

MATERIALS

- 8 Yardsticks
- 8 rolls marking tape
- Pruning shears
- Garden scissors
- Garden gloves (1 pair per student)
- (2) 5-gallon plastic buckets

PREPARATION

- Arrange garden gloves in matching pairs and stack them in a plastic bucket

PROCEDURE

Part 1: Prune Raspberries

- As a class, gather around the raspberry patch. “Raspberries grow on tall stems known as *canes*. For this reason, they are referred to as *cane fruit*. Every spring the canes must be pruned.” Define *pruning*. Explain benefits of pruning raspberries. Distribute garden gloves.
- Select an ideal section of canes for demonstration. “First we thin canes to about 3 strong canes per foot.” Place a ruler at the base of the canes and examine them as a group. “Look for the strongest canes – these should stay. Any damaged or diseased canes must be removed. Which canes should we keep?” Discuss, then loosely tie a piece of marking tape around the three canes that will be kept.
- Now look at the entire raspberry patch. Divide the class into small groups of two or three. Give each group a roll of marking tape and send them to different sections of the patch. There, they will mark the canes to be kept.
- When the whole patch has been marked with canes to be kept, reassemble as a class. Demonstrate how to use thinning cuts to remove canes: Using the pruning shears, cut the cane one or two inches above the soil surface. The cut should be perpendicular to the cane. Collect the cut canes and set them aside in a pile.
- Students return in their small groups to their section of the patch. They take turns using thinning cuts with the pruning shears to remove the unmarked canes. Students who are not cutting at the moment should collect the canes and set them in a pile.
- When all of the unmarked canes have been removed, reassemble as a class. Explain the benefits of “topping off” the canes using pruning cuts. “First, identify the buds along the cane. Find a bud that is about a foot from the end of the cane. Make your cut right above this bud at a 45° angle.”
- Working as before, students prune the tops of each cane. The students waiting their turn collect the pruned tops in a bucket.
- When all the pruning is complete, dispose of the canes and the tops. Find a location away from the compost or the raspberries. You may need to discard them in the school dumpster.

Pruning: Reasons for Pruning

Planning & Design

ENGAGE

Pass around a couple prunes for students to touch and smell. Ask them whether they know what it is. Explain that today's topic will be "pruning" but that it has nothing to do with the prune in the cup. Define pruning as "removing parts of a plant," and ask students whether they've ever seen a neighbor trimming the hedges along the sidewalk. *That's pruning! Today we're going to explore the reasons why we prune and we're going to get to prune something ourselves.*

OBJECTIVES

- Students will be able to list three reasons for pruning a plant.
- Students will be able to explain the reason for pruning raspberries.

EXPLAIN

Why Prune?

Not every plant benefits from being pruned, but many plants thrive when we take a little something from them. Different plants are pruned for different reasons. We prune some plants to improve their **structure**. For example, gardeners cut back New England Aster in the summer because otherwise it would get so tall it would tip over. They also cut dead tree limbs that could fall. We prune some plants to improve their **health**. For example, gardeners remove select blueberry branches so that the rest of the bush can receive adequate sunlight and air circulation. They also remove diseased parts of plants. Finally, we prune some plants to improve their **production**. For example, gardeners prune back grapes so that the grapes spend more of their energy producing fruit and less of it producing new vines and leaves. The result is an increased number and an improved quality of grapes. Harvesting green beans can also be likened to pruning for production. For example, gardeners are diligent to harvest all the sizeable green beans and not let any beans reach maturity on the vine. This assures that the plant will continue to produce—it's goal is to produce mature seeds; we keep it from doing so; it keeps trying.

Pruning Raspberries

Raspberries are pruned twice in a year—once in mid-February and once in mid-July. Raspberries require adequate sunlight and good air circulation in order to thrive. Each year, the plant begins to produce new growth (primocanes). During early spring, older raspberry canes (floricanes) are pruned back in order to make way for this year's growth. Pruning helps to maximize fruit production and to reduce the likelihood of disease (rust and mildew being the most common). Topping off canes at different levels encourages fruit production along the length of cane, instead of just the very top. Thinning cuts....

ADDITIONAL CONTENT INTEGRATION (see previous page)

Before beginning *Part 1*, explain the three reasons for pruning plants. On a piece of chart paper, write the three words: *structure*, *health*, and *production*. Ask students to think about why we are pruning the raspberries today, and tell them that you will ask for an answer at the end of class.

ADDITIONAL MATERIALS

- A prune in a paper cup (2)
- Chart paper
- Marker

EVALUATE

Exit Slip: Write down the word that best explains the reason why we pruned the raspberries. (*health*)