Learn, Grow, Eat & Go! is a curriculum of the Junior Master Gardener® program

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What is Learn, Grow, Eat & Go!?

**Learn, Grow, Eat & Go!** (LGEG) is a 10-week unit of study that is hands-on, multifaceted, and academically rich.

This curriculum marks the culmination of 5 years of research into the impact of the Junior Master Gardener® program on children, schools, and families. It incorporates the best practices identified by the research and combines the interdisciplinary elements of nutrition, garden science, physical activity, food preparation, and fresh vegetable tastings to improve the health and wellness of children, families, and the school community.

The content of this curriculum has been written by teachers and content experts and then intensely evaluated and creatively presented to maximize academic gain and positive behavioral change for better health. The integration of science, math, social studies, health, and language arts make LGEG an excellent academic enrichment program for schools.

**Learn, Grow, Eat & Go!** is made up of a 20-lesson base curriculum with optional "Growing further" lesson extensions. It also features food exposures through fresh sampling and evaluation, Garden Kitchen recipes, and brief Go Strong classroom exercises to maximize benefits to students.

To complement and support this project you can access a wealth of support materials at the Learn, Grow, Eat & Go! website at www.jmgkids.us/LGEG.

These online family engagement and teacher resources include:

- Parent newsletters
- How-to gardening videos
- Family Stories
- Food prep and recipe demo videos
- Proven ways to increase physical activity in students
- Printable student pages (including garden journals and Garden Kitchen recipes)
- And a host of other resources to help make sure your class’s garden project is a success!

This curriculum is an effective tool to help your students grow and nourish healthy minds and bodies!
Learn, Grow, Eat & Go! Base curriculum

**Base curriculum**

2 lessons/week

To earn certification, the students in your class must complete the base curriculum and participate in a class service-learning project (pages 174–175).

**Week 1**
45 minutes - Know & Show Sombrero
30 minutes - 5 Senses Food, Tasting 1: Fresh carrots

**Week 2**
30 minutes - Tops & Bottoms, Plant Parts We Eat
45 minutes - Nutrients to Grow

**Week 3**
15 minutes - Don’t Crowd Me
45 minutes - Paper Towel Gardening

**Week 4**
30 minutes - A Place to Grow, Home Sweet Home
45 minutes - Balloon Hot Potato

**Week 5**
30 minutes - Rules are Rules and Schedule It*
30 minutes - MyPlate

**Week 6**
60 minutes - Veggie Research and Garden Graffiti
30 minutes - GO, SLOW, WHOA Classification

**Week 7**
30 minutes - 10 in 2 Color Box
30 minutes - 1-Week Dinner Tracker

**Week 8**
40 minutes - Fruity Beauty and Blind Taste Test
40 minutes - Ugly Vegetables, The Tasty Unknown, Paper Chain

**Week 9**
40 minutes - Two Old Potatoes & Me, Growing New from Old
40 minutes - Greasy Grid Evaluation

**Week 10**
45 minutes - Kitchen Cotton Quantity Conversion
40 minutes - I Will Never Not Ever Eat a Tomato, Menu Mind Makeovers

**Nutrient-dense planting list**

Bell pepper, bok choy, broccoli, carrots, cherry tomatoes, cauliflower, potatoes, red leaf lettuce, spinach, squash, sugar snap peas, Swiss chard

**Vegetable/ plant features:**

`Carrots`

**Food exposures**

- **Food Exposure**
  - Fresh sample
  - Tasting 1: Fresh carrots

**Food exposure recipe**

- **Garden Kitchen:** Cinnamon Carrot Crunch (pages 139–140)

**Food exposures and physical activity features**

- **GO Strong**
  - Class exercise: 1: Take a Walk (page 161)

- **Week 2**
  - 30 minutes - 5 Senses Food, Tasting 1: Fresh carrots
  - 45 minutes - Nutrients to Grow

- **Week 3**
  - 15 minutes - Don’t Crowd Me
  - 45 minutes - Paper Towel Gardening

- **Week 4**
  - 30 minutes - A Place to Grow, Home Sweet Home
  - 45 minutes - Balloon Hot Potato

- **Week 5**
  - 30 minutes - Rules are Rules and Schedule It*
  - 30 minutes - MyPlate

