

Science Success



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Features of NEP 2020

- Competency Based Learning
- Problem Solving Based Questions
- Case/Picture Based Questions
- Art Integration Based Questions
- Application Based Questions
- Experiential Learning Questions

Online Features

- Animated Videos
- Interactive Exercises
- Worksheets
- Science Dictionary



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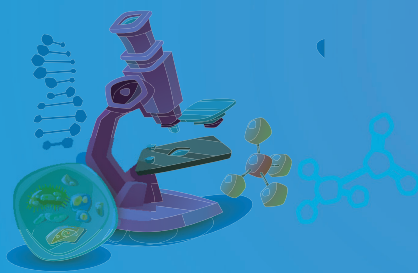
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Preface

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The emphasis is also given on life skills along with **inculcation of healthy habits** for the protection of the environment and sustainable development.

This series:

- follows a **thematic approach** of the concepts.
- presents the content in a **clear, concise** and **logical** manner.
- introduces each chapter with an **interesting** and interactive warm up section to recall the previous knowledge related to the chapter.
- presents language in **simple** and **easy to follow**, considering the age appropriateness of students.
- aims at encouraging **inventiveness** and **competence** in students.
- contains vibrant **colourful illustrations** and **pictures** to grab the **interest and attention** of students as well as for clarity of the concepts.
- adopts an **inquisitive approach** that leads to interaction of both students and teacher in the process of learning.
- provides topics and sub-topics embedded with in-text activities (both recall based and hands-on experiments) that encourage learning by doing.
- provides well-formulated questions, which address the different cognitive levels and various skills, as per NEP 2020 (**Art Integration, Case/Picture Based, Application, Analyse, Experiential Learning, Problem Solving, Exploration**, etc) of students.
- includes the **Life Skills** and **Subject Integration** for the betterment of life and helps students to relate the concept with different subjects respectively.
- raises the environmental awareness among students as well as its conservation and protection which is our **Great Motto now-a-days**.



We are sure the whole series makes learning science a fascinating, effective and engaging for the students.

Looking forward to your valuable suggestions.

—**Author**

Inside Features of the Series...

Content Section

Focus On

This section presents an overview of topics/concepts that are covered in the chapter.



Meet the Facts

Some scientific amazing facts related to the chapter are given in this section.

Remember and Recall

Recall based exercises in form of Fill in the blanks, True False, Short Answer questions, etc. are put in this section.



Enquire and Share

Some Inquisitive questions about some scientific concepts that we experience in our daily life are asked in this section.

Teacher's Corner

This section gives guidelines and a few suggestions for teachers for the effective and interesting way of teaching.



Scan, Watch and Learn

QR codes are given alongside the topic to watch the video lectures and animated activities.

Precursor

It provides a warm up exercise for students in form of a **comic strip, interaction, questions or through an activity** to relate the previous knowledge.

Grasp More

This feature gives extra useful information which is interesting in form of extended learning.



Try and Learn

Hands-on experiments and activities are provided in this section to make children learn the concepts by experimenting and doing.



Key Terms

Meaning of important terms are given in this section.

Points to Reflect

This feature provides point-wise summary of the chapter for a quick recap.

As per NEP (National Education Policy) 2020...

Assessment Section

Picture/Case Study

The learners will study the pictures or case properly and answer the questions associated with it. It will help learners develop their overall skills.



Art Integration

The learners will use their creative idea of making something relating to art, craft, poster making and designing, etc. This section helps children development of motors skills and inventiveness too.



Experiential Learning

The learners will do the hands on experiments on their own and grasp the concept in an effective way.



Application

The learners will use their theoretical knowledge in real life in form of activities and task.

Problem Solving

The learners will focus on making the sense of logical and mathematical ideas. Also, the questions are used to measure and test the learners approach to difficult and unusual situations.

Analyse

This section of questions assess learners ability to use critical thinking and logical reasoning skills.

Exploration

This section is an active learning approach that helps learners learn through curiosity, enquiry and it promotes brain development.

Life skills and Integration

This section promotes the betterment of life and helps them to relate the concept with different subjects respectively.

Enquiry

The learners will enquire about the idea or topic in an active way.



Think Green

This section provides environmental awareness and sensitivity towards environment relevant to the specific chapter.





