

HERBAL

HERITAGE

LEMON GRASS & MINT

GRADE-VI



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FOREWORD

**The future belongs to those who learn more skills and combine them in creative ways.”
— Robert Greene**

The new National Curriculum Framework (NCF) in line with the National Education Policy 2020 (NEP) focuses on making learning a joyful experience and remove stress from students, to develop a sense of self-reliance and dignity of the individual which would form the basis of social relationship and would develop a sense of nonviolence and oneness across the society. A child centered approach is the need of the hour to promote universal enrollment and retention as there is an emergence of new avenues and an entirely new set of demands are required.

It is the time to reform our pedagogies by effecting a shift from learning by rote to improving knowledge retention by advocating practical application as stated in NEP 2020. We must endeavor to effect a decisive shift from education for all to quality education for all.

As it is precisely the time to bring reforms in education, everyone must make concerted efforts to redesign curriculum and be more open to work and embrace intuitive teaching techniques that increase student involvement in the learning process. The new learning and teaching practices must excite students and ignite their imagination.

The ‘Herbal Heritage’ is one such effort to make learning fun-filled and enable students know about our spices that have a range of health benefits. The students will strive to gain sufficient knowledge of concepts, language and have the will to innovate! Constructive learning has to be part of the curriculum. Situations and opportunities have to be created for students to provide students with challenges, encourage creativity and encourage their active participation.

I congratulate the Management, Principal, teachers and students of Delhi Public School Kamptee Road, Nagpur who successfully shouldered this responsibility and came up with this brilliant work which will give the student fraternity an opportunity to have fun-filled learning. I am also grateful to Princess Diya Kumari Foundation who mentored the facilitators for producing this phenomenal and astounding work. I would like to advise the students to continue to study and learn new skills and be persistent in their pursuit for expansion.

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CLASSIFICATION OF PLANTS

Learning objective - Students will be taught about plants and their categories.

Learning outcome - Children will be able to identify, name the plants and categorize them.



Before we proceed to herbs let's first understand what actually herbs are and why are they called so?

We see a huge variety of plants around us. Among which few are terrestrial means that grow on land while those that grow in water are called aquatic plants.

Despite this fact, they all have the same parts and the same functions but still they appear unique with different types of roots, stems, leaves, flowers, fruits, seeds, etc.

Therefore, the plants are further classified based on their height, tenderness of stem, branches and life cycle.

Let us know in detail about the classification of plants based on their growing habits. Before that, let us understand the term Growth Habit. Growth habit mainly refers to the appearance, shape, height, and form of growth of a plant species. A plant's growth habit develops from particular genetic patterns that determine growth.

CLASSIFICATION BASED ON GROWTH HABITS

If we consider plants based on their height, some are too short while some are too tall to climb. Besides the height, stem thickness and delicacy also varies.

For example– Short plants have greenish, soft, and tender stems, while big and tall plants or trees have a thick, strong and woody stems that are hard to break.

Based on the growth habit, plants are broadly categorized into three groups:

HERBS, SHRUBS AND TREES

Herbs

The herb is a short-sized plant with a soft, green, delicate stem without woody tissues. They complete their life cycle within one or two seasons. Generally, they have few branches or are branchless. These can be easily uprooted from the soil. Herbs contain enough nutritional benefits, including vitamins and minerals, to make them a part of a healthy balanced diet. Tomato, wheat, paddy, grass and banana are a few examples of herbs.



Picture Credit: <https://images.app.goo.gl/>

Shrubs

Shrubs are medium-sized, woody plants taller than herbs and shorter than a tree. Their height usually ranges from 6m to 10m tall. Their features include bushy, hard, and woody stems with many branches. Although stems are hard, they are flexible but not fragile. The life- span of these plants usually depends on the species. Rose, jasmine lemon, tulsi, and henna are some of the common shrubs around us.



Picture Credit: <https://images.app.goo.gl/>



Picture Credit: <https://images.app.goo.gl/>

Trees

Trees are big and tall plants. They have very thick, woody and hard stems called the trunk. This single main stem or the trunk gives rise to many branches that bear leaves, flowers and fruits. Some trees are branchless like coconut tree; i.e., they have only one main stem which bears leaves, flowers, and fruits all by itself. The lifespan of the trees is very large. i.e. for several years. Banyan, mango,

neem, cashew, teak and oak are some examples of trees.

In addition to these three categories of plants, there are plants that need some support to grow. They are specifically called climbers and creepers.

Climbers

Climbers are much more advanced than creepers. Climbers have a very thin, long and weak stem that cannot stand upright, but they can use external support to grow vertically and carry their weight. These types of plants use special structures called tendrils to climb. Some examples of climbers are pea plant, grapevine, sweet gourd, money plant, jasmine, runner beans, green peas, etc.

Creepers

Creepers, as the name suggests, are plants that creep on the ground. They have a very fragile, long, thin stem that can neither stand erect nor support all their weight. Examples include watermelon, strawberry, pumpkin and sweet potatoes.



Picture Credit: <https://images.app.goo.gl/>

Are herbs and spices same? What do you think?

Herbs are leafy things, like basil, thyme, and cilantro; and spices are seeds, either whole or ground, like coriander and cumin.

GLOSSARY

1. terrestrial- on or relating to the earth
2. aquatic- an aquatic plant or animal, especially one suitable for a pond or aquarium
3. tenderness- gentleness and kindness
4. bushy- growing thickly
5. fragile- easily broken or damaged
6. trunk- the main woody stem of a tree

Let us Recall

A. Choose the correct option.

- Small plants have _____ stem while big trees have _____ stem.
 - soft, hard
 - green, woody
 - hard, soft
 - both a and b
- Shrubs are woody plants _____ than herbs.
 - taller
 - shorter
 - both taller and shorter
 - none of the above.

B. Fill in the blanks.

Herbs	climbers and creepers	plants	trees
for several years	very short	terrestrial	aquatic

- Plants that need support are called _____ and _____.
- Plants have very thick woody stem called _____.
- The lifespan of trees is _____.
- The plants that grow on land are called _____ while those growing in water are called _____.

C. State whether statements are true or false.

- The plants that do not need support are called climbers.
- The trees have green and soft stem.
- The shrubs are taller than herbs.

ACTIVITY

- Categorize the following in proper categories (columns) of herbs, shrubs, trees, creepers and climbers.
Neem tree, lemongrass, cilantro, basil, lemon, mango, pumpkin, bitter gourd, wheat, maize, money plant.
- Can you list 2 differences between herbs and shrubs?
- Give some examples of spices that we often use in our kitchen.

Column- I		Column- II	
A.	Tall and strong plants are called	(i)	climbers
B.	Plants which grow with the help of support	(ii)	Herbs
C.	Short and bushy plants are called	(iii)	Trees
D.	Plants which are very short and have soft stems are called	(iv)	Shrubs

4.

SELF-REFLECTION

WHAT?	HOW?	WHY?

LEMONGRASS



CHAPTER 1: INTRODUCTION THROUGH STORY - LEMONGRASS

Learning objective- Children will be introduced to the Asian herb ‘Lemongrass’.