- **Week 6**
  - 60 minutes - Veggie Research and Garden Graffiti
  - 30 minutes - GO, SLOW, WHOA Classification

- **Week 7**
  - 30 minutes - 10 in 2 Color Box
  - 30 minutes - 1-Week Dinner Tracker

- **Week 8**
  - 40 minutes - Fruity Beauty and Blind Taste Test
  - 40 minutes - Ugly Vegetables, The Tasty Unknown, Paper Chain

- **Week 9**
  - 40 minutes - Two Old Potatoes & Me, Growing New from Old
  - 40 minutes - Greasy Grid Evaluation

- **Week 10**
  - 45 minutes - Kitchen Cotton Quantity Conversion
  - 40 minutes - I Will Never Not Ever Eat a Tomato, Menu Mind Makeovers

Choose 6 crops that will grow this season in your garden, and then assign a week to feature it!
Weekly Lessons and Student Garden Journal
Objective
Analyze what plants need and how they support people and animals.

Supplies
1 assembled and decorated Know & Show Sombrero
Dry-erase board or poster
1 marker
Miscellaneous craft materials such as construction paper, balloons, feathers, and pipe cleaners
For each student: 2 large, square sheets of newspaper; 1 pen or pencil; 1 sheet of paper
For each group of 3 students: 1 roll of packing tape

Walk into the classroom wearing your Know & Show Sombrero. When the students ask about it, tell them that they will find out soon and will make one of their own. But first they must answer a few questions.

Begin a discussion about what people must have to be able to live. As the students call out needs, create a list on a dry-erase board or poster in front of the class. Include the five basic needs that all people share: Air, clothing, food, shelter, and water.

Ask a student to circle the items that the group says plants must have in order to live.

Next ask: Is there anything that plants need that people do not? Plants do not need clothing; most need no shelter unless they have been moved from their natural homes.
Have each student make a list of three to five plant needs.

Divide the students into teams of three. Tell them that they will work together to create newspaper hats that will become wearable art. Follow the steps below to demonstrate how to create the hats:

1. Place the middle of two large, square sheets of newspaper on top of a student’s head.
2. Bend down the outer edges of the paper flat against the sides of the student’s head. Cut a long strip of tape.
3. Tape the newspaper around the student’s head, starting over an ear. Continue wrapping until the tape encircles the head.
4. Curl up the edges of the newspaper to form the brim of the hat.

Tell the students that their assignment is to each create a hat from newspaper and tape. Let the team members help each other. Circulate around the room, assisting the teams as needed. If a few students are especially good at making hats, solicit their help with other teams.

Next, have them decorate the hats using the craft materials. Each decoration must represent a plant need. The students’ job is to symbolize all the plant needs on their hats. The only rule is that they can’t use words. Instead, they may use images, graphics, symbols, and other visual aids.

Give the students 20 to 25 minutes to decorate the hats.

Then ask three or four volunteers to point out the symbols on their hats and explain how each represents a plant need. Encourage the class to ask clarifying questions, and allow time for feedback or constructive comments.
Tell the class that there’s an easy way to remember the basic needs of plants. On the left side of the board or a poster, list each letter of the word PLANTS on a separate line, and tell the gardeners that clues to everything a plant needs are in that word.

Complete the chart as shown below, and challenge the students to recall the plant needs without looking at the list.

| P | Place: In a container or garden |
| L | Light: Sun or artificial light |
| A | Air: Oxygen and carbon dioxide |
| N | Nutrients: Nitrogen, phosphorus, potassium |
| T | Thirsty: Like all living things, plants need water |
| S | Soil: Or other media (sand, gravel, water) for growing roots |

Ask the class if the volunteers shared an idea about a plant need that they forgot to add to their hats. Give the students another 10 minutes to add items to the hats to represent the missing plant needs.

Optional extension: Growing further...

★ What are the basic things that all people need?

★ Work with your team to come up with an example of how people depend on plants for air, clothing, food, shelter, and water. Some possibilities:

- **Air:** Oxygen from the water that plants use to make food
- **Clothing:** Cotton, flax, and hemp for clothes; grass for skirts in Hawaii; wood from trees for buttons; flowers for decorations
- **Food:** Fruit such as apples and grapes, vegetables such as potatoes and green beans, grains such as wheat for bread and rice for cereal
- **Shelter:** Lumber and wallpaper from trees, cotton for tents, straw or palm leaves for roofs in some countries, bamboo for houses in other countries
- **Water:** Watermelons and cucumbers, which are more than 90 percent water

★ What is an example of how animals in nature depend on plants for air, food, shelter, or water? Examples: All animals need oxygen; cows eat grass; birds live in trees and make their nests from twigs and grasses, and lizards and other reptiles in deserts get their water from cacti

★ When all of their needs are met, plants use the energy from sunlight to grow. As they grow, the plants produce a source food for other living things. Other living organisms have to consume the food that plants produce. If plants are called *producers* because they *produce* food for other living things, what do we call the rest of us who *consume* that food? *Consumers*
Objective

Create planting templates divided into representative fractional amounts to ensure that the plants have enough room to grow.

Supplies

1 roll of paper towels (each towel about 1 foot square)

For each pair of students: 2 markers; 2 paper towels; 2 copies of the Garden Planting Chart (page 27) in which you have filled in the Recommended planting date column for your area; 1 bottle of washable glue; 1 packet of carrot seeds

For each student: School glue; 1 paper towel sheet; 1 Garden Planting Chart; 1 marker; 1 packet of vegetable seeds from the six crops that will be planted in the school garden this season; 1 clipboard; 1 sheet of paper; 1 pen or pencil

Ask your students how a roll of paper towels could help them make sure that their plants will have just the right amount of space.

Tell them that they will learn how to use this tool today when they begin planning their garden.

Divide the class into partners. Give each team two markers, two paper towels, a copy of the Garden Planting Chart, a bottle of washable glue, and a packet of carrot seeds.

Lead the class through these steps:

★ Hold up a paper towel. How many plants do you think would be able to grow in a garden that is only as large as this little space? It depends on the type of plant. Different plants need different amounts of space. For example, broccoli grows larger than carrots do, so it needs much more space.

★ In this first paper towel garden, we will grow carrots. At the top of the paper towel, write in small letters your name and the word carrots.

★ On your planting chart, find the column labeled Number of seeds or plants per paper towel. Look down that column to the row labeled Carrots. There the chart will tell you how many carrot seeds can be planted in an area the size of a paper towel.

★ What did you find? 16 seeds per paper towel

★ We will use the paper towels to make seed templates. The templates will help us space out the seeds to give the plants the room they need.
On your paper towel, we’ll evenly space 16 carrot seeds and then glue them on. How can we spread out the seeds on the paper towel so that each seed gets the same amount of space?

How can we divide the paper towel into sixteenths? Fold it in half four times.

In the center of each square, place a tiny dot of glue.

Carefully place a carrot seed on each glue dot.

Set out the towel to dry.

After the glue dries, we can lay the sheets on the ground in the garden, cover them with a thin layer of soil (see planting depth on chart), and water the seeds. In time, the glue will dissolve, the paper towel will compost in the soil, and the carrot seeds will grow in the perfect amount of space!

As an alternative to covering the paper towels with a layer of soil, your class could plant their paper towel seed templates following these steps:

1. Lay all of the paper towels in the proper places on the soil surface in the garden.
2. Wet the paper towels with a quick spray of water to weigh the towels and prevent them from blowing around.
3. Use a pencil to poke each seed down to the correct depth.

Once all of the seeds are planted, remove the seedless paper towels and throw them into a compost pile.

Point out the other vegetables on the planting chart and reiterate that some plants need more space than do others. If the students were creating a paper towel garden for spinach, they would divide the paper into ninths. And if they were planting Swiss chard, they would divide it into fourths.

Tell the class that this was a practice session for making the seed templates for the school garden.

Add that in the next few days, they may take their paper-towel carrot gardens home to start a mini garden in the ground or in a large pot of soil near their home.

