

MATERIALS

- (2) Parsley and (6) Marigold seedlings
- Yardsticks
- Hand trowels, stored in a bucket
- Solid compost or revita, stored in a bucket
- Fish emulsion and liquid kelp
- Large watering can and 8 small watering cans

PREPARATION

- Make sure seedlings have been hardened off
- Consult your garden map to determine planting location (and number) of each seedling.
- Fill the large watering can with water
- Place bucket of hand trowels, compost, and watering cans by pepper bed(s).

PROCEDURE

Part 1: Demonstrate Procedure

- As a class, gather around the pepper bed(s): *Pepper plants grow well in the company of parsley and marigold. When certain plants grow well together, we refer to them as 'companion plants'. The best companions keep pests away and improve the soil.*
- Choose a student volunteer to water all the seedlings
- These seedlings will be planted along the long edge facing South-West. Use a yardstick to identify the location for planting the first seedling. First, imagine a line running parallel to the South-West long edge of the bed, just 4" into the bed from the edge. The first seedling will be planted along this line, 9" from the short edge. (It doesn't matter which short edge you start from.) Stick a trowel into the ground at this spot. Then, select a few student volunteers to continue measuring down the line, sticking a trowel into the ground every 18". If measured properly, you will have 8 trowels in a line.
- Dig a hole where the first trowel was placed. It should be a little deeper than the seedling's pot and an inch or so wider. After digging the hole, return the trowel to the trowel bucket.
- Hold up the seedling and demonstrate how to gently tear off the rim of the newspaper pot so that no newspaper will be exposed to the air once the seedling is planted. *Exposed newspaper wicks moisture from the roots and dries them out.* Leave the rest of the newspaper pot intact.
- Put a small handful of compost or Revita into the bottom of the hole and place the seedling on top of the compost. The surface of the seedling's soil should be flush with the surface of the soil around it. Add or remove soil as needed. Once the seedling is positioned properly within the hole, fill in the rest of the hole. Use your hands (not a trowel) to firm the soil around the seedling. This will close any pockets of air around the seedling's roots.

Part 2: Student Practice

- Divide students into groups of three and direct each group to a properly spaced trowel. Assign transplanting tasks to each person in a group: One will dig the hole; one will place the compost and seedling into the hole and bury it; the other will water it in. While the digger is digging, the transplanter should tear the rim off the newspaper pot and the waterer should fill his or her watering can. (Mix the fish emulsion and liquid kelp in the large watering can. An adult should pour the mixture into the smaller watering cans.) After the holes have been dug, collect the trowels. They can become a hazard to the plants.
- The seedling on each end should be a parsley seedling. Plant the marigold seedlings in between the two parsley seedlings.

Companion Planting

Food & Technology

ENGAGE

Gather in the outdoor classroom. Introduce parsley and marigold seedlings. “Both of these plants serve different functions in the garden. One is classified as an herb. This plant produces edible aromatic leaves that are often used in Italian cuisine.” Introduce parsley and pass it around for students to examine. “The other plant is a flower. This plant attracts beneficial pollinators to the garden. It also deters certain types of pests.” Introduce marigold and pass around. For each plant ask: “Which plant parts have formed already? Which parts have yet to form? What parts, if any, can we harvest and eat?”

OBJECTIVES

- Students will be able to define *companion planting*
- Students will understand the unique benefits of inter-planting tomatoes, basil, and marigold
- Students will understand how to successfully transplant basil and marigold seedlings

EXPLAIN

Benefits of Companion Planting

Plants that serve and benefit one another in unique ways are known as “companion plants”. Throughout this week, we are introduced to three plant companions – borage, marigold, and nasturtium. Borage is a host plant for spiders and attracts many other beneficial insects to the garden. In addition, its long roots bring important minerals up from the subsoil to the topsoil where they can be accessed by nearby plants. Marigolds deter pests from the garden. Below ground, marigold roots secrete a special substance that is said to kill soil parasites, like the nematode. Marigolds also emit a strong smell that helps to deter whiteflies, a common tomato pest in the greenhouse (and in the garden, if the seedlings came from a greenhouse). Nasturtium acts as a trap crop, attracting bad insects to its tasty leaves and away from our important food crops.

Companion plants usually do one or several of these things: they improve the soil, they help deal with pests, and they provide structural layers to the garden (e.g. corn provides vertical structure for beans to grow up; squash provides low-growing, horizontal structure to shade out weeds)

ADDITIONAL CONTENT INTEGRATION *(see previous page)*

Pair the idea of companion planting with an art project. Provide students with photos of companion plants, and allow students to design gardens using these pairings. Consider including patterning elements into the design process.

For companion planting combinations, visit:

http://www.seedsofchange.com/enewsletter/issue_55/companion_planting.aspx

ADDITIONAL MATERIALS

- Companion plant photos
- Paper
- Paint or other medium for art project

EVALUATE

Journal prompt: What are three things that plants can do to help out other plants nearby? Name one way you are like a companion plant to the people around you.