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1

Living and Non-Living Things

Focus on



- ▶ Living and non-living things
- ▶ Characteristics of living things
- ▶ Differences between living and non-living things

Living Things

Non-Living Things

Observe the picture of a park given below. Write the names of four living things and four non-living things in the space provided.



Can you name some other non-living things at your home? Make a list of them.

How can you differentiate between living and non-living things? Let us discuss about it.

Living and Non-Living Things



We see many things around us. Some are living and some are non-living. All animals, plants and human beings are living things. Things such as bat, ball, chair, table, fan and van are non-living things. Things are also natural and man-made.



Living things

► Natural and Man-Made Things

Things such as plants, animals, sun, moon, water, rocks, air, etc., have been provided by nature. Thus, they are **natural things**. All living things are natural but all natural things are not necessarily living. Natural things such as plants and animals are **living things**. Things such as air, water, rocks and soil are **non-living natural things**.





Non-Living things

Vehicles, buildings, toys and roads are made by humans. They are called **man-made** things. All living things are natural but non-living things are both natural and man-made.



Remember and Recall

A few words are given below. Categorise them as natural living things, natural non-living things and man-made non-living things.

Road, Car, Boy, Mango, Plant, Ball, Chair, Water, Soil, Tiger

Natural Living Things	Natural Non-Living Things	Man-Made Non-Living Things

Characteristics of Living Things



Living things need food and water. They grow, move, feel, breathe, reproduce and die. Let us discuss these characteristics.

► Living Things Need Food and Water

Living things need food and water to live and grow. Animals eat plants or flesh of other animals as food. Plants make their own food in the presence of sunlight, air and water. Human beings depend on both plants and animals for their food.



Horse eats grass



Plants make food



Humans eat food

► Living Things Move

Living things can move on their own. They move from one place to another in search of food, shelter and to protect themselves from enemies. Animals such as cows, lions and dogs move with the help of their legs. Fish moves with the help of fins. Birds and some insects fly with the help of their wings.

Plants do not move from one place to another because they do not need to search for food. Different parts of a plant can show movement but in different forms. The leaves of *Mimosa* (touch-me-not) plant close when touched. A lotus flower opens at sunrise and closes at sunset.



Bird



Leaves of *Mimosa*



Fish

Does a chair move on its own? No, non-living things do not move on their own. They move only when someone moves them.

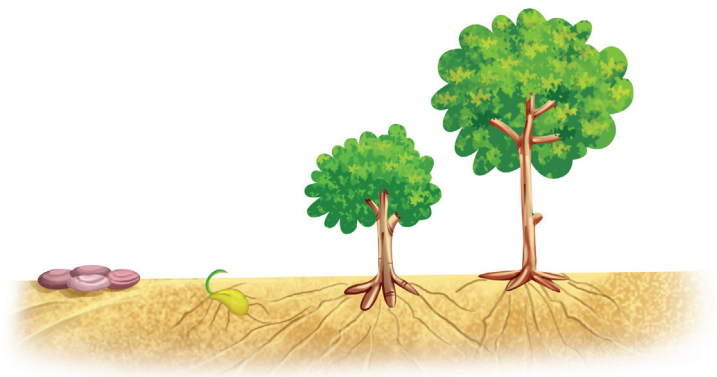
► Living Things Grow

All living things grow. A human baby grows into an adult. A baby plant grows into a big plant. Do the things such as table, house, car, etc., grow into something big?

No, why? It is because they are non-living things. Non-living things do not grow.



A human baby grows into an adult



A baby plant grows into a big tree





Try and Learn

To show that living things grow

You Need: A few seeds of pea, a few pebbles, two pots containing soil

What to Do:

Take a pot (pot A) containing soil. Sow 4-5 seeds of pea in it. In the same manner sow 3-4 pebbles in another pot (pot B) containing soil. Water the pots daily. After 2-3 days you will see small seedlings in the pot A. After 10-15 days the seedlings become taller in pot A but there may be no change in pot B. Why?

It is because pebbles are non-living things that do not grow.



Enquire and Share

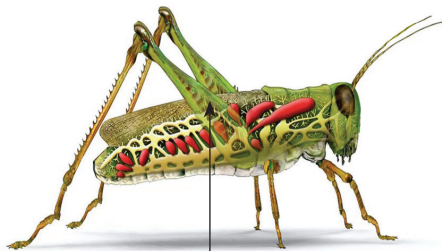
We have seen many non-living things, such as cars, trains, clouds in the sky, which are moving, but they are non-living things. Discuss why.