School paper towel gardens

Before creating your class’s paper-towel garden templates, determine which plants will grow in your area during this season and the best dates to plant them. For tips on finding this information, see page 20.
Provide glue, markers, seeds, paper towels, and planting charts. Then assign each student a vegetable from the list above to create a paper towel garden. Instruct them to use the chart to answer these questions:

★ Will your plant be planted with seeds or transplants?
★ How deep should I plant the seeds?
★ How deep should I plant the transplants?
★ How many seeds or plants should I plant per paper towel?

Give the following directions:

1. On your paper towel, write:
   ★ Your name
   ★ The plant’s name
   ★ How deep to plant the seeds
   ★ When we should plant those seeds or transplants in our area
   ★ The fraction of the paper-towel space that each plant will need (such as 1/8 for sugar snap peas, 1/4 for Swiss chard, 1/1 for bell peppers, and 4/1 for squash)

2. If needed, fold your paper towels to create the right number of sections for your seed.

3. Glue one seed in the center of each section.

4. If your vegetable is not planted by seed—broccoli, cauliflower, potatoes, bell peppers, or tomatoes—instead of gluing, write a capital letter (T for tomato, B for broccoli) in the center of your towel. This designates how much space we will save in the garden for your crop.

5. If you will plant transplants, you may help your partner glue seeds to the paper towel.
It is a good idea to lay the templates in a single layer to dry overnight. If you stack them, they may become glued together.

After the glue has hardened, store the seed templates in a cool, dry place until they are planted.

Once the garden area has been prepared for planting, take the students outside with their clipboards, paper, pencils, and seeded paper towels.

Guide the students to the area in the garden where they should place each type of plant, and have them carefully place their towels accordingly.

Ask the students to each sketch a map of the garden and label where each type of plant will go.

Remind the students that the crops may have different planting dates, and ask them which of the plants will be planted first.

Close the lesson by pointing out that they are helping make sure their garden will be a success. By spacing the plantings correctly and planning the right dates to plant the seeds/transplants, they will be doing an excellent job as gardeners in providing for the needs of each of their plants.

Each week, the garden journal will include a section for the students to grade a new fresh food sample. If your class rates one this week, tell the students that they will again be scientists: They will carefully observe and evaluate a sample of a fresh vegetable.

First they will wash their hands using the Soap, Scrub, 20, and Dry rule.

Then they will look at, smell, feel, listen to, and taste the sample.

After they carefully consider each sense independently, they will give the sample a grade of A, B, C, D, or F based on each sense.

These fresh food exposures are optional. For ideas about how others could help provide samples of fresh produce for your class, see Food Tastings and Recipe Demos with Your Kids on pages 132–137.

Garden Journal 3

At the end of the lesson, give the students 5 to 10 minutes to write in their garden journals.
# Garden Planting Chart

