

Vegetable Relay

Subjects Taught: Nutrition, Physical Education

Grade Levels: Kindergarten - 2nd Grade

Brief Description: Students will match vegetable seeds with the vegetable and learn a basic food fact about each then participate in a relay.

Objectives: Students will:

1. Identify various vegetable and fruit seeds with the fruits or vegetables they will produce.
2. Match seeds with vegetables by participating in a relay.
3. Understand a basic food fact about each vegetable.

Life Skills: comparing, following directions, identifying, listening, matching

Materials Needed:

- Common fruit and vegetable seeds: watermelon, carrot, cantaloupe, collard greens, beets, radish, tomato, peas, pepper, lettuce, squash, sweet corn, and onion. (Others may be used, pumpkin, beans but nutritional basics will need to be researched). Each student will need one seed each of the large seeds (watermelon, squash, sweet corn) and several



seeds of each small vegetables seeds (carrot, beets, radish, tomato, pepper, lettuce and onion) to tape or glue to their worksheet.

- Three sets of seed cards, laminated and cut apart plus extra sweet corn seeds.
- Pictures of the above named vegetables glued onto paper lunch bags or seed packets clipped on.
- Copies of *Seed Connections/Food Facts Student Worksheet* - one per student.
- Copies of the *Quiz: Seed Connections/Food Facts* - one per student.

Time:

Activity One: 45 minutes

Activity Two: 45 minutes

Preparation:

1. Gather materials – seeds indicated, make copies of student handouts and quiz, pictures of fruits and vegetables that can be posted during the relay.
2. Create three sets of seed cards (more if the class size is large) by printing or copying three copies of the seed card master, gluing seeds onto the correct cell of the seed card masters, letting them dry, laminating the three completed seed cards, and cutting apart each set into separate cards – each set is for one team. Once these are created they can be saved and reused each year. If a laminating machine is not available, self laminating or clear contact film can be used.
3. Make copies of the student handouts and quiz – one per student.
4. Set up the relay for the second session. Tape or glue fruit or vegetable pictures or clip seed packets onto paper lunch bags. Stand lunch bags on one end of the relay field

Florida Standards Met At-A-Glance

National Next Generation Science	1-LS3-1, 2-LS4-1, 3-LS1-1, 3-LS3-1
English /Language Arts	K.W.1.2, K.W.3.7, K.W.3.8, 1.W.3.8, 2.W.3.8, K.SL.1.2, K.SL.1.3, 1.SL.1.2, 1.SL.1.3, 2.SL.1.2, K.L.3.5
Mathematics	K.MD.2.3
Physical Education	PE.K.C.1.2, PE.K.L.1.4, PE.K.L.2.4, PE.K.L.2.6, PE.K.M.1.13, PE.K.R.1.1, PE.1.C.1.2, PE.1.L.2.8, PE.1.R.1.3, PE.2.C.1.2, PE.2.L.2.11
Health	HE.K.B.3.2, HE.K.P.1.1

(room) equal distance apart, and make a starting line on the other end.

5. If you chose to use additional seeds not listed above, research a basic nutritional value for the students to be able to identify with the fruit or vegetable and provide added seeds or seed cards for the students.
6. Review information from the USDA National Agriculture Library for background information on the importance of vegetables and healthy eating.
7. Review information from the FDA Nutrition Information website for background information.

Vocabulary: fruit, nutritional value, relay, seeds, vegetable

Background Information:

Students will have the opportunity to actively identify and describe vegetables, seeds and their key values. Their skills will be tested by participating in an exciting relay race, activating them physically and challenging them mentally.

It is important to gather seeds from the list on the worksheet. These seeds have been selected as they each are unique enough to be distinguished among the others, while providing diversity in the vegetables and nutritional values.

It may seem challenging for very young students to learn what fruit a particular seed will produce, but these children will learn exactly this as they garden. The shape, color and size of seeds will become commonplace. As the garden grows and they learn to distinguish between plants and weeds they will also see how similar seeds may produce very different plants or very similar plants. Or the plants may appear different but flowers and fruit will be similar. Or the opposite may be true. The plants may appear similar but the fruit will be different. This will be a very early introduction to botanical classification and lead students to understand why groups of plants are classified as families.

After the activities, the remaining seeds can be used in the school garden.

Activity One:

1. **Opener:** Introduce the topic of vegetables and fruits. Provide a basic review of how eating fruits and vegetables is an important part of a healthy lifestyle, how they taste good, and how they are an important part of different cultures. (How could we have spaghetti or pizza without tomatoes?) and celebrations (What would Thanksgiving be without squash and pumpkin pie?) Describe the food groups and where vegetables and fruits fit in *MyPlate*.