A seed grows into a new plant. Is it a living thing or non-living thing? Discuss.

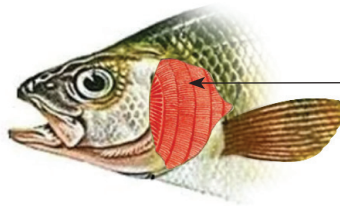


► Living Things Breathe

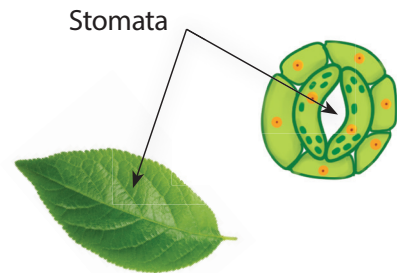
We cannot live without breathing. All living things need air to breathe. Animals and human beings breathe through lungs. Fish breathe through **gills**. Insects breathe with the help of tiny pores called **spiracles** present on their body. Plants take in and release air through small pores called **stomata** present on their leaves. Non-living things do not breathe.



Air holes (spiracles)



Gills



Stomata

Meet the Facts

All living things like plants and animals need oxygen all time to stay alive. Plants take in carbon dioxide and release oxygen during day time for the preparation of food.

Grasp More

Blue whale is the biggest animal in the world. Though they live in water, but they are not fish. They do not have gills. They breathe through their lungs.





► Living Things Feel

All living things can feel. When someone pinches us, we feel pain. Similarly when we look at the sun directly, our eyes close immediately. We laugh when we are happy. We cry when we are sad. This is because we can feel.

Animals and plants also feel. A pet dog barks at a stranger. Plants grow towards light.

Non-living things do not feel. A doll or a toy does not cry when we pinch it or when we throw it away.

► Living Things Reproduce

All living things reproduce young ones of their own kind. This process is called reproduction. Baby plants grow from the seeds of the parent plants. Animals such as frogs, birds and insects reproduce by laying eggs. Cats, dogs, cows and human beings give birth to their young ones. Most plants produce new plants through

seeds. Also, some plants reproduce through stems, roots and leaves. Have you seen books or tables producing their babies? They do not give birth as they are non-living things. Non-living things cannot reproduce.

Living things cannot live forever. They finally stop breathing and die. Most animals and plants die when they get old. Non-living things such as books, toys and chairs do not die. They can only be destroyed or damaged.



Hen and chicks



Cat with kitten



Plant reproduce through seeds



Differences between Living and Non-living Things



On the basis of above features, the differences between living and non-living things can be concluded.

Features	Living Things	Non-Living Things
Food	Living things need food.	Non-living things do not need food.
Growth	Living things grow with time.	Non-living things cannot grow with time.
Movement	Living things can move on their own.	Non-living things cannot move on their own.
Breathe	Living things need air to breathe.	Non-living things do not need air to breathe.
Feel	Living things can feel changes around them.	Non-living things cannot feel changes around them.
Reproduce	Living things reproduce. They give birth to young ones or lay eggs.	Non-living things cannot reproduce. They cannot give birth to young ones.
Death	Living things die when they get old or some other reasons.	Non-living things do not have life cycles at all. They decay with time.



Remember and Recall

Fill in the blanks with the correct words, given in the bracket.

(mat, non-living, food, gills, Plants)

1. Living things need _____ to live.
2. Bat and ball are _____ things.
3. A computer and a _____ do not need air to breathe.
4. _____ take in air through stomata.
5. A Fish breathe through _____.



Teacher's Corner

Help children to observe and experience the features of living things and ask them to find out and differentiate between living and non-living things in their surroundings.



Key Terms

- Gills:** breathing organs of fish
- Stomata:** small pores present mostly on lower side of leaf for gaseous exchange
- Spiracles:** small holes on the body of insects for breathing
- Reproduction:** the process of producing young ones of their own kind by the living beings





Points to Reflect

- ▶ There are living and non-living things around us.
- ▶ Living things include plants, animals and human beings.
- ▶ Non-living things can be natural or man-made.
- ▶ Soil, air and water are examples of natural non-living things.
- ▶ Books, chairs, cars and toys are man-made non-living things.
- ▶ Living things need food and can move, grow, breathe, feel and reproduce.
- ▶ Non-living things do not move, feel, grow, breathe and reproduce.



Assess Yourself

A. Tick (✓) the correct answer.

1. Which one of the following is a non-living thing?

(a) Plant (b) Dog (c) Car (d) Bird

2. A fish swims with the help of

(a) legs (b) ears (c) skin (d) fins

3. Things which have been provided by nature are called

(a) man-made things (b) natural things

(c) non-living things (d) living things

4. Which of the following lays eggs?

(a) Cow (b) Dog (c) Cat (d) Parrot

B. Write T for true and F for false statements.

1. Living things do not die.

2. Rocks, soil and clouds are living things.

3. Leaves of a *Mimosa* plant close when touched.

4. Animals do not feel changes around them.

5. A dog gives birth to puppies.

C. Name the following.

1. Three living things



2. Three non-living things that you carry to school

3. Three egg-laying animals

D. (i) Write and draw two examples of:



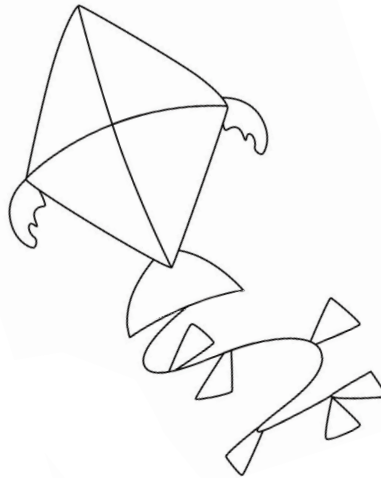
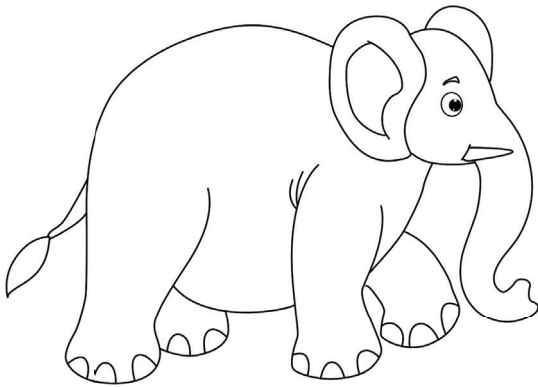
Art Integration

1. non-living things

2. living things

(ii) Collect pictures of some living and non-living things. Sort them into living and non-living. Paste them on a drawing sheet and make a beautiful collage.

(iii) Look at the following pictures. Some are natural and some are man-made things. Colour the man-made things only.



E. Write the name of the part through which following living things can breathe.



Picture based

(i)



(ii)



(iii)



F. (i) A chair is made of wood. Wood is obtained from trees. Answer the following questions:



Application

1. Chair is a (man-made/natural) thing.

2. Chair is a (living/non-living) thing.

3. What are the differences between a chair and a tree?



(ii) What would happen if you water both, a plant and a wood piece for a week?

G. Sunny planted a plant in a pot. He covered the pot with plastic container. Next day, he saw that the plant is dying. What steps should he take to make the plant alive again?  **Problem Solving**

H. Like humans and animals, plants also feel. What do you think about it?  **Enquiry**

I. Answer the following questions.

1. What are natural things?
2. What are man-made things?
3. How do insects breathe?
4. What are the parts present on leaves for intake and exit of air?
5. Give three differences between living and non-living things.



Life Skills and Integration

J. Both living and non-living things are important to us. We should take care of those things. Give example of one living and one non-living thing. Write two tips to take care of those things.

K. Fill the blank spaces of the following. All are non-living things.

(i) R _ _ AD

(ii) B _ _ LL

(iii) C _ _ R

(iv) B O _ _ K



Integrated to Language



Think Green

Paper is a non-living thing which is made from plants. We should take care of it. We should not waste paper. We can utilise it for making useful things. Collect some old paper and learn from an elder how to make paper bags. Make a few paper bags. Decorate and use them, instead of plastic bags.



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Assertion and Reason

This section enhances the analytical thinking abilities.



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1

Growing Plants



Focus on

- ▶ Growing plants
- ▶ Seed
- ▶ Agriculture



Look at the pictures given below. Rohan is asking Ria to identify some seeds. Help her and write the name of the seeds in the space provided.













Everyday we eat different types of seeds in the form of cereals, pulses, vegetables, nuts and spices.

Do you know, apart from food what is the other important role of seeds? You have seen that new plants grow from seeds? Let us discuss about it.

Growing Plants

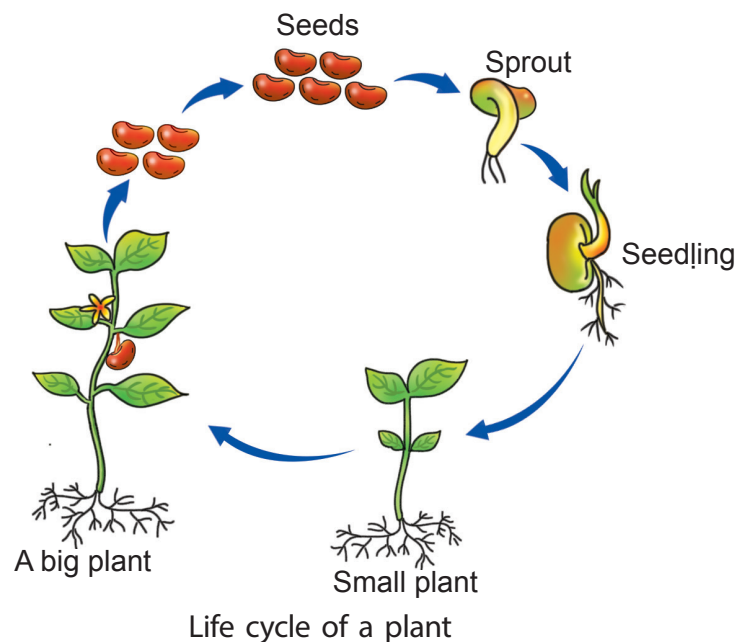


The process of production of new plants is called **plant reproduction**. Plants grow not only from seeds, but also from other parts of the plant, such as stems, roots, leaves and spores. Reproduction in plants can be broadly categorised into two types.

- (1) Sexual reproduction
- (2) Vegetative propagation

► Sexual Reproduction

Growing plants from seeds: Most of the flowering plants grow from seeds. Seeds are found within fruits, and fruits are formed from the flowers. A plant produces many seeds. But all the seeds do not grow into plants. Some seeds are eaten up by animals and birds; some seeds get destroyed by heat, rain, etc; and some others do not get proper light, water and air to grow. Thus, only a few seeds grow into new plants.



► Vegetative Propagation

Besides growing from seeds, plants also grow from certain other parts of plant, such as stem, root, spores, etc. It is called vegetative propagation.

Growing Plants from Stems: Some plants, such as rose, *Hibiscus* and money plant can be grown from stem-cutting. The plant from which the stem is cut is called the mother plant. Stem cutting is planted in the soil. After a few days, the stem cutting grows into a new plant.





Rose plant can be grown from stem cutting.

Potato, onion and ginger are stems of plants which can grow into new plants. A potato has buds on it, called **eyes**. Any part of potato bearing an eye can grow into a new plant.

Tiny plants from buds



Potato, ginger and onion

Growing plants from roots : Some plants, such as sweet potato, carrot, radish, turnip, *Dahlia* store food in their roots. Roots of these plants can grow into new plants.

Place a sweet potato in a glass of water with the help of some toothpicks and keep the glass in an open space. After a few days, you will observe a new plant growing out of it.



Sweet potato



Radish



Carrot

Meet the Facts

1. Bamboo is the fastest growing woody plant in the world. It can grow 35 inches in a single day.
2. The first potatoes were cultivated in Peru in 7000 years ago.

Grasp More

Squirrels bury seeds to eat during winter. Sometimes, squirrels forget where they had buried these seeds and the forgotten seeds may sprout during the following spring.





Try and Learn

To grow a plant from a carrot roots

Things needed: A carrot, a bowl, a knife and water

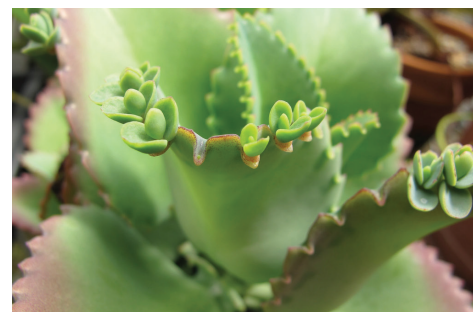
Method:

- ◆ Cut off the top portion of the carrot.
- ◆ Keep the cut part in the bowl with the top portion upward.
- ◆ Pour some water in the bowl so that half the carrot is dipped in water.
- ◆ Keep the container in the sun.
- ◆ Observe the carrot for a few days.

Observation: New leaves sprout from the top portion of the carrot.



Growing plants from leaves : Leaves of *Bryophyllum* plant have buds in the notches along the margins. These buds develop, into new plantlets. When the leaf falls on soil, these plants get separated and develop into independent plants.



Bryophyllum buds



Groups of spores in the form of sori

Growing plants from spores: Some lower plants such as moss and fern do not have flowers, fruits or seeds. These are non flowering plants. They have special structures called spores in their leaves. New plants can be grown from those spores. In fern plants, group of spores are found in the form of **sori** in leaves.

Seed



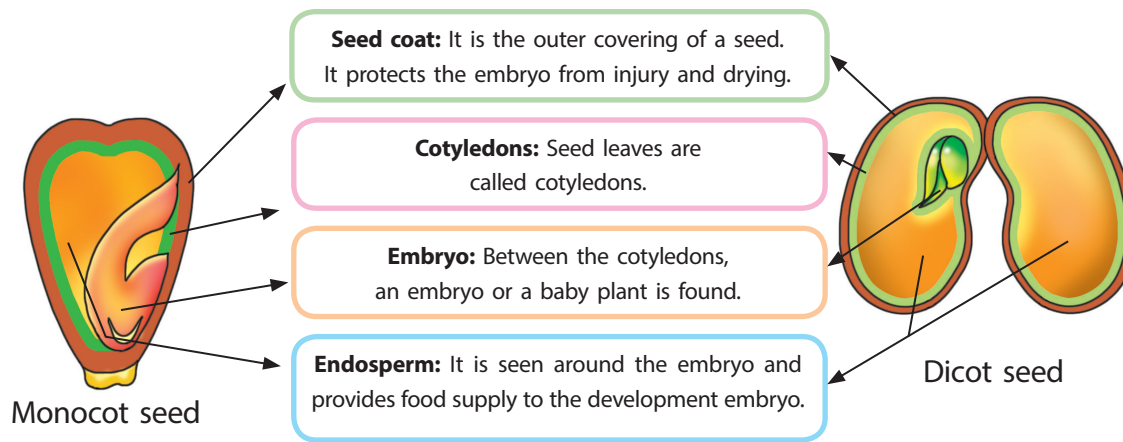
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Seeds are important for plant reproduction. Let us know about the structure of the seed.

► Structure of Seed

Seeds of some plants containing one cotyledon are called monocot seeds and some others having two cotyledons are called dicot seeds. Structure of both monocot and dicot seed is given below:





Let us observe the seed structure of kidney bean.



Try and Learn

To observe the seed structure of kidney bean, and identify the type of seed

Materials needed: a bowl, water and 5 to 6 kidney beans

Instructions: Take 5 to 6 kidney beans and keep them in a bowl of water for one day. Next day, take out those beans and split one bean in hand. Before splitting, remove outer covering of the bean.

Observation: This outer covering is called seed coat. After splitting you can see two seed leaves. These are called cotyledons. Between these two cotyledons, a small baby plant, called embryo is found. This embryo has two parts: baby shoot and baby root.

Conclusion: Kidney bean seed is a dicot seed as it has two cotyledons.

► Dispersal of Seeds

What will happen if the seeds fall and start growing beneath the parent plant?

If all the seeds fall and start growing beneath the parent plant, they will be overcrowded and will not be able to get proper sunlight, water and other nutrients. Therefore, seeds must be scattered over a wide area to grow properly. The process of scattering of seeds from the parent plant is called **seed dispersal**.

Dispersal of seeds occurs in various ways. They may be carried to far-off places through wind, water, insects and animals. These are called agents of dispersal.





Maple and dandelion seeds

Dispersal by wind: Seeds that are light and have hair or wing-like structures on them are dispersed by wind. Cotton and dandelion seeds have fine hair and are easily carried away by wind.

