Planning Our Garden

G4+up

Objective

Learners will be able to gather information from several sources to create a garden planning chart for their school garden.

Background

Gardeners use various techniques to help them plan a vegetable garden. Understanding the timing for sowing, planting and harvesting of many different vegetable varieties can sometimes be overwhelming. Previous gardeners' expertise is often collected in many different materials from seed packets, to zone charts and garden guides. This lesson will teach you how to see the over all plan of your garden in order to ensure a more successful season.

Materials

Pencils
Seed packets or seed catalogs, 4 per table
Slow Food Plant Cultivation Chart, one per table
Blank Slow Food Garden Planning Chart, one per table
Sample Garden Planning Chart, one per table
Year long calendar
Graph Paper, 2-3 sheets per table

Preparation

Divide the class into groups of 8 learners
Make sure each table has the materials
Create a large version of the **Garden Planning Chart** on a whiteboard for the entire class.

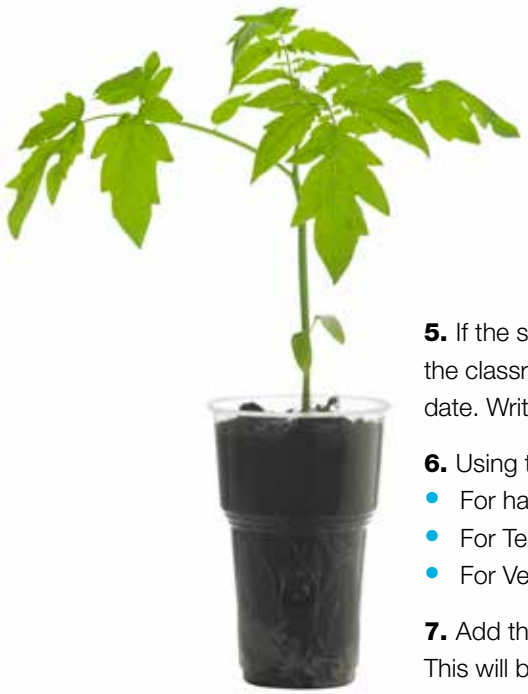
Activity

1. Find out which USDA agricultural zone you live in by entering your zip code at this website: http://planthardiness.ars.usda.gov/PHZMWeb/. You can also print out a map of your state's zones. Write the zone at the top of the **Garden Planning Chart**.

2. Find out what your average last frost date is by entering your zip code on this website: http://www.almanac.com/content/frost-chart-united-states. Write the date in the appropriate blank at the top of the **Garden Planning Chart**. You will use this date when you calculate what time to start your seeds indoors or plant them outdoors.

3. Have each group use the seed packets to fill in the following blanks on the form: Plant name (use the full name including variety), Seed Depth, Seed Spacing, Days to Sprout, and Days to Maturity.

4. Use the **Plant Cultivation Chart** to look up whether or not the plant variety needs a heating mat to start the seeds, and type of plant hardiness.



5. If the seeds can be started inside, calculate the date that learners should plant the seeds in the classroom by subtracting the number of weeks in the Start Inside column from the last frost date. Write the date in the Start Inside column.

6. Using the hardiness information for each seed, fill in the Plant Outside Date.

- For hardy plants, subtract between 2 and 4 weeks before the last frost date.
- For Tender plants, add one week after frost date.
- For Very Tender plants, add 2 weeks after the last frost date.

7. Add the Days to Maturity to the Planting Outside date to get the Estimated Harvest date. This will be the earliest that the crop might be ready to harvest.

8. Use the **Sample Garden Planning Chart** to help learners fill out the form.

9. Enter all of the information provided by each group into the master form at the front of the classroom.

Discussion

Once the form has been filled out, you will understand the overall picture of your garden better.

Answer the following questions using the form:

- Do we have any plants that will be ready to harvest before the end of school?
- Which plants do we need to plant inside?
- Which plants or seeds can we plant outside early?
- Which ones must be planted after the last frost date?
- Which seeds can be planted directly into the ground?
- When is the best time to have a community planting day?
- Do we have plants that are ready to harvest in the middle of the summer? Who will harvest and eat these plants?
- How can we adjust the schedule to create more plants that are ready to be harvested when school is in session?