<table>
<thead>
<tr>
<th>Crop</th>
<th>Recommended planting date</th>
<th>Number of days until emerging</th>
<th>Number of seeds or plants per paper towel</th>
<th>Planting depth</th>
<th>Number of days to harvest</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beans (bush)</td>
<td>5–10</td>
<td>9</td>
<td>1 inch</td>
<td>45–60</td>
<td></td>
</tr>
<tr>
<td>Beans (pole)</td>
<td>5–10</td>
<td>8</td>
<td>2 inches</td>
<td>50–70</td>
<td></td>
</tr>
<tr>
<td>Beets</td>
<td>7–10</td>
<td>9</td>
<td>⅛ inch</td>
<td>55–70</td>
<td></td>
</tr>
<tr>
<td>Bell peppers</td>
<td>Transplant</td>
<td>1</td>
<td>Transplant</td>
<td>110–120</td>
<td></td>
</tr>
<tr>
<td>Bok choy</td>
<td>3–10</td>
<td>4</td>
<td>⅛ inch</td>
<td>45–50</td>
<td></td>
</tr>
<tr>
<td>Broccoli</td>
<td>Transplant</td>
<td>1</td>
<td>Transplant</td>
<td>60–80</td>
<td></td>
</tr>
<tr>
<td>Brussels sprouts</td>
<td>5–10</td>
<td>1</td>
<td>¼ inch</td>
<td>120–150</td>
<td></td>
</tr>
<tr>
<td>Cabbage</td>
<td>5–10</td>
<td>1</td>
<td>¼ inch</td>
<td>60–120</td>
<td></td>
</tr>
<tr>
<td>Carrots</td>
<td>12–18</td>
<td>16</td>
<td>¼ inch</td>
<td>70–80</td>
<td></td>
</tr>
<tr>
<td>Cauliflower</td>
<td>Transplant</td>
<td>1</td>
<td>Transplant</td>
<td>60–100</td>
<td></td>
</tr>
<tr>
<td>Collards</td>
<td>5–10</td>
<td>4</td>
<td>½ inch</td>
<td>45–80</td>
<td></td>
</tr>
<tr>
<td>Cucumbers</td>
<td>6–10</td>
<td>2</td>
<td>1 inch</td>
<td>50–70</td>
<td></td>
</tr>
<tr>
<td>Garlic</td>
<td>5–10</td>
<td>16 cloves</td>
<td>1 inch</td>
<td>100–200</td>
<td></td>
</tr>
<tr>
<td>Kohlrabi</td>
<td>6–9</td>
<td>1</td>
<td>½ inch</td>
<td>50–75</td>
<td></td>
</tr>
<tr>
<td>Lettuce (head)</td>
<td>5–8</td>
<td>4</td>
<td>½ inch</td>
<td>45–90</td>
<td></td>
</tr>
<tr>
<td>Lettuce (leaf)</td>
<td>6–8</td>
<td>4</td>
<td>¼ inch</td>
<td>45–60</td>
<td></td>
</tr>
<tr>
<td>Mustard greens</td>
<td>3–8</td>
<td>4</td>
<td>½ inch</td>
<td>30–50</td>
<td></td>
</tr>
<tr>
<td>Onions</td>
<td>10–14</td>
<td>16</td>
<td>1 inch</td>
<td>80–120</td>
<td></td>
</tr>
<tr>
<td>Potatoes</td>
<td>14–28</td>
<td>1 seed potato piece</td>
<td>4 inches</td>
<td>70–90</td>
<td></td>
</tr>
<tr>
<td>Radishes</td>
<td>3–6</td>
<td>16</td>
<td>½ inch</td>
<td>25–40</td>
<td></td>
</tr>
<tr>
<td>Spinach</td>
<td>7–12</td>
<td>9</td>
<td>½ inch</td>
<td>40–60</td>
<td></td>
</tr>
<tr>
<td>Squash</td>
<td>4–6</td>
<td>1 seed per 4 squares</td>
<td>1 inch</td>
<td>45–90</td>
<td></td>
</tr>
<tr>
<td>Sugar snap peas</td>
<td>10–12</td>
<td>8</td>
<td>1 inch</td>
<td>60–100</td>
<td></td>
</tr>
<tr>
<td>Swiss chard</td>
<td>7–10</td>
<td>4</td>
<td>1 inch</td>
<td>45–80</td>
<td></td>
</tr>
<tr>
<td>Tomatoes</td>
<td>Transplant</td>
<td>1</td>
<td>Transplant</td>
<td>60–80</td>
<td></td>
</tr>
<tr>
<td>Turnip greens</td>
<td>4–8</td>
<td>4</td>
<td>½ inch</td>
<td>30–60</td>
<td></td>
</tr>
<tr>
<td>Turnips</td>
<td>4–8</td>
<td>9</td>
<td>½ inch</td>
<td>30–60</td>
<td></td>
</tr>
</tbody>
</table>

See page 20 for sources of planting date recommendations for your area.
E. Garden Skillet Sizzle

Ingredients
1 zucchini, coarsely chopped
1 yellow squash, coarsely chopped
1 red bell pepper, seeded and coarsely chopped
1 green bell pepper, seeded and coarsely chopped
1 yellow bell pepper, seeded and coarsely chopped
1 cup of grape tomatoes, halved
2 tablespoons of vegetable oil
2 tablespoons of reduced-fat Italian dressing
1/4 cup of grated Parmesan cheese

Directions
1. Wash your hands and clean your cooking area.
2. Wash and chop the vegetables as indicated above.
3. Add the vegetable oil, then heat the skillet to medium heat.
4. Add the zucchini, squash, bell peppers, and grape tomatoes to the skillet. Sauté them until they are tender, about 10 minutes, turning them occasionally.
5. Place the sautéed vegetables in a large serving bowl; add the dressing and Parmesan cheese; and mix them until they are evenly coated.