Learning outcome- Children will understand about the uses of lemongrass in cuisines.

A LIFE-LONG RELATIONSHIP WITH LEMONGRASS

I grew up in a small town in Kerala, living a simple life with my parents.

A couple of times each year, we would visit our family in Bangalore, Karnataka. My extended family was a bunch of fun-loving people. While there, they made sure to take us out for dinner on as many nights as possible. We loved



Picture Credit: <https://rukminim1.flixcart.com/>

eating out in new restaurants. Everything felt very different to a small-town boy like me. The place, the culture and even the food!

One night, when I was about nine, my family decided to visit a new Thai restaurant in the town. Our family travelled a lot, so I had learned to become an adventuresome eater. I placed an order for ‘Tom Yum Gai’. Soon, the waiter placed before me the appetizing soup served on a small flame.

I had no idea what Tom Yum Gai was or what exactly were the ingredients in it, which made it all the more appealing. It would be a new experience for me! Without wasting a second, I tasted a spoonful of the soup placed before me. The flavours burst into my mouth. My taste buds were overjoyed with the extraordinary flavour. I had absolutely no idea what the magical ingredient was, but I fell in love with it.

I was curious to know the ingredients and so I called the waiter and he explained that one of the main flavouring ingredients used in the soup was ‘lemongrass,’ small chunks of which were floating in the soup.

Decades later, every time I smell freshly-harvested lemongrass stalks from one of the plants growing in our organic garden in Kochi, Kerala, I am transported back to my childhood experience of tasting that heavenly soup. And that is one of the main reasons I grow food: I love cultivating new experiences and tending good memories.

After the satisfying experience of growing lemongrass for over 10 years, I will share everything I know about how to grow lemongrass so that you can cultivate your own new experiences and cherish good memories along the way!

GLOSSARY

1. appetizing- stimulating one's appetite
2. served- present (food or drink) to someone
3. appealing- attractive or interesting
4. curious- eager to know or learn something

Let us Recall

A. Choose the correct option.

1. A little boy grew up in ...
 - a. Kerala
 - b. Bangalore
 - c. Chennai
 - d. Coimbatore
2. They placed an order of Tom Yum Gai in a ...
 - a. Thai restaurant
 - b. Chinese restaurant
 - c. Italian restaurant
 - d. Indian restaurant

B. Fill in the blanks.

nine	lemongrass	Chennai	Bangalore
	climber	creeper	

1. The main ingredient used in the soup was _____.
2. A boy was _____ years old when they visited a _____ restaurant.
3. A little boy _____ used to visit family living in _____.
4. Watermelon plant is an example of _____.

C. State whether statements are true or false.

1. The boy was an adventuresome eater. _____
2. The soup served was on a small flame. _____
3. Boy actually had an idea about the magical ingredient in a soup. _____

ACTIVITY

1. Narrate an incident where you have come across the herb Lemongrass or something that is similar to it in looks and taste.
2. How does it smell and taste? Would you like to include it in your kitchen to prepare your favourite delicacies? Why or why not?
3. Share some ideas or recipes where you can use it.

SELF-REFLECTION

WHAT?	HOW?	WHY?

CHAPTER 2: INTRODUCTION OF LEMONGRASS

Learning objective- Students will learn more about lemongrass, its name and origin.

Learning outcome- Children will know the name, origin and importance of lemongrass.



Picture Credit: <https://images.app.goo.gl/>

Plant name (Latin): Cymbopogon citratus

Plant family: Poaceae (grass family)

Native region: Asia, Africa, Australia and tropical islands

Growing habit: Clumps of stiff grass, up to 2 metres tall

Parts used: Entire plant

Essential oil extraction method: Steam distillation

DISCOVERY

Let's learn how Lemongrass was discovered. In **1905**, a Sri Lankan researcher named J.F. Jovit obtained "Kochin Sera" plants (Cymbopogon citrates) from South India and planted them on his farm to research about it.

ORIGIN

Lemongrass is a tropical plant that loves hot and humid weather. Some other plants that also enjoy the same climatic conditions are banana, ferns and orchids.

Can you name some more plants that are found in tropical climatic conditions?

How exactly would you describe lemongrass as?

You might say that it's something like grass!

Yes, you are correct.

Lemongrass is grass-like but not actually grass that we find growing in our gardens.

Lemongrass is 2-3 feet tall.

We do not use grass as an ingredient in our kitchen then why do we use lemongrass?

Lemongrass is cultivated for its essential aromatic oil.

Lemongrass has a typical lemon-like odour or taste of essential aromatic oil. The oil that we extract from lemongrass is mainly produced in Kerala, hence lemongrass is known as Cochin grass or Malabar grass and the oil extracted is called Cochin oil.

Lemongrass is mostly cultivated in India, Sri Lanka, Thailand and Burma. These places have tropical climate.

CHOOSING THE BEST LEMONGRASS

There are many varieties of lemongrass but only two types are available today. There isn't much difference between them. They are:

1. West Indian lemongrass - most commonly used for cooking and in perfumes.
2. East Indian lemongrass - is taller and has purple tinges in its stems.

BOTANICAL NAMES AND COMMON NAMES

We have now understood about the types of lemongrass. Let's proceed to learn about its scientific name and common names.

Scientific name :

Cymbopogon citratus (West Indian lemongrass)

Cymbopogon flexuosus (East Indian lemon grass)

Common name :

Lemongrass, barbed wire grass, silky heads, Cochin grass, Malabar grass, oily heads, citronella grass or fever grass.



Picture Credit:

<https://rukminim1.flixcart.com/>

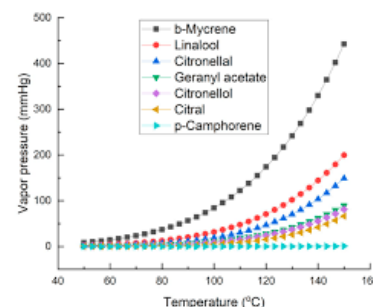
CHEMICAL COMPONENTS OF LEMONGRASS

Let's recall what we learnt in the previous chapter:

- Lemongrass yields essential oil
- Essential oil obtained is an aromatic oil

Q. What does aromatic oil mean?

-Aromatic oil is a volatile liquid that is capable of changing from a solid/liquid form to vapour form.



Picture Credit: <https://images.app.goo.gl/>

Q. Can you give some examples of volatile liquids?

- Yes, Perfumes. We all love the fragrance; it makes us feel fresh by smelling it.

Lemongrass oil



Picture Credit:

<https://images.app.goo.gl/>

The active essential oil ingredients present in lemongrass are - myrcene, limonene, citral, geraniol, citronellol, geranyl acetate, neral, and nerol.



Picture Credit:

<http://www.agrovaxnaturals.co.in/>

Myrcene and limonene are aromatic compounds where as citral and geraniol serve as an antimicrobial and insecticidal properties.