Further Exploration

Learners can explore the uses of spreadsheets by entering the data into a spreadsheet program such as Microsoft Excel. Afterwards, they can create a more powerful chart by sorting according to planting date or other columns.

Create a visual graph of the chart by using graph paper following the sample provided.

Print out and explore the zone map of the entire United States at http://planthardiness.ars.usda.gov/PHZMWeb/Images/All_states_halfzones_poster_300dpi.jpg. What would happen to your planting dates if you lived in a different zone?

What is Plant Hardiness?

Plant hardiness describes how much cold a plant can take and thrive. Some plants enjoy cold, even freezing weather, while others cannot tolerate even a light frost. Common annual fruits and vegetables fall under four types of plant hardiness.

Hardy and Semi-Hardy vegetables are also known as cold season vegetables. Tender and Very tender vegetables are also known as warm season vegetables.

40°F+
daytime temperature

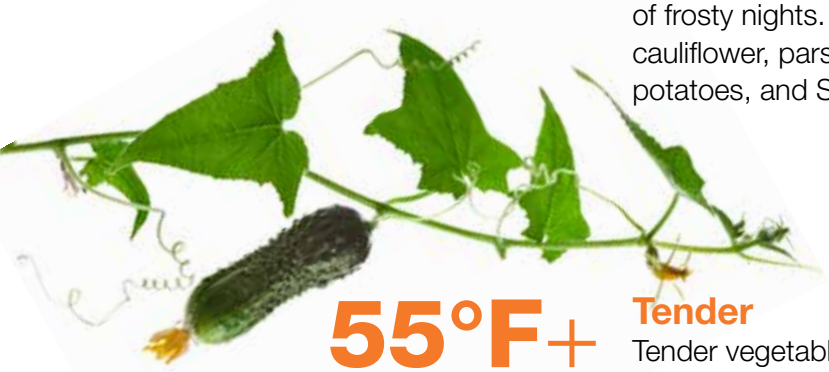
Hardy

Hardy vegetables grow with daytime temperatures as low as 40°F and can survive light frosts. They are often planted for a second crop mid summer. Examples include arugula, peas, lettuce, spinach, radish, broccoli, cabbage, and kohlrabi.

40°-50°F+
daytime temperature

Semi-Hardy

Semi-Hardy vegetables grow with daytime temperatures of 40°F-50°F but are less tolerant of frosty nights. Examples include beets, carrots, cauliflower, parsley, woody herbs, artichokes, potatoes, and Swiss Chard.



55°F+
daytime temperature

Tender

Tender vegetables prefer daytime temperatures above 55°F and are not tolerant of frost. Examples include corn, beans, summer squash, cucumbers and New Zealand spinach.

55°F+
nighttime temperature

Very Tender

Very tender vegetables must have evenings above 55°F to thrive and are not tolerant of frost. Examples include basil, tomatoes, peppers, eggplant, melons, winter squash and watermelon.