Utensils needed
Knife
Cutting board
Medium skillet
Mixing spoon
Large serving bowl
Measuring spoon
Measuring cup

Nutrition Facts
Serving Size 1/2 cup
Servings Per Container 6
Amount Per Serving
Calories 70 Calories from Fat 40
% Daily Value*
Total Fat 4.5g 7%
Saturated Fat 1g 5%
Trans Fat 0g
Cholesterol 0mg 0%
Sodium 80mg 3%
Total Carbohydrate 6g 2%
Dietary Fiber 1g 4%
Sugars 3g
Protein 2g

Vitamin A 15% • Vitamin C 140%
Calcium 4% • Iron 2%

*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.

Kitchen math
1. In the circle below, add: >, <, or =
   I whole zucchini ☐ I cup of chopped zucchini

2. How many total calories are in 1 serving of this dish? __________

3. If you have 2 servings, how many calories would that be? ________________

4. If we needed to double this recipe for a party, how much Parmesan cheese would we need? ________________

How the children can help: Wash the produce, remove the seeds from the peppers, add the dressing and Parmesan cheese to the sautéed vegetables, and mix the vegetables.

www.jmgkids.us/L6EG
Write a plant need beside each letter below:

P
L
A
N
T
S

Your teacher has given you a seed. What might it grow into if you plant it and give it everything it needs? Maybe it will grow into a tree, a flower, or some tasty new veggie that you’ve never even seen before.

1. In the box below, draw a picture of what you think this seed might become one day.

2. Write 2 sentences to describe what you think the plant would look like when it’s grown. (Include at least 3 describing words in these sentences.)

3. Write one more sentence to tell how this grown plant might be useful to you.

---

**Tasting 1: Carrots**

You’ve learned that eating something is not just tasting—it’s using all 5 of your senses! Today you will give a report card to a carrot. Give it a separate grade for each sense—sight, smell, feel, sound, and taste.

<table>
<thead>
<tr>
<th>Senses</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sight</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Smell</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feel</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sound</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Taste</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

www.jmgkids.us/L6EG
Quick and Easy School Garden Kit
Getting Materials, Building, and Planting the Garden

Creating a garden for your class can be easier and less expensive than you might think. On the next page are lists of materials needed for simple, raised-bed garden kits and the steps involved for students to build the garden.

The Learn, Grow, Eat & Go! curriculum guides your class to plan a garden with three 1-square-foot plantings of each of six kinds of vegetables.

We recommend that your school garden also include a few extra square feet of open planting space. This could be used for additional plantings of favorite vegetables, flowers, or herbs that your class might decide to add.