GLOSSARY

1. tropical- it is a damp climate
2. aromatic- having a pleasant and distinctive smell
3. volatile - easily evaporated at normal temperature
4. citral- a fragrant liquid occurring in citrus and lemongrass oils and used in flavourings and perfumes

Let us Recall

A. Choose the correct option.

1. Lemongrass is cultivated for ...
 - a. essential aromatic oil
 - b. as a garden grass
 - c. as a weed
 - d. none of the above
2. Lemongrass is a tropical plant which grows in ... weather.
 - a. hot and humid
 - b. hot
 - c. cold
 - d. humid

B. Fill in the blanks.

East Indian	Cochin grass	West Indian	Kerala	2-3 feet	Malabar grass
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1. Lemongrass is also called as _____.
2. The two main types of lemongrass are _____ and _____ lemongrass.
3. The essential oil that we extract from lemongrass is called _____ and is mainly produced in _____.
4. The lemongrass is about _____ feet in height.

C. State whether statements are true or false.

1. Lemongrass plant is 10 feet in height. _____
2. Lemon grass name is derived from the typical lemon-like odour or taste of essential oil. _____

ACTIVITY

1. List the aromatic chemicals that have antimicrobial property.
2. How are these chemicals extracted from lemongrass?

SELF-REFLECTION

WHAT?	HOW?	WHY?

CHAPTER 3: USES AND IMPORTANCE OF LEMONGRASS

Learning objective- Children will understand the importance and uses of lemongrass.

Learning outcome- Children will include lemongrass in different recipes.

PARTS OF HERB USED

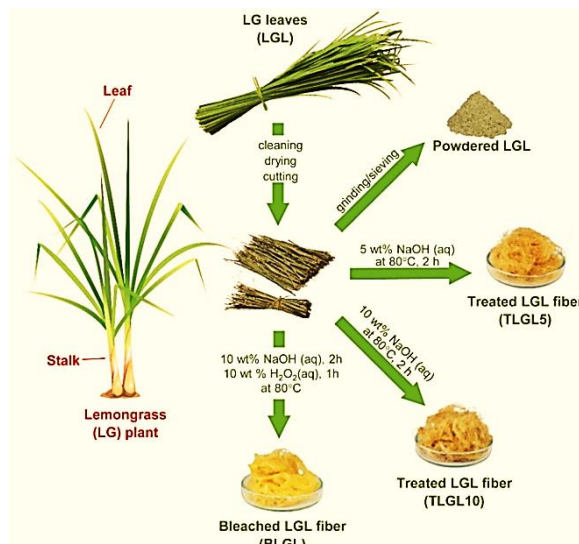
Q. Besides yielding aromatic oil, what else do we get from lemongrass? Any guesses?

Q. Are all the parts of lemongrass used? Are they edible?

- Yes, all the parts of lemongrass are used for culinary purposes:

1. Stalk - The thick juicy base of the stalk is the most prized part of the plant. This part has the most flavour.

2. Leaves - The sharp, papery leaves above the stalks are often chopped and used to make tea. The leaves however are not as flavoursome as the stalk.



TRADITIONAL USES OF LEMONGRASS:

Traditionally, Lemongrass is used to protect one against evil and is considered as an ingredient to clean a house spiritually.

We know Lemongrass is used to produce Lemongrass oil but why are we extracting essential oil from it?

Is it really important to consume the entire plant?



Picture Credit: <https://images.app.goo.gl/>

The essential oil extracted from lemongrass is used in making antiseptic soaps and in making liquid spray formulations which are further used as an insect repellent.

The formulation prepared from Lemongrass oil is suitable for:

- Skin massage as it helps in relieving body pain when used during a bath in a tub of hot water.
- Shampoos ingredient - as it helps to fight against hair fall and dandruff.

Lemongrass oil can also be consumed as it has a unique aroma, and can be used as a flavouring ingredient in recipes.

Can you name some more flavouring ingredients used in recipes?

- Ginger and garlic

Lemongrass can also be used for making natural citral and Vitamin A. Citral has antimicrobial properties and has a lemon like odour which is used for making vitamin A.

Does the lemongrass plant have leaves?

- Not exactly, the leaves are actually grass like.

Is the grass like leaves used?

- Yes, Lemongrass leaves have lemon-like flavour and are used in the preparation of herbal tea. Regular drinking of Lemongrass tea helps in managing the cholesterol level and improves digestion.

HEALTH BENEFITS OF LEMONGRASS

Is lemongrass used just for its oil and fragrance?

Not really. It does have some health benefits and can be included in our daily diet.

Lemongrass has antibacterial and antifungal properties, which helps to prevent the growth of infection-causing bacteria and yeast.



Lemongrass reduces ‘thrush’ which is a fungal infection, where the fungus grows in one’s mouth, throat and other parts of the body. This commonly affects people with a weak immune system like people who suffer from HIV.

Can you name the fungus that caused havoc during the second wave of Covid?

- Yes, it was black fungus.

Can you name some infections caused due to fungus?

Lemongrass is beneficial to people suffering from diabetes as it helps in reducing blood glucose levels.

Lemongrass oil has excellent antioxidant and anti-inflammatory properties.

- **Anti-oxidants** are substances that prevent or slow down the damage caused to cells by free radicals which are normally found in cigarette and in air pollution.
- **Anti-inflammatory** properties help people to reduce redness, swelling and pain in the body.

I am surely going to grow it and will at least try to include it in my daily diet.

Lemongrass is native to several countries; the stalks of the plant are used for chewing to improve dental health and to keep the mouth fresh. Lemongrass is also a very effective herb for managing cold and cough. Lemongrass helps to control the cough by releasing mucus and in clearing the air passage. This allows the patient to breathe freely. Apart from taking medicine for cough and cold, my mother used to give me ginger, tulsi and honey to help with the cough. And it really worked wonders for me!

Do you feel stressed and worried during examinations?

One better way to control and overcome anxiety is to smell the aroma of Lemongrass.

Drinking lemongrass herbal tea daily for 30 days helps in increasing the haemoglobin concentration and red blood cell count. Did you know that the RBC carry a red pigment (haemoglobin) in it and thus is red in colour? Haemoglobin also helps in transportation of oxygen to our body.

Do you know what happens when your body has lesser haemoglobin than the normal range?



Picture Credit: <https://images.app.goo.gl/>

If one has less haemoglobin one will suffer from anaemia.

When Kadha (decoction) prepared from lemongrass is taken twice a day it helps in weight loss. This happens because the excess toxins are flushed out and improves metabolism which helps in losing weight.

Bad cholesterol is harmful to us. It causes blockage in heart blood vessels which is one of the major causes of heart attack. Research shows that the citral in lemongrass possesses anticancer abilities that helps fight cancer cells.

GLOSSARY

1. mucus-secreted by the mucous membranes and glands of animals for lubrication, protection
2. antiseptic-preventing the growth of disease-causing microorganisms
3. stalk- the main stem of a herbaceous plant
4. anxiety-a feeling of worry

ACTIVITY

1. List some health benefits of lemon grass.
2. Name any two medicinal properties of lemongrass.
3. Name the component that has lemon-like fragrance.
4. Prepare a kadha (decoction) using lemongrass and other ingredients for increasing haemoglobin.