Plant Cultivation Chart

Name	Family	Edible Plant Part	Start Inside*	Hardiness†	Warming Mat?	Days until Harvest	Plant in Succession
Artichoke	Sunflower	Flowers	8-10	SH	No	110-150	No
Arugula	Cabbage	Leaves	No	H	No	40-55	Yes
Asparagus	Lily	Stems	No	H	No	2nd yr	No
Beans, Dried	Legumes	Seeds	No	T	No	85-100	No
Beans, Green	Legumes	Fruit	No	T	No	50-70	Every 4 weeks
Beet	Beets	Roots	No	SH	No	50-70	Yes
Broccoli	Cabbage	Flowers	6-8	H	No	50-65	85-100 days before 1st frost
Cabbage	Cabbage	Leaves	6-8	H	No	60-90	85-100 days before 1st frost
Cantaloupe	Cucumber	Fruit	2-4	VT	No	75-100	No
Cardoon	Sunflower	Leaves	8-12	H	No	110-150	No
Carrot	Parsley	Roots	No	SH	No	60-80	Every 3 weeks
Cauliflower	Cabbage	Flowers	6-8	SH	No	55-80	85-100 days before 1st frost
Celery	Parsley	Leaves	6-10	H	No	100	No
Corn	Grasses	Seeds	No	T	No	65-100	No
Cucumber	Cucumber	Fruit	No	T	No	55-65	No
Eggplant	Nightshade	Fruit	8-12	VT	Yes	75-90	No
Fava bean	Legumes	Seeds	No	H	No	85-100	85-100 days before 1st frost
Fennel	Parsley	Leaves	6-8	H	No	90-115	No
Garlic	Lily	Roots	No	H	No	90-150	No
Kale	Cabbage	Leaves	6-8	H	No	50-85	60-80 days before 1st frost
Kohlrabi	Cabbage	Stem	6-8	H	No	55-70	85-100 days before 1st frost
Leek	Lily	Roots	6-10	H	No	100-120	No
Lettuce	Sunflower	Leaves	No	H	No	45-60	60 days before last frost
Onion	Lily	Roots	6-8	H	No	100-120	No
Parsnip	Parsley	Roots	No	SH	No	110-130	No
Peanut	Legumes	Seeds	4-6	VT	Yes	120-150	No
Pea	Legumes	Seeds	No	H	No	55-85	60-80 days before 1st frost
Pepper	Nightshade	Fruit	8-12	VT	Yes	60-90	No
Potato	Nightshade	Tuber	No	SH	No	90-120	No
Radish	Cabbage	Roots	No	H	No	22-70	Yes
Rhubarb	Buckwheat	Leaves	No	H	No	2nd yr	No
Rutabaga	Cabbage	Roots	No	SH	No	80-100	No
Shallot	Lily	Roots	6-8	H	No	60-75	No
Spinach	Beets	Leaves	6-8	H	No	45-60	Yes
Squash, Winter	Cucumber	Fruit	No	T	No	85-120	No
Squash, Summer	Cucumber	Fruit	2-4	T	No	50-60	No
Strawberry	Rosacea	Fruit	No	H	No	2nd yr	No
Sweet Potato	Morning Glory	Tuber	No	VT	No	100-125	No
Swiss Chard	Beets	Leaves	6-8	SH	No	40-80	Yes
Tomatillo	Nightshade	Fruit	8-10	VT	Yes	85-90	No
Tomatoes	Nightshade	Fruit	8-12	VT	Yes	65-90	No
Turnip	Cabbage	Roots	No	SH	No	45-70	No
Watermelon	Cucumber	Fruit	2-4	VT	No	70-100	No

*** Numbers indicate number of weeks before last frost date**

† **Key: H=Hardy** (2-4 weeks before last frost), **SH=Semi Hardy** (0-2 weeks before last frost), **T=Tender** (after last frost), **VT=Very Tender** (2 weeks after last frost)

Garden Planning Chart

What zone is your garden in? _____ **What is your last average frost date?** _____

PLANT NAME	**Start inside?** Calculate	**Heating Mat?** Cult Chart	**Hardiness** Cult Chart	**Plant outside?** Calculate	**Seed Depth** Package	**Seed Spacing** Package	**Days to Sprout** Package	**Days to Maturity** Package	**Replant** Package	**Estimated Harvest** Calculate

Key: H=Hardy (2-4 weeks before last frost), **SH=Semi Hardy** (0-2 weekd before last frost), **T=Tender** (after last frost), **VT=Very Tender** (2 weeks after last frost)

Garden Planning Chart Sample

What zone is your garden in? Denver Zone 5b **What is your last average frost date?** April 30

PLANT NAME	Start inside? Calculate	Heating Mat? Cult Chart	Hardiness Cult Chart	Plant outside? Calculate	Seed Depth Package	Seed Spacing Package	Days to Sprout Package	Days to Maturity Package	Replant Package	Estimated Harvest Calculate
Ace Tomatoes	16-Mar	yes	VT	14-May	1/4”	2ft	5-10	80		3-Aug
Cascadia Snap Pea	no	n/a	H	23-Mar	1”	2”	5-10	58		9-May
Wando Shelling Pea	no	n/a	H	26-Jul	1”	2”	5-10	68		12-Sep
Nantes Carrots	no	n/a	SH	1-May	1/4”	2”	14-21	62	3 weeks	3-July

Key: H=Hardy (2-4 weeks before last frost), **SH=Semi Hardy** (0-2 weekd before last frost), **T=Tender** (after last frost), **VT=Very Tender** (2 weeks after last frost)

Visual Planning Chart Sample

Visual Planning Chart

JAN	FEB	MAR	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC