

Materials

- 3—4 sets of garden plant cards
- 3—4 garden layout worksheets
- Flashlights (1 per group)

Optional:

- Digital camera

Preparation

- Use heavy paper stock, scissors, and colored pencils to make plant cards. Prepare cards using crops featured in your garden. For taller plants, cut a 4 -inch strip of paper stock and fold it in half. Cut and fold a 2-inch strip for medium plants. Ground-level plants can be drawn onto small squares of paper. Use colored pencils to draw featured plants on both sides of paper.
- Draw 3 3X6-inch “garden beds” on a sheet of standard letter paper. Copy as needed.

PROCEDURE

Introduction:

- Introduce students to garden layout worksheets and plant cards. Make a list of featured garden plants on the board.
- Arrange a few plant cards on the worksheet then use a flashlight to model the sun’s daily trajectory across the sky. Demonstrate how taller plants cast shadows over smaller ones over the course of a day. “How does the placement of some plants affect others? How might shadows affect garden growing conditions?”
- Revisit the list of featured garden plants. Draw two columns on the board, one labeled “full sun” and the other labeled “shade tolerant”. Work together to categorize plants according to their growing preferences.
- Use the garden worksheet and a few plant cards to model a more ideal garden layout, paying attention to plant sun exposure preferences. “It’s like taking a picture – taller people in back and smaller ones up front.”

Main Activity:

- Divide students into 3—4 groups and arrange them around a shared workspace. Supply each group with a garden layout worksheet, a set of plant cards, and a flashlight.
- First, have students orient their worksheets horizontally and label south. Then, have students work together to arrange their plant cards in the garden beds. As they do so, encourage students to consult the list from the introductory activity. “Where the best spot is for each plant?”
- Cycle from group to group and have students explain their garden layouts. Have students use the flashlight to illustrate sun exposure throughout the day.
- Next, instruct students to turn their worksheets vertically. Repeat the process.
- *Optional:* Use a digital camera to take pictures of each garden design. Consult pictures during future garden design lessons.

Closing:

- Collect lesson materials from each group. Then, consult the list from the introductory activity.
- Have students discuss their design choices for each plant. “Where was the best spot for tomatoes or corn? What about bush beans or carrots?”

Preliminary Garden Layout Activity

Planning & Design

ENGAGE

As this is the first class of the spring season, it might be helpful to do a little garden recap. Begin class by revisiting some garden activities from the previous fall. *What things did we do together?* Make a list.

Then, discuss changes in temperature and seasonal weather patterns. Even if colder temperatures keep us inside, we can still make use of the winter months to prepare for the approaching growing season. Late winter is the perfect time for spring garden planning.

Objectives

- Students will understand the importance of sun exposure in garden planning
- Students will understand the difference between sun-loving and shade-tolerant garden plants
- Students will be able to design a garden layout for plants with varying sun exposure preferences

EXPLAIN

Why is sun exposure important?

Many garden plants require very specific growing conditions in order to thrive. Therefore, it's important to know each plant's unique sun exposure preferences before designing your garden layout. Putting a picky plant in a less than ideal spot will yield poor growth and limited production. Instead, we want to select the right spot for each plant to allow for vigorous growth and abundant harvests.

Tomatoes, for example, require consistently sunny and hot conditions in order to produce an abundance of fruit. Other heat-loving plants such as squash, peppers, and raspberries follow suit. Be mindful not to plant sun-loving plants in areas obstructed by trees, buildings, or other garden crops. These plants do best in a spot with full sun exposure throughout the entire day.

Some garden plants are more adaptable and can do well in sun or partial shade. For example, bush beans, lettuce, and strawberries can succeed in variety of growing conditions. These crops allow for more flexible garden planning, but read up on individual seed descriptions beforehand to get more detailed information on what each plant variety prefers.

When planning your garden, remember to envision the vertical space that each *mature* plant will occupy. Plan your garden as if you were taking a picture – tall plants in back and shorter ones up front. Alternately, consider playing with your garden design to create zones of sun and shade. Either way, make sure to give your sun-loving plants priority before thoughtfully placing the more adaptable plants throughout the garden.

ADDITIONAL CONTENT INTEGRATION *(see previous page)*

Challenge students to step outside of the horizontal-vertical scheme during the main garden activity. Instead, orient the garden worksheets at different angles. Establish which direction is south and use the flashlight to mimic the sun's trajectory across the sky. Place the plant cards in different spots through the garden. What is the best layout for each angle?

Additional Materials

- No additional materials needed.

EVALUATE

Journal prompt: Create your own dream garden layout. Draw a few garden beds and establish which direction is south. Then, fill up the garden beds with your favorite garden crops, making sure to plan wisely for sun exposure.