2. **I do:** Show students all of the fruits and vegetable seeds from the *Seed Connections/Food Facts Student Worksheet* sheet and describe how each of them helps the human body individually. Place seeds on teacher's own larger version of a seed connection worksheet as she describes it.
3. **We do:** Teacher gives students a clue (i.e., "helps eyes"). Students think for 10 seconds about which fruit or vegetable this is. Students share this fruit or vegetable with their partners. Students raise their hand and share with teacher. (Repeat for all fruits and vegetables.)
4. **I do:** Teacher takes down her large *Seed Connections/Food Facts Student Worksheet*. Hand out the *Seed Connections/Food Facts Student Worksheet* - one per student. Each student gets a bag of all of the fruit and vegetable seeds (if seeds aren't available use pictures of seeds). Teacher holds up a *Seed Card* one at a time. Students must find this seed. Teacher then calls out a clue (i.e. helps eyes). Students must glue or tape this seed next to the fruit or vegetable that coincides with the clue. Repeat for all seeds.

Activity Two:

1. **Opener:** Students think for 10 seconds about one fruit or vegetable they learned about in the previous activity and how it helps the human body. Students share with a partner. Students share with the teacher.
2. **I do:** Teacher describes that categorizing involves grouping things based on how they are alike. One way to



categorize is by how something looks. Teacher describes how each student and his or her partner will get a bag of seeds that they learned about the previous activity. Students will have to categorize or group the seeds by looks. Teacher demonstrates by categorizing or moving all of the carrot seeds into one group and describing their similar features (size/color).

3. **We do:** In pairs of students with mixed abilities, students are given a bag of different seeds. Students must separate and categorize their seeds.
4. **I do:** Individually, each student chooses two seed groups to compare (i.e., carrots and collard greens). Students draw a Venn diagram. Using their *Seed Connections/Food Facts Student Worksheet* from the previous activity students label their Venn diagram. Students then draw or write one way their two seeds are alike and one way they are different.

Activity Three:

NOTE: This activity is best conducted outdoors, if possible. The goal of running in the relay should be to increase the students' heart rates but safely running between the starting line and the location of the vegetable images is important.

1. **Opener:** Discuss information about fruits and vegetables.
 - a. "When do you like to eat _____?"
 - b. "Do you like to eat _____ raw?"
 - c. "Do you like to eat _____ cooked as _____?"
 - d. "Do you like to eat _____ mixed into _____."
 - e. "Is there a holiday or season when you eat this food?"
 - f. "How does this food help your health?"
 - g. "What flavor does this food have?" (sweet, sour, hot, spicy, bland, etc.)
2. **I do:** Show students the seeds they have been learning about the past two activities. Remind students to look at the seeds and how they match the fruit or vegetable.
3. **We do:** Play "I have, Who Has." Pass out a fruit or vegetable picture to half of your students and a seed picture to the other half of students. All students stand up in a circle. One student begins by saying "I have a picture of a _____ (fruit/vegetable). Who has my matching seed?" The person who has the matching seed raises their hand and shows everyone their seed picture. The pair of students sit down. Teacher selects the next fruit/vegetable student to say "I have a picture of a _____ (fruit or seed). Who has my seed?" And repeat the process until everyone is sitting down.
4. **You do:** Set up and conduct a vegetable relay –
 - a. Students are divided into four teams (or divide your

students into teams of equal groups). Teams stand in lines outside if possible.

- b. Opposite the four teams (25-75 feet away) place brown paper bags. There should be one bag per student on the team. (i.e. if you have three students per team then there are three paper bags at the opposite end for each team). On each paper bag glue a large picture of a fruit/vegetable.
- c. Each student is given a fruit or vegetable *Seed Card Master* that corresponds to one of their vegetable/fruit paper bag.
- d. Discuss rules with students: No crashing into each other. No pushing other students out of the way. The first person arriving at a bag shows the judge his or her seed first and the rest must wait in line.
- e. When "go" is called, students run to the opposite end, place their seed card in the correct vegetable/fruit bag and run back to their line. Once they have gone, students take a seat in their line. Once all students are sitting down, the teacher stops the game. The teacher checks the students' vegetable bags for accuracy.
5. **Closer:** Teacher asks the question "Why is physical exercise important to your health?" Students do "hand up-stand up-pair up" - Students stand up and put up their hand. Students walk around and find another person with his or her hand up. Student gives this person a high five and the two become a pair. Students then sit down and discuss the answer to the question.

Evaluation Options:

1. Have students complete the *Quiz: Seed Connections/Food Facts* by matching the fruit or vegetable to the corresponding concept on the right by drawing a line.
2. Assess for accuracy the seed placement on the worksheet.
3. Evaluate student accuracy and participation in the relay, which requires them to be active, work as a team, and accurately identify the seed.
4. Assess the accuracy of those students serving as judges.

