



CHAPTER: SEEDS AND SEEDS

Grade: 5

Board: **CBSE**

Book: **NCERT**



1.

Chapter Summary and Placement

Read through the following to understand the gist of the lesson.





The students have learnt about different kinds of food and their shelf life. This chapter allows them to analyse more about the ingredients that make up food. The origin of a plant from the seed and which seeds are consumed and why a few seeds are sprouted. They will explore more about the concept of “what is inside a seed?”.





2.

LEARNING OUTCOMES

<On completion of the chapter, students will be able to:>



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- 
1. Understand the reasons for soaking some food items.
 2. Explain germination and growth of plants
 3. Identify the modes of seeds dispersal.



3. PREVIOUS KNOWLEDGE REQUIREMENT

<The below points should be refreshed before introducing the chapter:>



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- 1) Recognize the different types of seeds at home which the student like and dislike.



4. TEACHING PLAN

Follow this section for getting ideas on teaching the content covered in the chapter. The subtopic given in the first column with the matching learning outcome can be explained using instructions and resources listed subsequently



Subtopic and Learning Objective #1

LO: Understand the reasons for soaking of some food items.

Teacher Activity

1. The teacher can introduce the chapter by asking a few questions to the students referring to a chart displayed:
 - Which of the following have you seen at your home?
 - Which one do you like?
 - Have you ever noticed how your mother makes the special curry with Rajma?
2. The teacher can explain the reasons why people soak the seed overnight for cooking.
 - When it rains the nut, grain or seed gets wet and can then germinate to produce a plant. So we are mimicking nature when we soak our nuts, grains, and seeds. Nutritional inhibitors and toxic substances found in nuts, grains and seed can be minimized or eliminated by soaking.
 - The seeds will get cooked easily if we soak it overnight
3. Give Activity 1 as assignment.
4. Ask the student to explain what they have observed the next day.
5. Ask the students where do they find the seed in fruits and vegetables.
6. Conduct Activity 2

Check for understanding:

- a) What are the health benefits of soaking seeds in water?
- b) List any two seeds that are soaked.

Resources Suggested

Textbook, chalkboard, Resource 1

Activity 1

Name of the activity – Soaking seeds

Type of activity – Individual/random

Learning Objective: Understand the texture of seeds before and after soaking.

Use it for – Understanding how soaking helps in reducing cooking time

Materials – Channa, water,

Teacher instructions:

1. The teacher may ask the student to take a few channa seeds and put it in a bowl of water.
2. The next day the students should see what the difference between what they have put in water and what is there in the container.
3. The student should do this with the permission of their elders.
4. The seeds should not be wasted.
5. Now try to analyse the features of the blown up channa and put them in words.
6. The next the teacher can explain why the channa was blown up and that will make seed soft and easy to cook.

Activity 2

Name of the activity – Germination of seeds

Type of activity – Individual

Learning Objective: Observe the changes that happen to a seed on a day to day basis

Use it for – Understanding sprouting/germination

Materials – Green gram/ water a wet cloth

Teacher instructions:

1. The teacher may ask the student to take a few green gram and put it in a bowl of water for around 5 hours
2. After 5 hours ask them observe the changes in the texture of the green gram.
3. The student should record the changes they feel and write them as a report.
4. Now drain the water and put it in the same bowl and and cover it with a wet cloth.
5. Now try to analyse the and record the changes after covering it for three hours and 6 hours..
6. Note the time when they see it sprouted.
7. The student can have the observations ready for the germination session



Resource 1:



Subtopic and Learning Objective #2

LO: Explain germination and growth of plants

Teacher Activity

1. Get the observation of Activity 2.
2. Introduce the term germination: Germination is the process by which an organism grows from a seed or similar structure. The most common example of germination is the sprouting of a seedling from a seed.
3. Parts of a germinated seed. There are three basic parts of a seed in the angiosperms: (a) an embryo, (b) a food storage or nutritive tissue, and (c) seed covering
 - An embryo: It is the one which develops into a plant with an upward growing shoot and a downward growing root system
 - The outer covering a seed is called a seed coat, it protect the embryo.
 - When a seed germinated the first thing that comes out is an immature root called radicle
 - The radicle is followed by the plumule which contains the stem and the root.
4. The teacher can explain the process of germination with the help of Resource 2. Explain the parts of the seeds after the germination has happened.

5. Explain the importance and health benefits of germinated seeds.
 - Rich in protein content
 - Budding plant inside
 - Taste good

Check for understanding:

- a. Explain the meaning of germination
- b. What is the preservative used in mamidi tandra?

