

Daily Lesson Plan (DLP)

Topic: Research companion planting		Day: 2
Grade: 4-5	Lesson Name: Research companion planting	Time : (60 Mins.)

Topic	How does companion planting work?		
Weekly key words	Roots, nightshades, pollinators, herbs, winter squash, summer squash, etc.		
Seating plan	<input type="checkbox"/> Individual	<input type="checkbox"/> Pairs	Group of 4
Skill development	<input checked="" type="checkbox"/> Reading <input type="checkbox"/> Reflection <input type="checkbox"/> Other (Specify)	<input checked="" type="checkbox"/> Writing <input type="checkbox"/> Illustration	<input checked="" type="checkbox"/> Discussion <input type="checkbox"/> Presentation <input type="checkbox"/> Collaboration <input type="checkbox"/> Observation <input type="checkbox"/> Research

Root vegetables, greens and peas, nightshades and legumes, melons and cucumbers, summer and winter squash, pollinators and herbs,

Objectives: ➤ The students will be able to:	➤ Learn about companion planting ➤ Develop knowledge to practically use it in gardening
Teaching Resources:	Multimedia/projector, laptop, YouTube, writing board, notebook, piece of paper, pen/pencil,
Teaching Learning Strategies	
<p>Introduction: 5mins Write down the topic ‘Companion Planting’ on the writing board and ask the students to guess the meanings. Listen to their answers and give feedback.</p> <p>Methodology: 15 mins. Show the following video to the students using a projector or multimedia. https://youtu.be/5d0bULrnCb8</p> <p>Group Work: Make each group of 4 students and encourage them to discuss the content shown in the video.</p> <p>What is Companion Planting: As the name shows, friends can offer help and support to protect from bad things. Similarly, plants know this too. Companion planting is when two plants are grown close together for the benefit of one or both of those plants. So the benefit can be one way or mutual.</p> <p>That could be as simple as growing nectar-rich flowering plants among crops to attract pollinators or two vegetables grown side by side to confuse or repel pests.</p> <p>The most known example of companion planting is the ‘Three Sisters trio---maize, climbing beans, and winter squash. These are commonly planted together by numerous American communities due to the plants’ complementary nature: the tall corn supports climbing beans, the low-grow squash shades the ground to prevent moisture loss, and its big prickly leaves discourage weeds and pests; and the fast-growing beans are ‘nitrogen fixers’ which make nitrogen available to other plants.</p> <p>Benefits of companion Planting: The teacher will discuss the benefits of combine planting in details.</p> <p>1. Deterring pests: some plants act as pest repellents or deter critters. For example garlic’s smell is unattractive to many pests.</p>	

2. **Attracting beneficial:** some plants attract some beneficial insects. For example, borage attractive pollinating bees and tiny pests.
3. **Shade regulation:** large plants provide shade to smaller plants in need of sunlight protection. Such as corn protects lettuce by shading.
4. **Natural supports:** tall plants, like corn and sunflowers, supports lower-growing plants such as cucumber and peas.
5. **Improving soil fertility:** some crops, like beans, peas, and other legumes, help to make nitrogen more available in the soil. It may change the soil biochemistry in favor of nearby growing plants.
6. **Weed suppression:** planting sprawling crops like potatoes with tall upright standing plants minimizes open areas, where weeds usually take hold.

More Companion Gardening Tips:

Much of companion planting consider the height of different vegetables.

1. Lettuce, radishes, and other quick-growing plants sown between melons or winter squash will get mature and harvested earlier than these vines need more leg room.
2. Leafy-green-like spinach and Swiss chard will grow in the shadow of corn.
3. Bush beans tolerate the dapple shade that corn casts, and as their roots occupy different levels in the soil, don't compete for water and nutrients.

Activity: (35 mins.) (Group Work)

Conduct Internet research on different types of companion plant claims and determine if they are based on scientific evidence or if they fall into the category of garden lore.

Exploration:

Create a class list of all the companion plant combinations discovered through your Web search. Label each combination as a scientific fact or garden lore.

Set up an experiment to test one or more of the listed combinations labeled garden lore. Obtain plants and then install in test plots where the selected plants are grown on their own and grown with their companion plants. You need at least 2 plots (a control and an experimental), but additional replications are best for the strongest results. Control all other variables that might impact growth (such as soil quality, water, and sunlight availability).

Track growth and plant health. You can adapt the sample growth chart to fit your needs.

Summarize findings. Determine if the results support companion plant claims.

Wrap up (5mins.): Wind up the lesson by asking the students to summarize the findings.

Home Assessment:

The students will do the worksheet in homework.

Worksheet (Day1)

Lesson Evaluation:

- Teacher was able to accomplish all aspects of the lesson well ☐
- Teacher was not able to do warm up activity ☐,
- develop lesson plan well ☐,
- do the learning activity ☐,
- do wrap up ☐,
- accomplish lesson objective ☐,
- manage time well ☐,
- manage class well ☐

Worksheet

Topic: Combine Planting

Name: _____

Subject: Science

➤ **Write down five benefits of combining planting.**