Dispersal by water: Seeds of some plants can float and are carried away by water. Lotus plant has a spongy light fruit which float on water. Coconut has fibrous covering that helps it to float on water. Lotus and coconut seeds are dispersed by water.



Coconut fruit

Dispersal by animals: Birds and animals eat fruits. At times, undigested seeds of these fruits pass through their digestive systems unchanged. In this way seeds are dispersed from the plant. Some seeds, such as cocklebur, *Datura* and tiger claw have spines or hooks. These seeds stick to the bodies of animals or birds and are carried away.



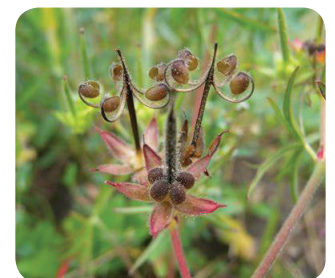
Tiger's claw seed



Xanthium seed

Human beings and animals eat fruits such as mango, *jamun* and cherries and throw away their seeds resulting in their dispersal.

Dispersal by explosion: The fruits of peas, okra, *Geranium* and poppy burst open when they ripen. The seeds are automatically scattered through explosion by force. After dispersal, the seeds germinate.

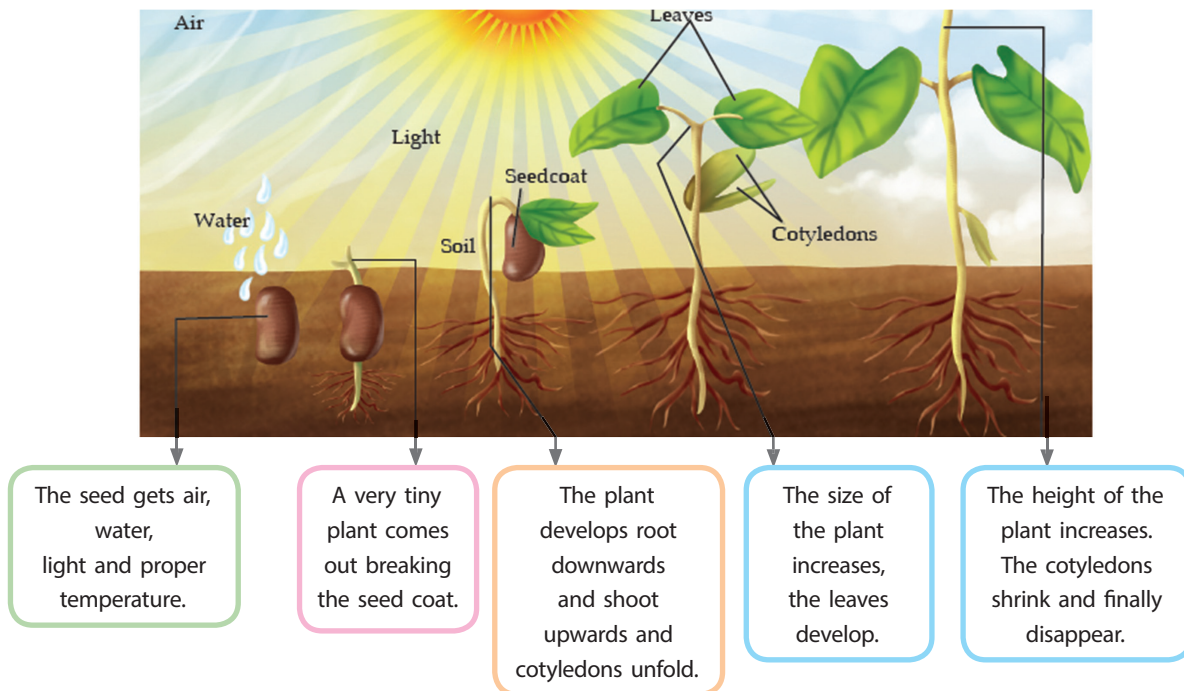


poppy seeds



Germination of seeds

Germination is the process by which a plant grows from a seed. Stages of bean seed germination are shown below. The right conditions for a seed to grow into a new plant are sufficient water, light, warmth and air. If these conditions are fulfilled, a seed grows into a baby plant or a seedling.



Remember and Recall

Write T for true and F for false statements.