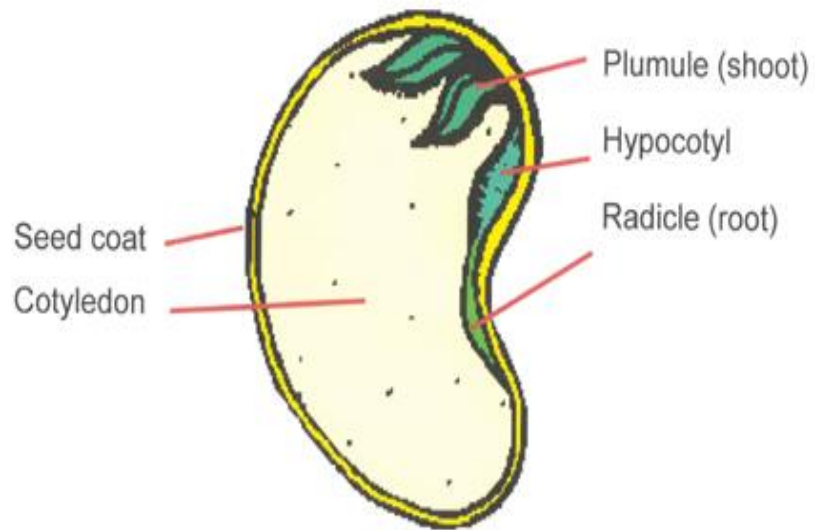
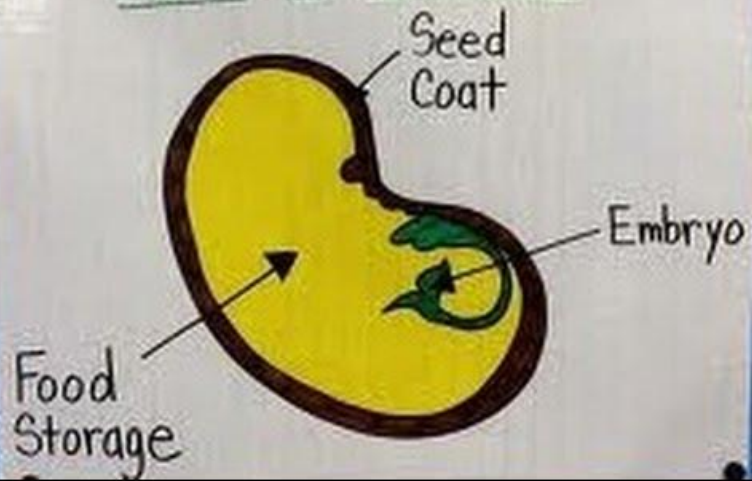
Resources Suggested

NCERT textbook, Resource 2

Resource 2:



Parts of a Seed



Subtopic and Learning Objective #3

LO: Identify the modes of seeds dispersal.

Teacher Activity

1. The teacher can ask following questions in the class:
 - Have you seen any plant that does not require a seed?
 - Does it bear fruits?
 - How long did it take to grow and bear fruit?
2. The teacher can explain the methods by which the seeds spread.
 - Through humans
 - Explosion
 - Through insects
 - Through birds
 - Other natural carriers like wind water
3. The teacher can explain the role of carriers in spreading seeds
4. Explain the different type of seed based on its shape, color, which has water(coconut)

Check for understanding:

- a. What are the health benefits of soaking seeds in water?
- b. List any two seed that are soaked.

Resources Suggested

Textbook, chalkboard, Resource 3

Resource 3:

How Seeds Travel

by the wind



milkweed



dandelion



maple

by animals



beggar-ticks



sandbur



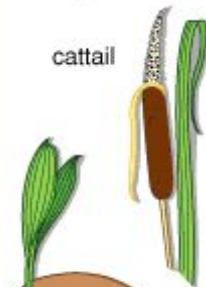
blackberry

by water

lotus



cattail



coconut



by bursting

violet



jewelweed



witch hazel

by humans



bean



wheat



cherry



5. WORKSHEETS

Print or copy the worksheet questions on the blackboard and ask the students to attempt them. They can be given as homework or a class test as well.

Worksheet 1

Use it like: Class test, Home assignment, Revision

Fill in the blanks

1. A ____ is a part of a plant which gives birth to a new plant. It stores the _____ for the growing plant. It has a smooth outer cover called _____
2. _____ plant eats frogs and mice
3. Unter plants have special _____ which attracts the insects to it.
4. When the insect lands on the _____ of the hunter plant it gets trapped.
5. A soaked bean seed is placed on a wet cotton. Two days later the seed will ____.
6. The scattering of the seeds from one place to another is called _____.

Worksheet 2

Use it like: A class test, home assignment, revision

1. What are the conditions a seed need to sprout (germinate)?
2. Write any four seeds that you eat.
3. What is there inside a seed?
4. How do seeds spread to far off places?
5. Name the plants that we got from South America.



6. SOLUTIONS

This section gives you sample answers for activities and questions listed above.



Worksheet 1

1. Embryo, food, seed coat
2. Hunter,
3. Smell
4. mouth
5. Sprout/germinate

Worksheet 2

1. Water, correct temperature (warmth), and a good location.
2. Rajma, green gram, Chana, Fenugreek
3. An embryo: It is the one which develops into a plant with an upward growing shoot and a downward growing root system. The endosperm is the tissue produced inside the seeds of most of the flowering plants.
4. Spreading of seeds far off places or simply seed dispersal is a way when seeds get from the parent plant to a new place. As plants cannot move from one place to another as they have put down their roots , it get dispersed through the means of agents like air, water, animals, humans etc
5. Tomato, Potato and Green chilli.



7. EXTRA RESOURCES

Carry out the following suggested activities/ tasks if you have the time and resources to do them



1. Reference Video links:

The students can be suggested to watch the following videos/ shown in class:

<https://www.youtube.com/watch?v=TE6xptjgNR0>

<https://www.youtube.com/watch?v=qRIb7cYWc8>

2. Extension activity 1:

Carry out the following suggested activities/ tasks if you have the time and resources to do them

Purpose: Understanding germination/ Plant Palak, dhania

Take a clay pot or a tin can with a wide mouth. Make a small hole at the bottom of the can. Fill your can with soil. Put four or five seeds of the same kind in the soil and press them gently. Different groups can plant different kinds of seeds, such as mustard (sarson), fenugreek (methi), sesame (til) or coriander (dhania).