

## Let's Celebrate Our Success

**GOALS:** To conclude the nutrition and gardening lessons by making connections between healthy bodies and healthy gardens.

**OBJECTIVES:** Students will compare similarities to being healthy and keeping a healthy garden. Students will celebrate their success with a final project.

### MATERIALS

- Depends on how you want to celebrate

### TIME

60 minutes

### STANDARDS:

*depends on project you choose*

*can easily involve:*

Science: *Life Science Units:*

Reading & Writing:

*Grades 2-6 = standards 2 & 3*

Math:

*Grade 2 – 5 = standard 1, 2 & 5*

### METHOD:

Introduction: 5 minutes

### *Did you Know?*

Gardening provides aerobic, isotonic and isometric exercise, the combination of which benefits the muscles and bones, as well as the respiratory and cardiovascular systems. Strength, endurance and flexibility are all improved by gardening, making it one of the best all-round exercises.

1. Discuss: You are now all experts in nutrition and gardening and you know how healthy bodies are connected to healthy gardens.

Activity: 15 minutes

1. Divide class into small teams.
2. Challenge each team to generate a list of how having a healthy body is similar &/or connected to having a healthy garden.
3. Have them make 2 columns on a sheet of paper:

Healthy Body	Healthy Garden
Need nutrients	Need nutrients
Working in the garden keeps us healthy	Food from garden keeps us healthy

4. Give them a certain amount of time and whichever team can generate the longest list wins.

Final Project:

Ideas:

- Plant sale from grow lab plants

- Youth farmer's market – purchase produce from local farm or local store and sell to teachers and parents after school to encourage community to eat healthy.
- Transplant seedlings for students to take home
- Create nutrition bags – decorating the bag and filling with recipes the class did all year (make a recipe book), transplanted plants (salsa garden plants) & healthy snacks (summer fruit)
- Picnic in the garden – make a variety of food and eat in the garden
- Cooking demo from professional chef (contact Operation Frontline)
- Play games in the garden

Conclusion:

Take journals home

# Vegetable Planting Guide

Vegetable	Warm Weather	Cool Weather	Sow in Flat	Sow Direct	Spring Planting		Fall Planting
					Start seeds*	Set-out*	
Bush Beans	•			•	3-4 before	1-2 after	12 before
Pole Beans	•			•	3-4 before	1-2 after	12 before
Beets	•			•		2-4 before	8-10 before
Broccoli		•	•		5-8 before	5-8 before	14-17 before
Brussel Sprouts		•	•		5-8 before	4-6 before	17 before
Cabbage		•	•		4-6 before	5 before	13-14 before
Carrots	•	•		•		2-4 before	13 before
Cauliflower		•	•		5-8 before	1-2 before	14 before
Celery	•		•		8-10 before	2-3 before	19 before
Chard	•	•		•		2-4 before	6 before
Corn	•			•	3-4 before	1-2 after	6 before
Cucumber	•			•	2-3 before	1-2 after	11 1/2 before
Eggplant	•		•		6-8 before	2-3 after	14 before
Garlic		•		•		6 before	Sept. w/mulch
Kale		•	•			5 bef-2 aft	6-8 before
Kohlrabi		•	•			5 bef-2 aft	10 before
Leeks		•	•		8-10 before	5 before	
Lettuce	•	•	•			2-4 b:3 aft	6-8 before
Onion		•	•			3 bef:2 aft	8 after spring
Parsley	•	•	•	•	4-6 before	1-2 after	
Peas		•		•		4-6 bef; 2-3 aft	12 before
Peppers	•		•			1-3 after	
Potatoes	•			•		4-6 before	
Pumpkin	•			•		after frost	
Radish	•	•		•		4-6 before	7 before
Spinach	•	•		•		3-6 before	6-8 before
Squash, Summer	•			•		1-4 after	10 before
Squash, Winter	•		•			2 after	13 before
Tomatoes	•					2-4 after	

