

DARK GREEN

Green is a signal for chlorophyll, and green vegetables are potent in folate and such phytonutrients as carotenoids, lutein and indoles. Dark, leafy greens such as spinach and kale are richer in nutrients than paler iceberg lettuce.

Choices: asparagus, broccoli, Brussels sprouts, green beans, leafy greens, peas, snow peas, spinach, zucchini

WHITE, TAN & BROWN

White, tan and brown foods sometimes contain nutrients that may promote heart health and reduce cancer risks. The onion family contains allicin, which has antitumor properties. Other foods in this group contain antioxidant flavonoids like quercetin and kaempferol.

Choices: parsnips, turnips, rutabagas, potatoes, celeriac, garlic, onions, leeks, celery, asparagus, pears and green grapes.