Let us Recall

A. Choose the correct option.

1. The most prized part of the plant is ...
 - a. stalk
 - b. leaves
 - c. root
 - d. all of the above
2. Lemongrass prevent growth of disease causing microbes because it is ...
 - a. antibacterial
 - b. antifungal
 - c. antiviral
 - d. all of the above

B. Fill in the blanks.

redness	hairfall	swelling	pain	air	dandruff	mucus
---------	----------	----------	------	-----	----------	-------

1. Lemongrass helps to control the cough by releasing _____ and clears _____ passage.
2. Anti-inflammatory properties help people to reduce _____, _____ and _____ in the body.
3. Lemongrass oil is used in the preparation of hair shampoos as helps to fight against _____ and _____.

C. State whether statements are true or false.

1. Lemongrass tea helps in managing the cholesterol level and improves digestion.

2. Citral in Lemongrass possesses the potent anticancer abilities that help fight cancer cell lines.

SELF-REFLECTION

WHAT?	HOW?	WHY?

CHAPTER 4: LET'S GROW LEMONGRASS

Learning objective- Children will learn about propagation and steps to propagate lemongrass.

Learning outcome- Children will be able to grow lemongrass.

Before we discuss the steps to propagate lemongrass, let us understand what propagation is.

PROPAGATION

Plant propagation is the process by which new plants grow from a variety of sources like seeds, cuttings, and other plant parts. Plant propagation can also refer to the man-made or natural dispersal of seeds.

Lemongrass can grow from seeds, cuttings, or by division.

Steps to Grow Lemongrass from Seeds:

Step 1 : Fill a seed tray with equal parts of moistened mixture of compost and cocopeat. Smoothen the surface and compress it.

Step 2 : Sow the lemongrass seeds 1 inch apart and 1/4 inch deep.



Step 3 : Spray the soil with the help of a spraying can.

Step 4 : Place plastic wrap over the seed tray. Seal the edges and set the tray on a windowsill that receives adequate light.

Step 5 : Remove the plastic wrap once a week to water the seeds. Dampen an inch of the soil by misting the surface.

Step 6 : Continue watering the seeds till it germinates. It might take 10 to 30 days. Remove the plastic wrap once the lemongrass seeds grow up to an inch in height.

STEPS TO PROPAGATE LEMONGRASS STALKS:



Picture Credit:
<https://images.app>.



Picture Credit:
<https://images.app>.



Picture Credit:
<https://images.app>.



Picture Credit:
<https://images.app>.

Step 1 : Place lemongrass stalks in a glass of water. (Change the water daily)

Step 2 : Place it near a sunny window for 3 weeks.

Step 3 : New roots will begin to grow. Once the roots appear, plant the stalks in a pot.

Or

Step 1 : Fill a **small container with damp potting soil.**

Step 2 : Stick the lemongrass stalk in the potting soil such that the base of the stalk is an inch below the soil.

Step 3 : Place it near a sunny window for 3 weeks. Keep the soil slightly damp not wet.

Maturation time

Lemongrass takes 10-30 days to germinate and 75-100 days to harvest.

Propagating lemongrass from a stalk requires more care as compared to a seed.

Let us now learn how to care for the plant and provide the right conditions for it to grow.

LEMONGRASS PLANT CARE

Light

Lemongrass is a sun loving plant that requires abundant sunlight. For good growth it requires at least six hours of direct sunlight every day.

Now the question arises what will happen if we grow lemongrass in the shade?

- It grows very slowly in the absence of direct sunlight. The growth will be sparse and it might attract pests.

Soil

Lemongrass prefers fertile, loose, well-drained sandy loam soil that is moist but not too wet.

What is sandy loam soil? Why is this soil suitable?

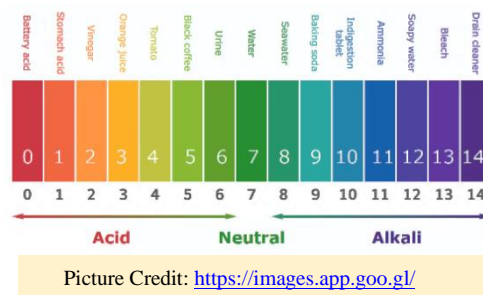
Sandy loam is **a type of soil used for gardening.** This soil is normally made up of sand along with varying amounts of silt and clay. Many people prefer sandy loam soil for their gardening because this type of soil allows good drainage.

Lemongrass will tolerate average soil only if it has enough moisture and good drainage. It grows best in soil with a pH of 6 to 7.8

The pH scale usually ranges from 0 to 14. It measures the acidity or alkalinity of a soil.

Water

Lemongrass prefers moist soil but not waterlogged soil. If your lemon grass is in a garden, it should be watered every few days or whenever the top layer of the soil turns dry. Lemongrass does not require much watering if the irrigation is good. During winter the plant should be watered in 10 to 15 days.



Temperature and Humidity

The plant requires a steady day temperature of 25-30°C to provide optimum citral oil. Lemongrass thrives well in a warm, humid climate. Lemongrass is frost sensitive that means it will get **damaged in freezing temperatures**.

Fertilizer and manure

As a grassy plant, lemongrass needs a nitrogen-rich fertilizer for optimal growth. Slow-release 6-4-0 fertilizer that will feed lemongrass throughout the growing season. 6 - 4 - 0 is a great supplement for your soil's overall health. It contains the right amount of nitrogen, phosphate, calcium, and iron that is essential for maintaining the soil. It is a natural nitrogen fertilizer that is slow-releasing. It lasts longer compared to other fertilizers, and it is non-burning. It can be used for shrubs, lawns, trees, vegetables and flowers.

Watering lemongrass plants with manure tea will add trace nutrients.

What is manure tea? Can we make it?

Manure tea is **made from the manure of livestock**. The tea is used for the fertilization of crops. It is an organic alternative to chemical fertilizers

Traditional way of making manure tea is by using dried cow manure (non-medicated manure) by putting it in a container.

TO PREPARE MANURE TEA:

1. Take a big container (five gallons)
2. Put cow manure in the bucket
3. Dilute it with water
4. Stir the manure in the bucket using a long stick once a day.
5. Leave it for a few hours till the manure settles at the bottom.
6. Once the manure settles at the bottom, pour the liquid into another container.
7. Finally, the manure tea fertilizer is ready to use.

Weeding

Weeding is required only in the first year of plantation as unwanted plants reduce with each passing year.

Managing Pests and Disease

Lemongrass is one of the easiest plants to grow. Pests rarely attack it as it contains citronella, a natural pest-repelling compound. However, care needs to be taken as some pathogens can attack them.



Picture Credit:
<https://images.app.goo.gl/>

LET US LEARN HOW TO CONTROL THE FOLLOWING:

1. Lemongrass Rust (*Puccinia nakanishikii*)

- The only real threat to these plants is a fungus disease called lemongrass rust (*Puccinia nakanishikii*).
- Symptoms include brown, red and yellow streaks on the leaves.
- This usually occurs in excessively damp and moist conditions.
- To prevent it ensure that the plants have adequate space between them for proper airflow.