\*Weeks before or after last frost \*\*Weeks before 1st frost

Vegetable	Days to Emerge	Days to Harvest	Spacing of Plants (inches)	Depth to Plant Seeds (inches)	Soil Temp. for Germination	Best Air Temp. for Growing
Bush Beans	4-10	50-60	6	1	60-85	60-80
Pole Beans	4-10	60-70	6-8	1	60-85	60-80
Beets	7-10	50-80	2-4	1/2	60-75	50-75
Broccoli	5-10	80-100	15-18	1/4	50-65	60-75
Brussel Sprouts	8-10	100-110	18	1/4	65-75	55-70
Cabbage	4-10	80-100	18	1/4	50-75	50-75
Carrots	10-17	50-75	2	1/4	55-75	45-75
Cauliflower	5-10	60-80	15-18	1/4	50-75	60-72
Celery	7-12	90-120	6	1/4	50-75	60-75
Chard	7-14	45-55	8	1	40-70	45-70
Corn	3-10	90-110	12-15	1	55-85	50-95
Cucumber	3-8	60	12-24	1	65-85	60-80
Eggplant	5-13	90	18	1/2	65-85	65-85
Garlic		180-200	4-6	1/2		
Kale		100-120	15	1/2	40-70	40-70
Kohlrabi	5-10	50-70	6-9	1/4	50-75	40-75
Leeks	7-14	130-160	4-6	1/2	below 70	60
Lettuce	2-10	60-80	10-12	1/4	45-70	55-70
Onion	4-12	85-200	4	1/4	50-80	60-85
Parsley	11-27	70-90	4	1/4		
Peas	6-15	60-80	4	1	40-75	55-75
Peppers	8-20	80-100	10-12	12	65-85	65-85
Potatoes	10-15	140-160	10-12	6	60-65	60-80
Pumpkin	7-10	110-130	36	1	65-85	50-90
Radish	3-10	25-40	1	1/4	40-85	45-75
Spinach	6-14	50-55	4-8	1/4	60-70	40-75
Squash, Summer	3-12	50-60	15-24	1	65-85	60-85
Squash, Winter	4-10	80-120	24-36	1/2 to 1	65-85	60-85
Tomatoes	6-14	80-100	18-24	1/4 to 1/2	65-85	65-85

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# Vegetable Planting Guide

## Additional Comments

**Bush Beans** sensitive transplanting; pinch extra plants, don't pull them. Pick every 3 - 7 days.

**Pole Beans** sensitive transplanting; pinch extra plants, don't pull them. Pick every 3-7 days.

**Beets** Thin when young and cook tops as greens.

**Broccoli** Keep cool to get stocky plants, but don't go below 40°F. Transplant into beds up to first true leaves. Harvest main head when buds begin to loosen. Side heads will form after first head is cut.

**Brussel Sprouts** Keep cool to get stocky plants, but don't go below 40°F. Harvest sprouts when they are 1 1/2" wide. Pick lower ones first. 40°F. Harvest sprouts when they are 1 1/2" wide. Pick lower ones first.

**Cabbage** Harvest when head is formed. Keep cool to get stocky plants but don't go below 40°F.

**Carrots** Thin when plants are small; harvest any size.

**Cauliflower** Tie outer leaves around head to protect from sun. Likes temperature between 57'-68°F.

**Celery** Must go below 60°F at night for seeds to germinate. Requires a lot of nutrients and water.

**Chard** Cut leaves close to ground when 8-10" high. Harvest outer leaves first.

**Corn** Sensitive to transplanting, pinch extra plants. Plant in blocks, harvest when kernals are milky.

**Cucumber** Somewhat sensitive to transplanting; pinch extra plants. Mound soil into hills; plant 3 seeds per hill.

**Eggplant** Grows well in hot weather, harden off carefully.

**Garlic** Harvest with digging fork when tops start to die.

**Kale** Keep cool to get stocky plants, but not below 40°F. Cut outer leaves closer to stem when 10" or longer.

**Kohlrabi** Keep cool to get stocky plants, but not below 40°F. Harvest when enlarged stem is 3" in diameter.

**Leeks** Keep cool to get stocky plants, but not below 40°F. Plant out when 4" high.

**Lettuce** Keep cool to get stocky plants, but not below 40°F. Head lettuce likes repotting. Plant successively every two weeks. Will go to seed in high temperatures. Harvest outer leaves of leaf lettuce vs. head.