One example of how a cool-season garden might be mapped is:

```plaintext
<table>
<thead>
<tr>
<th>Carrots</th>
<th>Leaf lettuce</th>
<th>Baby spinach</th>
<th>Cauliflower</th>
<th>Broccoli</th>
<th>Swiss chard</th>
<th>Kids’ choice</th>
</tr>
</thead>
<tbody>
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DID YOU KNOW?
Most home improvement stores will cut boards and load soil into your vehicle at no charge.
Garden Kit Materials
3- by 7-foot Garden Kit (21 Square feet)

This garden provides all the space you need for implementing the Learn, Grow, Eat & Go! garden plus 3 extra square feet of “open space” to plant.

Materials:

1. 2 boards (2-inch by 12-inch by 10-foot untreated lumber); ask the store personnel to cut each board into two sections of 3 and 7 feet long

2. 12 exterior wood screws (each 4 inches long)

3. 10 bags of garden soil (10 2-cubic-foot bags for a total of 20 cubic feet of soil)

Some brands of bagged garden soil are made to be mixed with equal amounts of bagged topsoil. Be sure to read the instructions on your garden soil bag. If that’s the case, mix 10 cubic feet of garden soil and topsoil in your garden bed.

DID YOU KNOW?

Good garden soil will be the most expensive item on these lists. To reduce this cost, you might:

- Ask the manager of a local home improvement store to donate the soil or to donate one bag for each bag purchased.
- Invite parents to buy one or two bags of garden soil and drop them off at school.
- Buy damaged bags of soil; these are often discounted by as much as 50 percent.

Other basic materials that you’ll likely need for the class to care for the garden include:

- Water-soluble fertilizer
- 4–8 hand trowels
- Rake
- Water hose
- Water sprayer
- Shovel
- Seeds/transplants
- Milk/water jug
- Watering can
Quick and Easy Garden Build

A 5-step guide to creating your garden project

Although the dates are flexible, the garden should be built and planted soon after Week 4. This timing allows your class to complete the lessons on how to select a garden site to provide for their plants’ needs. The garden kit can be assembled in less than an hour with the help of even just one volunteer working alongside your class with a power drill. To help make the garden build much easier, more successful, and a more meaningful learning experience for your class, consider sending a parent letter to solicit volunteers (pages 177–178).

Use the following steps to involve your students as much as possible in building the garden.

1. **Step 1: Unloading**
   If it is possible, have the students team up to safely help unload the boards and carry them into the garden site.

2. **Step 2: Boxing**
   Position the boards on their sides to form the garden perimeter. Have students hold the boards in place until the next step is completed.

3. **Step 3: Corners**
   One corner at a time, have the volunteer drill pilot holes and screw a 4-inch screw into each hole as shown in diagram. It’s a good idea to start with one middle hole/screw at each corner. Then the volunteer can come back around to each corner to add screws at the top and bottom of each corner board.
To get rid of grass or weeds already growing where the garden will be placed, have the students/volunteers dig up as much of them as possible. Or a weed killer (herbicide) could also be used.

To prevent weeds from sprouting later, you could cover the area with a weed mat or fabric. An easy-to-use and less expensive weed barrier is newspaper. Have the students lay several layers of newsprint to cover in the ground inside the garden frame.

After the students place each layer of newsprint on the ground, one adult (or responsible student) should use hose/water spray to weigh down the newsprint until the next step.

![4x4 Garden form](image)

Ideally, your class’s garden area would be large enough to allow for multiple plantings of six types of featured vegetables in this curriculum. But to save space or the cost of creating a garden, a smaller garden can be just as successful. See Garden Size Variations on page 124 for plans to create a smaller 16 square foot garden.

**Step 5: Soil**

Have the students line the bags of soil around the garden. Ask an adult to use scissors or a utility knife to cut open the tops of each bag.

Next, direct the students to lift up the bottoms of the bags and empty the soil into the frame. If you are using both garden soil and top soil, have a couple of students or volunteers use shovels to mix soil together as it’s added to the bed. Once the soil is in place, have the students use hand tools to carefully smooth and pat the soil.
One aim of the *Learn! Grow! Eat & Go!* experience is for kids to widen the variety of foods they include in their diets. Research shows that children often must be exposed to a new food repeatedly before they will "adopt" it.

In this curriculum, the students begin evaluating raw vegetables in the first week, with fresh carrots. If you implement LGEG to its fullest, the students completing it will have opportunities to sample every vegetable planted in their garden.

For many kids, these samples will be first-time introductions to one or more of these fresh vegetables. Be careful to select and serve produce that is fresh. This is especially important for leafy greens. A student’s first impression of bok choy, leaf lettuce, spinach, or Swiss chard would have a lasting negative effect if the greens were wilted, spotted, or even slimy!

Students are very receptive to evaluating vegetable samples, and they can be objective scientists for this activity. It is recommended that your class take part in at least six samplings during the 10-week curriculum. The students’ garden journals (pages 102–116) provide a regular, convenient location for recording their weekly evaluations.