Picture Credit: <https://images.app.goo.gl/>

2. Yellow Sugarcane Aphid (*Sipha flava*)



Picture Credit: <https://images.app.goo.gl/>

- This particular pest is yellow in colour and is about 2 millimetres in length.
- It sucks the sap from leaves, causing yellow or brown spots.
- If you spot this pest on your plant, spray on it with a blast of water or



Picture Credit: <https://images.app.goo.gl/>

use neem oil or insecticidal soap.

GLOSSARY

1. propagation- increase in numbers.
2. compost- decayed organic material used as a fertilizer for growing plants
3. squeeze- firmly press
4. sparse- scanty
5. thrives- grow or develop well
6. livestock- farm animals regarded as an asset
7. damp- slightly wet
8. sap- the fluid which circulates in the vascular system of a plants

ACTIVITY

1. Grow a lemongrass plant using seeds and by cutting method and record your observation by listing:

Date of seed sown

Temperature

Irrigation practices

Care taken

Type of soil used

Humidity

Manure and fertilizers applied date and quantity

pH of soil

Sunlight duration

Let us Recall

A. Choose the correct option.

1. The lemongrass seeds germinate after
 - a. 10-20 days
 - b. 20 -30 days
 - c. 7 days
 - d. 45 days
2. As a grassy plant, lemongrass needs a ... fertilizer for its best growth.
 - a. nitrogen-rich
 - b. iron- rich
 - c. magnesium rich
 - d. all of the above
3. The plant requires a steady day temperature of ...
 - a. 25-30°C
 - b. 0°C
 - c. 45°C
 - d. 10°C

B. Fill in the blanks.

reducing	sandy loam	livestock
----------	------------	-----------

1. Manure tea is the product of _____.
2. Lemongrass prefers fertile, loose, well-drained _____ soil.
3. Unwanted plants keep _____ with each year.

C. State whether statements are true or false.

1. Lemongrass is very frost sensitive. _____
2. Plants growing in shade will not attract pests. _____
3. Lemon grass prefers to be kept in waterlogged soil. _____

SELF-REFLECTION

WHAT?	HOW?	WHY?

CHAPTER 5: HARVESTING AND POST-HARVESTING

Learning objective- Student will learn the techniques to harvest and store lemongrass.

Learning outcome- Students will be able to harvest and store lemongrass by freezing and drying.

HARVESTING AND STORING LEMON GRASS

Lemongrass can be harvested when the plant is 4-8 months old or roughly when it is one foot tall. There is no particular season for harvesting it. It can be harvested at any time of the year.

Method:

Lemongrass can be harvested by cutting off the entire stalk below the white swollen end. After the first harvest it can be harvested every four months for the next four years. Therefore one can get 2-3 harvests a year from Lemongrass. Even if the land is not very fertile and there is water shortage still two harvests a year is possible.

Lemongrass leaves and stalks can be stored by drying and freezing them during winter.



Picture Credit: <https://rukminim1.flixcart.com>

FREEZING LEMONGRASS STALKS



Picture Credit: <https://rukminim1.flixcart.com>

- Lemongrass stalks can be frozen whole or in smaller pieces for about 6 months.
- For easy use in cooking, portion out the stalks in small quantities.
- Place them in a freezer bag or in a container labelled with the date.

DRYING LEMONGRASS STALKS AND LEAVES



Picture Credit: <https://images.app.goo.gl/>

To dry the stalks or leaves, cut them into pieces while the plant is still fresh as they are difficult to cut when dry. Separate the leaves from the stalk and lay them on paper towels in a dry area out of direct sunlight. When

completely dry, store in a jar in a cool dark place. Dried lemongrass can be used for up to a year.



Picture Credit: <https://images.app.goo.gl/>

HARVESTING SEEDS



Picture Credit:
<https://images.app.goo.gl/>

Since lemongrass rarely flowers, it is usually easier to grow it through propagation. It takes at least 9 months of ideal growing conditions for a lemongrass plant to produce flowers. Some growers grow lemongrass to produce seeds.



Picture Credit:
<https://rukminim1.flixcart.c>

Usually, the plant intended to provide seeds is left uncut to grow. Harvesting of foliage and stalks is prohibited. Lemongrass produces a very minimal number of seeds.

Lemongrass is cross-pollinated to produce seeds. Usually, the plants start to flower from October to November. Matured seeds can be collected from January to February. When harvesting lemongrass seeds, the flowers are cut and dried in the sun. Collected seeds, known as fluff, are dried thoroughly to avoid mold and placed in burlap bags lined with polyethylene to store.

ESSENTIAL OIL EXTRACTION

Lemongrass is harvested once in three to four months. Once planted, it can be harvested for the next five years. **Oil is extracted from the fresh or partly dried leaves by steam distillation.**

Common side effects of lemongrass include:

- Allergic reactions (topical use)
- Increased amylase.
- Increased bilirubin.
- Toxic alveolitis (inhaled use)

Companion Plants of lemongrass

- Cilantro.
- Basil.
- Thyme.
- Mint.

GLOSSARY

1. alveolitis- inflammation of the air sacs of the lungs
2. topical use- application on the surface of a part of the body
3. extracted- remove or take out
4. threshing- the process of loosening the edible part of grain (or other crop) from the straw to which it is attached
5. foliage- plant leaves collectively

Let us Recall

A. Choose the correct option.

1. Lemongrass produces a very _____ number of seeds.
 - a. minimal
 - b. maximal
 - c. no seeds
 - d. depends on the type of lemongrass

B. Fill in the blanks.

steam distillation	harvesting	cross-pollinated
--------------------	------------	------------------

1. Lemongrass is _____ to produce seeds.
2. _____ of foliage and stalks is prohibited.
3. Lemongrass oil is extracted by _____ method.

C. State whether statements are true or false.

1. We cannot freeze or dry the stalks and leaves for use throughout the winter.

2. Dried lemongrass can be used for up to a year. _____

ACTIVITY

- List some side effects that are caused due to lemongrass.
- List down the step to preserve and store lemongrass by freezing and drying method.
- How many times can you harvest lemongrass in one year?

Self-Evaluation:

1. Lemongrass is commonly known as _____.
2. Lemongrass is propagated by _____.
3. Lemongrass oil is extracted by _____ method.
4. List some side effects that are caused due to lemongrass.
5. List down the steps to preserve and store lemongrass by freezing and drying method.
6. How many times can you harvest lemongrass in one year?

SELF-REFLECTION

WHAT?	HOW?	WHY?

MINT



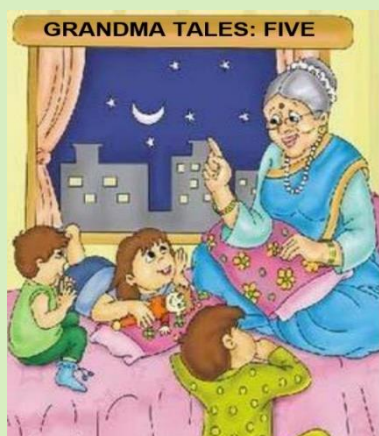
CHAPTER 1 : INTRODUCTION THROUGH STORY- MINT

Learning objective- Children will be introduced to a herb Mint.

Learning outcome- Children will understand the herb and cuisines in where they are used.