**Onion** Harvest with digging fork when tips start to die back.

**Parsley** Soak seeds overnight before planting to speed germination, be patient! Cut outer leaves near stem.

**Peas** Sensitive to transplanting, pinch extra plants, don't pull them. Harvest frequently.

**Peppers** Sensitive to cold, harden off gradually. Green peppers turn red when ripe.

**Potatoes** Very tender; cannot tolerate frost. Dig up with digging fork after tops have flowered.

**Pumpkin** Sensitive to transplanting; pinch, don't pull plants. Plant in hills, 3-4 plants per hill, 6-8 ft. apart.

**Radish** Plant every 10 days. Will get woody when over-mature.

**Spinach** Keep cool for stocky plants. Plant every 2 weeks. Will go to seed in hot weather.

**Squash, Summer** Sensitive to transplanting; pinch extra plants, don't pull them. Harvest frequently

**Squash, Winter** Sensitive to transplanting; pinch extra plants, don't pull them. Can store through the winter.

**Tomatoes** Prefers warm days and cool nights. Taste the difference!

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# Companion Planting Guide

Vegetable	Plant with	Don't plant with
Beans	Potatoes, carrots, cucumbers cauliflower, cabbage, summer savory, most other vegetables and herbs	Onion, garlic, gladiolus
Beans, Bush	Potatoes, cucumbers, corn, celery, summer savory, sunflowers, strawberries	Onions
Beans, Pole	Corn, summer savory	Onions, beets, kohlrabi, sunflower
Beets	Onions, kohlrabi	Pole beans
Cabbage Family (cabbage, cauliflower, kale, kohlrabi, broccoli)	Aromatic plants, potatoes, celery, dill, chamomile, sage, peppermint, rosemary, beets, onions, thyme, lavender	Strawberries, tomatoes, pole beans
Carrots	Peas, leaf lettuce, chives, onions, leek, rosemary, sage, tomatoes	Dill
Celery	Leek, tomatoes, bush beans, cucumbers, pumpkin, squash	
Corn	Potatoes, peas, beans, cucumbers, squash, pumpkin	
Cucumbers	Beans, corn, peas, radishes, sunflowers	Potatoes, aromatic herbs
Eggplant	Beans	
Leek	Onions, celery, carrots	
Lettuce	Carrots and radishes (lettuce, carrots, and radishes make a strong team grown together), strawberries, cucumbers	
Onion/Garlic	Beets, strawberries, tomato, lettuce, summer savory, chamomile, beans (protects against ants)	Peas
Parsley	Tomatoes, asparagus	
Peas	Carrots, turnips, radishes, cucumbers, corn, beans, most vegetables, herbs (adds Nitrogen to soil)	Onions, garlic, gladiolus, potatoes

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Carrots	10-17	50-75	2	1/4	55-75	45-75
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Eggplant	5-13	90	18	1/2	65-85	65-85
Garlic		180-200	4-6	1/2		
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Potatoes	10-15	140-160	10-12	6	60-65	60-80
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Squash, Summer	3-12	50-60	15-24	1	65-85	60-85
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Tomatoes	6-14	80-100	18-24	1/4 to 1/2	65-85	65-85

Herbs	Companions and Effects
Hyssop	Companion to cabbage and grapes; deters cabbage moth; keep away from radishes.
Lamb's Quarters	This edible weed should be allowed to grow in moderate amounts in the garden, especially in the corn.
Lemon Balm	Sprinkle throughout garden.
Marigolds	The workhorse of the pest deterrents; plant throughout garden especially with tomatoes; it discourages Mexican bean beetles, nematodes, and other insects.
Mint	Companion to cabbage and tomatoes; improves health and flavor; deters white cabbage moth.
Marjoram	Plant here and there in garden; improves flavor.
Nasturtium	Companion to tomatoes and cucumbers.
Petunia	Protects beans; beneficial throughout garden.
Purslane	This edible weed makes good ground cover in the corn.
Pigweed	One of the best weeds for pumping nutrients from the subsoil, it is especially beneficial to potatoes, onions, and corn; keep weeds thinned.
Rosemary	Companion to cabbage, bean, carrots, and sage; deters cabbage moth, bean beetles, and carrot fly.
Rue	Keep it far away from sweet basil; plant near roses and raspberries; deters Japanese beetle.
Sage	Plant with rosemary, cabbage, carrots, beans, and peas; keep away from cucumbers; deters cabbage moth and carrot fly.
Summer Savory	Plant with beans and onions, improves growth and flavor; deters bean beetles.
Tansy	Plant under fruit trees; companion to roses and raspberries; deters flying insects, Japanese beetles, striped cucumber beetles, squash bugs, and ants.
Tarragon	Good throughout the garden.
Thyme	Plant here and there in the garden; it deters cabbage worm.
Yarrow	Plant along borders, paths, near aromatic herbs; enhances essential oil production.

Adapted from *Organic Gardening and Farming*, February 1972, pp. 32-33, 54, and *The Encyclopedia of Organic Gardening*, Rodale Press, Inc., 1978, pp. 233-235.