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**Bell pepper**

*Serving size: ½ cup*

*Raw nutrient amounts*

- Vitamin B6: 10% daily value (DV)
- Vitamin C: 100% DV

*Edible colors: Green, orange, purple, red, yellow*

*Amount needed to provide 1 bite-size sample each for 20 students: 1 bell pepper*

*Preparation tips*

- Wash 1 bell pepper and cut it in half lengthwise.
- Remove and discard the seeds.
- Cut the pepper into thin, ¼-inch-wide slices as shown.
• Wash the leaves carefully under cold water.
• Slice the leaves into thin, ½-inch-long slices, and give each student 1 or 2 strips. (Large spinach leaves will be prepared following same steps as the leaf lettuce.)

Sugar Snap peas

**Serving size:** ½ cup  
**Raw nutrient amount:** Vitamin C: 10% DV  
**Edible color:** Green  

**Amount needed to provide 1 bite-size sample each for 20 students:** Sugar snap peas are often sold by weight. If so, count out enough to give 1 or 2 pods per student.  

**Preparation tips**

- Rinse the pea pods carefully with cold water.  
- Remove the pea pod strings by pinching off the tip of the pointed end and pulling the string downward. Do the same with the opposite tip to pull the string from the other side of the pod.

![Sugar Snap peas preparation](image1.jpg)

Swiss chard

**Serving size:** 1 cup  
**Raw nutrient amounts**

- Vitamin A: 45% DV  
- Vitamin C: 20% DV  
- Vitamin K: 374% DV  

**Edible colors:** Green, orange, red, white, yellow  

**Amount needed to provide 1 bite-size sample each for 20 students:** 3 medium-size leaves  

**Preparation tips**

- Cut away the base stems.  
- Wash the leaves carefully under cold water.  
- Slice the leaves into thin, ½-inch-long slices, and give each student 1 or 2 strips.

Option: Give each student a few drops of low-fat ranch, vinaigrette, or other salad dressing for dipping the veggie sample.

![Swiss chard preparation](image2.jpg)

Tomato

**Serving size:** ½ cup  
**Raw nutrient amount:** Vitamin C: 20% DV  

**Edible colors:** Orange, purple, red, yellow  

**Amount needed to provide 1 bite-size sample each for 20 students:** Cherry or grape tomatoes are typically sold in packaged containers. Be sure that there are enough tomatoes for each student to have one. If possible, serve each student both a whole and a half grape or cherry tomato.

![Tomato preparation](image3.jpg)
Teachers can incorporate active learning and physical activity breaks into the classroom to improve student performance and the classroom environment.

Week 8: Caterpillar Carry

Materials: 2 lightweight balls (such as playground, foam, or beach balls)

Time: 15 minutes

Divide the class into two teams of equal numbers. Have each team form a straight line down a hallway. The members of each team will lie down and place one foot on each side of the next student’s head as pictured below.

Give these instructions to the teams:

★ The first students in both lines should raise their feet as I give each of them a ball.

★ When I say "GO!" use your feet to pass the ball to the next student in line.

★ You may not use your hands. If someone drops a ball, I will quickly return the ball to the feet of the student who dropped it.

★ Your goal is to get the ball from the first to the last person in line without using your hands.

If time allows, merge the teams into one, and have the students estimate the amount of time it will take the entire class to move the ball down the hallway. Then conduct the new Caterpillar Carry challenge.

Dear Parents,

Our class will soon begin a unit of garden study called Learn, Grow, Eat & Go! Over the next 10 weeks, your child will use this science program to learn about plants—why they are important to us, how to grow a garden, and how to give plants what they need.

While learning how to provide for plants’ needs, the students will also learn how plants provide for our needs. The lessons will use math, science, language arts, health, and social studies concepts to help the students understand how plants help us live, grow, learn, and play.

If you would like to help, please check any of the tasks listed below and return this page by _____________________.

_____ Contact local business to ask for donations of specific garden supplies. (This list will be provided to you. It includes items such as boards, soil, and wood screws.)

_____ Pick up garden supplies from local business and deliver them to school.

_____ Help the class build the garden. (We are building a simple raised bed. We especially need a parent volunteer who can help screw the wooden corners of the bed together.)

_____ Help the teacher in class with special lessons/projects or help supervise students tending to the garden.

_____ Assist with gathering supplies and preparing fresh vegetable samples and recipe demonstrations.

_____ Help lead recipe demonstrations for our class. Recipes and links to video demos of the recipe will be provided for you. These recipes use ingredients of the same types of vegetables that we will be growing in our garden.

Your name: __________________________________________________________________________________

Student’s name: ______________________________________________________________________________

Your email address and/or phone number: __________________________________________________________________________________

____________________________________________________________________________________________

We are very excited to get growing with this very special garden project. Thank you for your support!

Sincerely,