It was all about growing up with so many cousins around. Specially during our summer vacations when we were small and used to play outside the house for the whole day in the scorching heat. My Grandmother used to prepare this drink for us and when we returned after all the fun. She used to serve us with a sprig of mint on it. It's still my favourite. Yes, it's 'Aam Paanh' a drink made of raw mangoes especially during summers.

I often wondered why a leaf in the drink. She explained me the benefits of this herb called Mint. The refreshing qualities of mint, date to time immemorial. It has been used throughout not just to freshen one's breath, but to treat stomach and digestive disorders too.



Picture Credit:

<https://cdn.storymirror.com/cover/original>

Mint leaves are unique when it comes to flavour – they are warm, fresh, sweet and to top it all, leaves a cool after taste. This was not all she had many more information about the herb. I was always curious to know more about it. Later as I grew up, she slowly shared all the information she had.

To my surprised mint can replace chemicals for a few home remedies. Ants detest mint. So, a few sprigs of mint in places that should not be sprayed with chemicals will work well to keep ants

at bay.

Crushed mint leaves with baking soda will augment carpet cleaning. Let this mixture be spread all over the carpet and then vacuum it after an hour. You will see and smell the difference! Insects avoid eating and smelling herbs. Mint leaves added to mulch will help repel common insects that may otherwise destroy plants.

It was mint and memories and the past and the future.



Picture Credit: <https://theaffordableorganicstore.com/>

GLOSSARY

1. scorching - very hot
2. sprig- a small piece of a plant with leaves on it
3. immemorial-that has existed longer than recorded history or than people can remember
4. detest- to hate or not like somebody/something at all
5. augment- to increase the amount, value, size, etc. of something

Let us Recall

A. Fill in the blanks.

baking soda chemicals ants

1. Mint can replace _____ for a few home remedies.
2. Crushed mint leaves with _____ will augment carpet cleaning.
3. _____ detest mint.

B. State whether statements are true or false.

1. Mint leaves are unique when it comes to flavour. _____
2. 'Aam Paanh' a drink made of lemon. _____
3. Mint is used as mouth freshener. _____

SELF-REFLECTION

WHAT?	HOW?	WHY?

CHAPTER 2 : INTRODUCTION OF MINT

Learning objective- Children will learn and understand about mint, its name and origin.

Leaning outcome- Children will be able to identify and tell about its origin and importance.



Picture Credit: <https://plantvillage-production-new.s3.amazonaws.com/>

Plant name (Latin): *Mentha*

Plant family: Lamiaceae (mint family)

Native region: Europe, Africa, Asia, Australia, and North America

Growing habit: It's perennial plant can grow up to 30 cm in height and mostly spreads horizontally.

Parts used: Leaves

Medicinal Value- antioxidant

ORIGIN

The word mint descends from the Latin word *mentha*, which is rooted in the Greek word *minthe*, personified in Greek mythology as Minthe, a nymph who was transformed into a mint plant.

Mint or *mentha* belongs to the Lamiaceae family, which contains around 15 to 20 plant species, including peppermint and spearmint. It is a popular herb that people can use fresh or dried in many dishes and infusions. Manufacturers of toothpaste, gum, candy, and beauty products often use mint oil.

Do you know what is the common name of this herb?

Yes, correct it is called **Pudina**.

Pudina is the most popular kitchen herb in India along with Coriander. The scientific name of Pudina is *Mentha spicata* and it belongs to family Lamiaceae (The mint family). Pudina is commonly known as Garden mint in English. While other mint varieties are high maintenance, Pudina can be grown effortlessly in India.



Picture Credit: <https://gardenerspath.com/>

MINT PLANT

Mint is a beautiful tender looking aromatic herb. This perennial plant can grow up to 30 cm in height and mostly spreads horizontally. The plant is so prevalent in Indian gardens that sometimes it's also found growing wild in places with moist soil. It is an integral part of kitchen gardens in India, where it is grown for culinary and medicinal properties.

WHAT DO YOU MEAN BY PERENNIAL PLANTS?

Perennial plants or simply perennials are the plants that die seasonally but produce new growth in the spring. But originally perennial was equivalent to evergreen, used for plants that remain with us all year.

VARIETIES

Numerous varieties come under the umbrella term called 'mint' – peppermint, spearmint, apple mint, orange mint and about 15 others. Spearmint is also known as the garden mint or common mint. One of the oldest herbs known to mankind, mint is called *pudina* in Hindi. There are no summers in India without mint to beat the heat! Peppermint and Spearmint are of course integral to the mint extract. While spearmint is the chosen mint for a savoury flavour, peppermint is the herb of choice when it comes to chocolate and citrus flavours.

GLOSSARY

1. infusions- the act of adding something to something else in order to make it stronger or more successful
2. integral- necessary in order to make something complete
3. culinary- connected with cooking
4. savoury- having a taste that is not sweet but salty

ACTIVITY

1. How did it taste and smell? Did you like it?
2. Mention few herbs which you have seen or come across in and around your house.

Let us Recall

A. Choose the most appropriate answer.

1. Mint is also called as ...
 - a. Perennial
 - b. Pudina
 - c. plant
2. Mint is a beautiful tender looking ... herb.
 - a. aromatic
 - b. strong
 - c. hard
3. One of the oldest herbs known to mankind is ...
 - a. mango
 - b. neem
 - c. mint

B. Fill in the blanks.

mint	horizontally	summers	kitchen
------	--------------	---------	---------

1. There are no _____ in India without mint to beat the heat.
2. Numerous varieties come under the umbrella term called _____.
3. Perennial plant can grow up to 30 cm in height and mostly spreads _____.
4. Pudina is the most popular _____ herb in India along with Coriander.

SELF-REFLECTION

WHAT?	HOW?	WHY?

CHAPTER 3 : USES AND IMPORTANCE OF MINT

Learning objective- Children will understand the importance and uses of mint.

Learning outcome- Children will include mint in different recipes.

Mints have square stems and opposite aromatic leaves. The small flowers are usually pale purple, pink, or white in colour and are arranged in clusters, either forming whorls or crowded together in a terminal spike.



Picture Credit: <https://www.mashed.com/>

What part of mint is edible?

Yes, correct its leaf

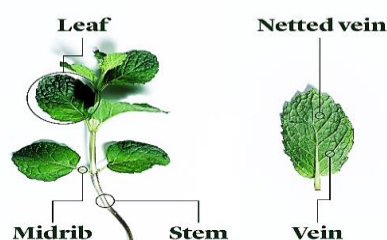
The leaf, fresh or dried, is the culinary source of mint. Fresh mint is usually preferred over dried mint when storage of the mint is not a problem. The leaves have



Picture Credit: <https://upload.wikimedia.org/>

a warm, fresh, aromatic, sweet flavour with a cool after taste, and are used in teas, beverages, jellies, syrups, candies, and ice creams.

PARTS OF THE LEAF



Picture Credit: <https://images.kitchenstories.io/>

Traditional use, medicine and cosmetics

Mint is a necessary ingredient in Touareg tea, a popular tea in northern African and Arab countries. Tea in Arab countries is popularly drunk this way.

Drinks sometimes feature mint for flavour or garnish, such as the mint mojito.