Extensions or Variations:

1. Re-run the relay with the same rules but an addition — when the students place their seed card they have to tell the judge or teacher a food fact about their fruit or vegetable and the judge will have to approve the food fact before the seed card is placed. (Judges will have to make sure they remember the facts about their fruit or vegetable.)
2. Use different types of peppers (bell pepper, chili peppers, jalapeno peppers, Hungarian wax peppers) or tomatoes

(cherry tomatoes, heirloom tomato varieties, paste tomatoes, yellow tomatoes and slicing tomatoes) to show students how similar all of the seeds look from each species of plant. Compare the seed to the picture of the plant fruit on the seed packet. Ask them to speculate how all the seeds can look so similar and yet produce peppers and tomatoes so different from one another. Grow out the seeds and compare how the plants differ and how they are similar.

3. Give those students serving as judges an opportunity to run the relay and have other students serve as judges by switching roles and rerunning the relay on another day.
4. Have students identify the major nutrient provided by each of the fruits and vegetables for which they have seeds.
5. The relay activity can also be complete with the identification of the stages of seed germination as an extension to both this lesson as well as the lesson titled “Yo Seeds, Wake Up” from *Gardening for Grades*.

6. Sprout these seeds to grow plants for the garden, noting how the seeds germinate.

Resources:

Downloadable nutrition facts for fruits and vegetables from the Food & Drug Administration:
www.fda.gov/downloads/Food/GuidanceRegulations/ucm063477.pdf

USDA National Agriculture Library www.fnic.nal.usda.gov/dietary-guidance/fruits-veggies-more-matters-resources/fruit-and-veggie-pages

Credits:

www.pforlife.com/fruits-vegetables-their-benefits.html



Vegetable Relay

Sample Pre-Post Assessment

1. Why are fruits and vegetables good for you?
2. Should you eat fruits and vegetables every day?
3. Do different types of seeds make different plants?
4. Do different plants make different fruits or vegetables?




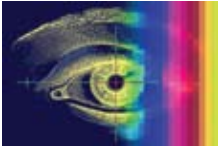
















Seed Card Master

Watermelon	Carrot
Cantaloupe	Radish
Peas	Onion
Collard Greens	Peppers
Squash	Tomato

Seed Connections / Food Facts Student Worksheet

Name: _____




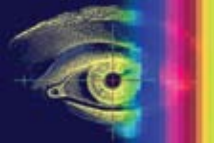
















Why are fruits and vegetables good for you? The benefit of the fruit or vegetable is described next to it. Tape the seed of that plant next to the image of the fruit or vegetable.

Watermelon		⇒	Cool snack on a hot summer day, and promotes weight loss	
Carrot		⇒	Helps eyesight	
Collard Greens		⇒	Makes bones stronger	
Pepper		⇒	Gives you energy to play and vitamin C Comes in a wide variety of colors	
Cantaloupe		⇒	Vitamin A, wards off illness	
Radish		⇒	Spices up a salad	
Tomato		⇒	Good fresh on a sandwich or cooked into a sauce	
Squash		⇒	Comes in a variety of sizes, shapes and colors	
Peas		⇒	High in fiber	
Onion		⇒	Flavors many foods, can make you cry when you slice it and lowers cholesterol	

Quiz: Seed Connections / Food Facts




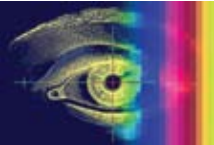















Name: _____

Why are fruits and vegetables good for you? Match the fruit or vegetable with its benefit.

<p>Watermelon</p> 	<p>Makes bones stronger</p> 
<p>Carrot</p> 	<p>Helps eyesight</p> 
<p>Collard Greens</p> 	<p>Vitamin A, wards off illness</p> 
<p>Pepper</p> 	<p>Good fresh on a sandwich or cooked into a sauce</p> 
<p>Cantaloupe</p> 	<p>Cool snack on a hot summer day, and promotes weight loss</p> 
<p>Radish</p> 	<p>Gives you energy to play and vitamin C Comes in a wide variety of colors</p> 
<p>Tomato</p> 	<p>High in fiber</p> 
<p>Squash</p> 	<p>Flavors many foods, can make you cry when you slice it and lowers cholesterol</p> 
<p>Peas</p> 	<p>Spices up a salad</p> 
<p>Onion</p> 	<p>Comes in a variety of sizes, shapes and colors</p> 

Answer Key: Seed Connections / Food Facts

Why are vegetables good for you? Match the vegetable with its benefit. Then tape the seed to the matching vegetable.

<p>Watermelon</p> 	<p>Makes bones stronger</p> 
<p>Carrot</p> 	<p>Helps eyesight</p> 
<p>Collard Greens</p> 	<p>Vitamin A, wards off illness</p> 
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