

Dig Me and Dig Me Again

Description

This activity demonstrates the double-digging method of soil preparation.

Objective

To demonstrate and practice soil preparation.

Teacher Background

The purpose of the double-digging method is to loosen the soil to a depth of 24 inches to allow the roots to grow easily and to improve aeration and water drainage. If your soil is compacted or heavy (high clay content), we recommend using this labor intensive method to loosen the soil. If you have a light, sandy soil it may be sufficient to loosen the soil in a simpler manner. The double-digging method forms beds that are approximately three feet wide. This width allows students to easily reach the center without ever having to walk on the planted area.

Materials

Shovels	One flat filled with soil
Spades	Two spoons
Spading forks	One fork
Steel rakes	



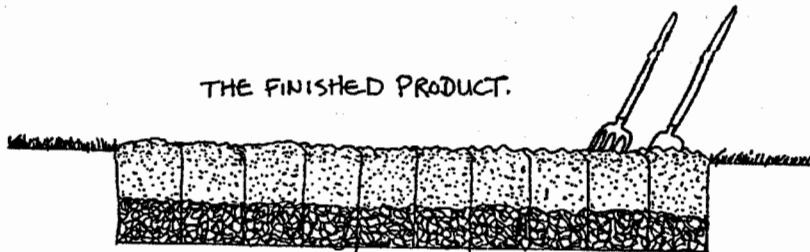
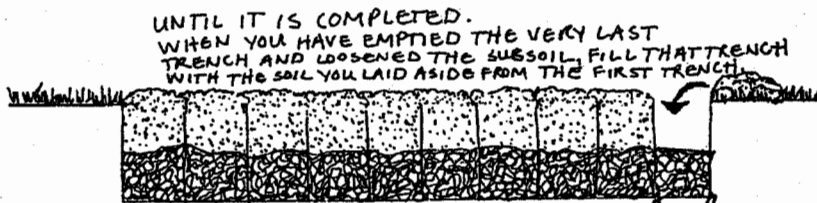
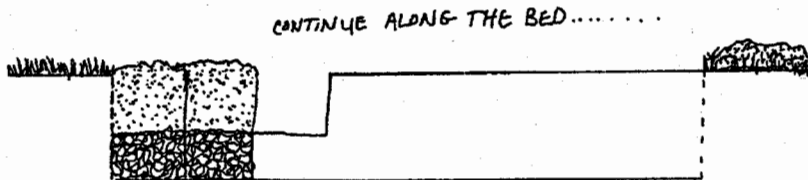
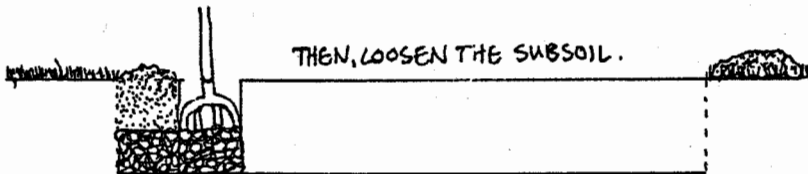
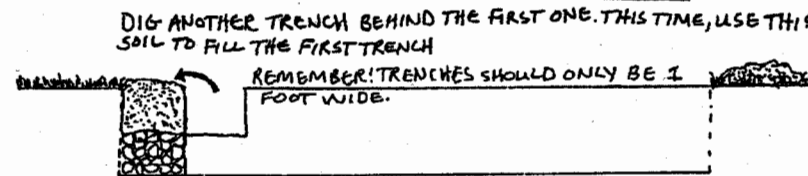
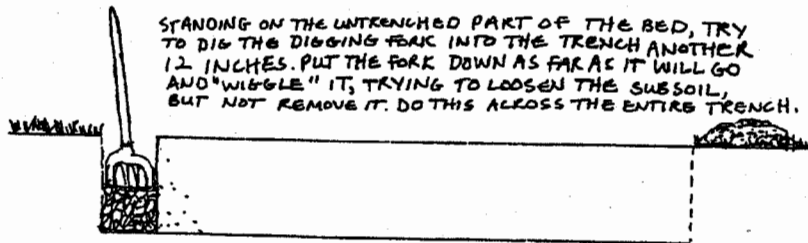
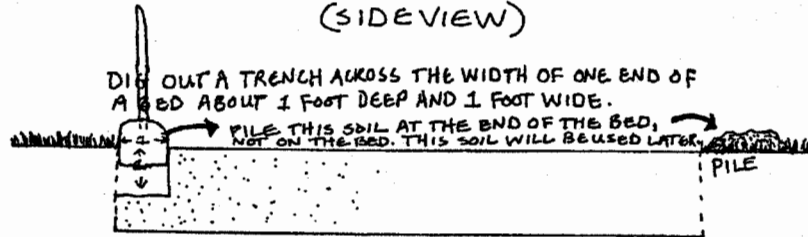
If our plants are growing in packed soil, what will happen to them? Can you think of ways we can loosen hard, packed soil? We are going to learn a method called double-digging. When we use this method we will plant our crops in beds. The beds are for the plants. The people-paths around the beds are for us to use while working with tools and wheelbarrows, planting, and harvesting. There are many different methods used to prepare a garden plot. Our two steps will be loosening the soil and adding nutrients to the soil.



1. Demonstrate double-digging using a flat filled with soil (the bed), two spoons (the shovels), and one fork (the spading fork) before working out in the garden. Refer to the illustration for step-by-step directions. After students have practiced in the flat, and understand the method, divide them into groups of two or three. Have one pair start at an end of each bed and work toward each other. If the bed is long enough, two can also start in the middle. Dig on!
2. Help students lay out the proposed bed with string or chalk.

DOUBLE DIGGING

(SIDEVIEW)



3. Have pairs of students dig out a trench across the width of one end of a bed about one foot deep and one foot wide. Have them pile this topsoil at the end of the bed. (Do not have them pile it on the bed; this soil will be used to fill in the last trench.) If the soil is too hard, have them dig as deep as possible.
4. Standing on the untrenched part of the bed, have students try to dig the spading fork into the trench another 12 inches. Tell them to put the fork down as far as it will go and wiggle it, trying to loosen the subsoil, but not to remove it. Have them do this across the entire trench.
5. Have pairs dig another trench next to the first one, using the topsoil to fill the first trench. Remember the trenches should be only one foot wide. Then have them loosen the subsoil of this trench. Continue along the bed until it is completed.
6. When students have emptied the very last trench and loosened the subsoil, have them fill that trench with the soil they set aside from the first trench.
7. Have students shape the bed using a steel rake, so that it is shaped with a gentle arch and the surface is smooth.



Imagine you are a little seedling trying to grow your roots in a hard, compacted path. Think of your fingers as roots. Would it be easy to poke them through the soil? Now imagine you are growing in a double-dug bed. Which place do your roots prefer? Why?