Mint essential oil and menthol are extensively used as flavourings in breath fresheners, drinks, antiseptic mouth rinses, toothpaste, chewing gum, desserts, and candies, such as mint (candy) and mint chocolate. The substances that give the mints their characteristic aromas and flavours are menthol (the main aroma of peppermint and Japanese peppermint).

Mint is a calming herb that people have used for thousands of years to help soothe an upset stomach or indigestion.

The ancient Greeks rubbed mint on their arms, believing it would make them stronger. Mint was originally used as a medicinal herb to treat stomach ache and chest pains. There are several uses in traditional medicine and preliminary research for possible use in treating irritable bowel syndrome.



Picture Credit: <https://homegardenjoy.com>

Menthol from mint essential oil (40–90%) is an ingredient of many cosmetics and some perfumes. Menthol and mint essential oil are also used in aromatherapy which may have clinical use to alleviate post-surgery nausea.



Picture Credit: <https://post.healthline.com/>



Picture Credit: <https://naturallysavvy.com/>

ALLERGIES

Mint may cause allergic reactions in some people such as abdominal cramps, diarrhoea, headaches, heartburn, tingling or numbing around the mouth.

INSECTICIDES

Mint oil is also used as an environment friendly insecticide for its ability to kill some common pests such as wasps, hornets, ants, and cockroaches.

ROOM SCENT AND AROMATHERAPY

Known in Greek mythology as the herb of hospitality, one of mint's first known uses in Europe was as a room deodorizer. The herb was strewn across floors to cover the smell of the hard-packed soil. Stepping on the mint helped to spread its scent through the room. Today, it is more commonly used for aromatherapy through the use of essential oils.

CULINARY ART

Got loads of fresh mint? This stuff runs rampant in the summer. Lucky for you, there are so many ways to use this incredible fresh herb! Mint is one of the most versatile of herbs: it works just as well in savoury and sweet recipes! Add it to drinks and cocktails for the best refreshing flavour. Pull off beautiful leaves to garnish desserts, or throw it into salads to make a beautiful green pop. You can even use it to make pesto. Here are all our favorite ways to use this beautiful herb.

Making a mint limeade by mixing lime juice with sugar and muddled mint leaves. Top it off with filtered water and ice cubes.

Health Benefits Of Mint

Treats asthma

Helps the process of digestion

Keeps respiratory disorders at bay

Aids in weight loss

Prevents from allergies

Strengthens the liver

Ensures oral hygiene

Prevents memory loss

Renders healthy skin

Prevents from depression



Picture Credit: <https://assets.lybrate.com/>



Incorporating mint into a fresh fruit salsa with chopped apples, pear, lemon or lime juice, jalapeno, and honey. Serve with cinnamon pita chips or on top of baked dishes.

Mint tea

Mint Lemonade

A jar of mint jelly: Mint jelly is a traditional condiment served with dishes.

Picture Credit:
<https://encrypted-tbn0.gstatic.com>

Picture Credit:
<https://www.bakingkneads.com>

Picture Credit:
<https://www.laaloosh.com>

Jazzing up your water by adding mint leaves and cucumber for a refreshing treat.

Adding a few chopped mint leaves to your next chocolate chip cookie dough.

Pouring hot water over mint leaves and steeping for 5-6 minutes for homemade mint tea. Try using chocolate mint leaves for a twist.

Chopping mint and tossing with fresh pineapple for a quick snack.

IMPORTANT NOTE

Mint leaves are a tender herb with gentle stems. It is best to add them raw or at the end of the cooking process. This helps them maintain their delicate flavour and texture.

When buying mint, look for bright, unblemished leaves. Store them in a reusable plastic bag in the refrigerator for up to 1 week.

Mint is relatively easy to grow, and people can cultivate it at home, making it a sustainable way to add flavour to meals.

When preparing mint, use a sharp knife and cut gently. Using a dull knife or over-chopping will bruise the herb and lead to a loss of flavour on the cutting board surface.

NUTRITION

Mint also contains trace amounts of:

- potassium
- magnesium
- calcium
- phosphorus
- vitamin C
- iron
- vitamin A



Picture Credit: <https://static.toiimg.com/>

GLOSSARY

1. aromas- a smell, especially a pleasant one
2. syndrome- a group of signs or changes in the body that are typical of an illness
3. alleviate- to make something less strong or bad
4. muddled- to put things in the wrong place or order or to make them untidy
5. sustainable- that can continue or be continued for a long time

Let us Recall

A. State whether the statements are true or false.

1. The ancient Greeks rubbed mint on their arms, believing it would make them stronger.

2. Mint leaves are a strong herb with hard stems. _____
3. In Greek mythology mint is called as the herb of hospitality. _____

B. Fill in the blanks.

stomach aromatic environment

1. Mint oil is also used as an _____friendly insecticide.
2. Mint is a calming herb that people have used for thousands of years to help soothe an upset _____or indigestion.
3. Mints have square stems and opposite _____leaves.

ACTIVITY

1. Mention 2 benefits of mints.
2. Share a recipe in which you would like to include it.

SELF-REFLECTION

WHAT?	HOW?	WHY?

CHAPTER 4: LETS GROW MINT

Learning objective- Children will learn how to grow mint.

Learning outcome- Children will grow mint.

GROWING MINT:

Mint can be easily propagated by root division during the rains. In a very tiny corner of your garden, the roots placed at the distance 4-6 inches can cover the whole area in about 3-4 weeks. Usually, Mint is planted in wet soils under a tree, on raised beds or near irrigation channels of a garden. But it's a good idea to grow mint separately in a container, grow-bag or a hanging basket.

It can also be grown by sowing seeds.

CULTIVATION

Mint grows in cool and moist areas where there is shade. Its growth is very fast – 4 inches in a month. It can spread to about 2 feet in six months. Initially, a few cuttings in a small pot that has moist soil will do. In about a week, it will begin to root. As it grows and spreads, it will have to be replanted in a

larger pot or transferred to the ground. They usually die in winter and come back in spring. These plants have such a scent that it emanates in the garden or home where it is grown, all day long. All mints thrive near pools of water, lakes, rivers, and cool moist spots in partial shade. In general, mints tolerate a wide range of conditions, and can also be grown in full sun. Mint grows all year round.

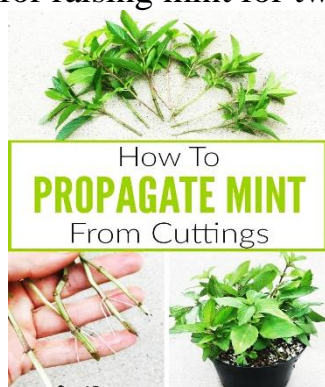
They are fast-growing, extending their reach along surfaces through a network of runners. Due to their speedy growth, one plant of each desired mint, along with a little care, will provide more than enough mint for home use. Some mint species are more invasive than others. Even with the less invasive mints, care should be taken when mixing any mint with any other plants. To control mints in an open environment, they should be planted in deep, bottomless containers sunk in the ground, or planted above ground in tubs and barrels.

Some mints can be propagated by seed, but growth from seed can be an unreliable method for raising mint for two reasons: mint seeds are highly variable — one might not end up with what one supposed was planted — and some mint varieties are

sterile. It is more effective to take a plant cutting from the runners of healthy mints.



Picture Credit: <https://www.gardeningknowhow.com/>



How To
PROPAGATE MINT
From Cuttings

Picture Credit: <https://k2j4u5m5.stackpathcdn.com/>



Picture Credit: <https://images.ctfassets.net>

MINT PLANT VARIETIES

There are literally hundreds of mint plant varieties and far too many to name here. However, a number of these mint types are commonly grown in the garden. Most types of mint require the same, or similar, growing conditions. They like full sun to partial shade and most prefer moist but well-draining soil.

Another aspect that most mints have in common is their invasive tendency. Therefore, regardless of the types of mint grown, care should be taken in keeping these plants under control — preferably with the use of containers.

In addition to their invasiveness, consideration must also be given to spacing when growing various mint plant varieties in the garden. Different mint types should be planted as far apart as possible — like opposite ends of the garden.

True mint varieties are known to cross pollinate with other types of mint when planted within close proximity. This can result in characteristics from different mint types to appear in one plant, leading to the loss of the plant's integrity with unfavourable scents or flavours.

Each mint variety has its own flavour or scent, though some may be similar. Most, however, vary greatly between mint types. Be sure the type you choose not only is well suited to your growing region, but also its intended use in the garden. Not all mint varieties are used for culinary purposes. Some are better utilized for their aromatic properties or aesthetic appearances while others, like field mint, are normally treated as medicinal plants.

Types of mint for the garden listed below are some of the more commonly grown varieties of mint for the garden: Peppermint Spearmint Pineapple mint Apple mint (Woolly mint) Pennyroyal Ginger mint Horsemint Red Raripila mint Catmint Chocolate mint orange mint Lavender mint Grapefruit mint Calamint Licorice mint Basil mint Chewing Gum mint Water mint Corn or Field mint

The most common and popular mints for commercial cultivation are peppermint, native spearmint, Scotch spearmint, and corn mint; also, more recently apple mint.

GLOSSARY

1. propagated- to produce new plants from a parent plant
2. emanates- to produce
3. thrive- to grow
4. invasive -spreading very quickly into all areas of and difficult to stop or control
5. sterile- not able to produce

Let us Recall

A. Choose the most appropriate answer.

- Mint can be easily _____ by root division during the rains.
a. propagated b. stored c. cooked
- They usually die in _____ and come back in spring.
a. summer b. winter c. rainy

B. State whether the statements are true or false.

- Mint is planted in hard soils under a tree. _____
- True mint varieties are known to cross pollinate with other types of mint when planted within close proximity. _____
- Not all mint varieties are used for culinary purposes. _____

ACTIVITY

- Grow a mint plant by seed and by cutting method and record your observation, by listing:

Date of seed sown	Type of soil used	pH of soil
Temperature		Sunlight
Irrigation practices	Manure and fertilizers applied date and quantity	
Care taken		

SELF-REFLECTION

WHAT?	HOW?	WHY?

CHAPTER 5: HARVESTING AND POST-HARVESTING

Learning objective- Children will learn techniques to harvest and store mint.

Learning outcome- Children will be able to harvest and store mint.



Picture Credit:
<https://thumbs.dreamstime.com/z/>

Harvesting of mint leaves can be done at any time. Fresh leaves should be used immediately or stored up to a few days in plastic bags in a refrigerator. Optionally, leaves can be frozen in ice cube trays. Dried mint leaves should be stored in an airtight container placed in a

cool, dark, dry area.

Mints are supposed to make good companion plants, repelling pests insects and attracting beneficial ones. They are susceptible.

MINT PLANT BORERS:

Mint growers already know that their plants can grow explosively, making pests out of themselves in places where they are not welcome, but not all mint growers are aware of an even more obnoxious pest that feeds on these plants. When your well-behaved mint plants suddenly take a bad turn, vanish unexpectedly, or seem unwell, mint plant borers may be to blame.

WHAT ARE MINT BORERS?



Picture Credit: <https://candide.com>

Mint borers are the larvae form of a light brown moth that hold their wings over themselves like a partially flattened tent. Adults reach up to 3/4 inch (2 cm.), emerging from mid-June through mid-August. During the week they are alive, adults lay eggs aggressively on peppermint and spearmint leaves. Larvae emerge in about 10 days and begin feeding on leaves. After a few days, these hungry larvae drop into the soil to chew on root hairs and burrow into the rhizomes of their host plants. The serious mint root borer damage starts at this point and continues for up to three months before the larvae leave the roots to pupate.

MINT PLANT COMPANIONS –

What plants grow well with mint?

If you have herbs in your garden, you likely have mint, but what other plants grow well with mint?



Picture Credit:
<https://encrypted-tbn0.gstatic.com/>

Mint Companion planting is when different crops are planted near each other to control pests, aid in pollination, and to harbour beneficial insects. The by-products of companion planting maximize garden space and increases healthy crop yields. The aroma of mint isn't pleasing to many crop pests, so planting crops next to mint can deter these plant nemeses. Mint helps deter flea beetles, which chew holes in the foliage of crops.

Kale, Radish, Cabbage, Cauliflower, Carrots are another plant companion for mint and as benefit from its proximity, mint discourages carrot root fly.

The pungent scent of mint confuses the insect which finds its dinner by smell.

The same is true of onion flies.

Planting mint next to onions will baffle the flies.

Tomatoes also benefit from comingled mint planting in this way, as the aroma of the mint deters aphids and other pests.

The powerful aromatic oils of mint seem to be beneficial to all of the above mint plant companions in repelling harmful insect pests.

Other plant companions for mint include: Beets, Broccoli, Brussels, Sprouts, Chili and bell peppers, Eggplant, Lettuce Peas Salad.

Once you have mint, you will likely always have mint, and lots of it.

The value and importance of mint can be summed up in the words of a musician who once said, 'luxury lives in the finer details. it's a cloth napkin at a dinner table and a mint on your pillow before bed.'



GLOSSARY

1. susceptible- easily influenced, damaged or affected by somebody/something
2. obnoxious- extremely unpleasant
3. deter- to make somebody decide not to do something, especially by telling him/her that it would have bad results
4. foliage- all the leaves of a tree or plant
5. baffle- to confuse somebody very much

Let us Recall

A. Fill in the blanks.

Fresh	larvae
-------	--------

1. _____ leaves should be used immediately or stored up to a few days in plastic bags in a refrigerator.
2. Mint borers are the _____ form of a light brown moth that hold their wings over themselves like a partially flattened tent.

B. State whether the statements are true or false.

1. The pungent scent of mint confuses the insect which finds its dinner by smell _____
2. The aroma of mint isn't pleasing to many crop pests, _____

C. Name few mints companion plants.

Self-Evaluation:

1. Mint is commonly known as _____
2. Mention the names of some mint companions.
3. List some health benefits of mint.
4. List down the nutrients in the mint.
5. How many times can you harvest mint?

SELF-REFLECTION

WHAT?	HOW?	WHY?

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