1. Seed coat is the outer covering of the seed.
2. Seeds are present inside flowers.
3. Roots absorb water and minerals from the soil.
4. Outer covering of a seed is called seed leaf.
5. Coconut and lotus seeds are dispersed by wind.



Enquire and Share

1. Seed dispersal is necessary for the plants to grow properly. Why?
2. Plants of radish, carrot and beetroot can be grown from roots. Is it the common practice for growing such vegetables in large quantities? Discuss.

Agriculture



The practice of growing of crops and rearing animals on a large scale to provide food, fibre and other products is called **agriculture**. Plants of one kind grown on a large scale in a particular area during a particular season are called **crops**. Farmers grow different



crops in different seasons. Crops, such as rice and maize that are grown in summer season and harvested at the end of monsoon season are called **kharif crops**. Crops, such as wheat and gram that are grown in winter season and harvested in the spring season are called **rabi crops**.

Vegetables, such as cauliflower and peas are grown during winter whereas vegetables, such as brinjal and gourd are grown during summer.

Different plants not only grow in different seasons but they need different types of soil too. Rice and jute grow well in clayey soil which can hold plenty of water. Wheat, *jowar* and *bajra* grow in sandy soil. Cotton grows well in black soil. Tea plants grow in the soil of hill areas such as Assam and Darjeeling.

Grasp More

Plants that live for just one year are called **annuals**, those live for two years are called **biennials** and the plants that live for many years are called **perennials**.

► Steps of Agriculture



1 Ploughing is done for loosening of soil



2 Manure and fertilisers are added in the field.



3 Seeds are sown in the fields.



8 Crops are gathered after threshing and stored.



7 Harvesting of crops is done after maturation of crops.



6 Crops are matured



5 The crops are sprayed with chemicals and pesticides.



4 The field is irrigated and watered.

Steps of Agriculture
A farmer performs the following steps for crop production.

Protecting crops: Crops need to be protected from animals, birds, insects, etc., before and after harvesting. Bigger animals like cows and buffaloes can be kept away by proper fencing around the fields. Scarecrows help to keep the birds away. Pesticides are sprayed on crops to protect them from insects.



Scarecrow

Teacher's Corner

Show a corn seed and a peanut (groundnut) seed in the class. Help children to observe the number of cotyledons and to know the difference between two types of seeds. Discuss different ways of plant reproduction. Arrange a visit to a nursery for students and help them know various methods of reproduction in plants.



Key Terms

Sori: a group of spores in fern leaves

Cotyledons: seed leaves

Seed coat: outer covering of the seed that protects the seed

Seed dispersal: the process of scattering of seeds

Germination: the process by which a seed grows into a new plant

Agriculture: the practice of growing crops on a large scale for the food or other purposes

Crops: plants that are grown in large quantities to provide food in a particular area during a particular season

Ploughing: to dig and turn over a field with the help of a plough



Points to Reflect

- ▶ Plants are grown not only from seeds but also from other parts of plants such as stems, roots, leaves and spores.
- ▶ Seeds are of two types, monocot and dicot based on the number of cotyledons.
- ▶ A seed requires light, warmth, air and water to germinate.



- ▶ The process of scattering of seeds is called seed dispersal.
- ▶ Seeds are dispersed through water, wind, animals and explosion.
- ▶ The practice of growing of crops and rearing animals on a large scale to provide food, fibre and other products is called agriculture.
- ▶ Crops are of different kinds based on their use and growing seasons.



Assess Yourself

A. Tick (✓) the correct answer.

1. Coconut seeds are mainly dispersed through

- a. explosion b. animals c. water d. wind

2. During germination the seedling gets food from

- a. seed coat b. seed hole c. cotyledons d. embryo

3. Maple and cotton seeds are dispersed by

- a. wind b. water c. animals d. birds

4. Seed leaves are also called

- a. Embryo b. Cotyledons c. Seedling d. Seedcoat

5. Which part of a *Bryophyllum* plant gives rise to new plants?

- a. Stem b. Root c. Leaf d. Flower

B. Choose the suitable word from the box to fill in the blanks.

water seeds seedling wind explosion

1. A seed grows into a baby plant. This baby plant is called a _____.
2. Most plants grow from _____.
3. Small and light seeds are mostly dispersed by _____.
4. Poppy and Geranium fruits burst open when they ripen. The seeds are scattered through _____.
5. When a seed grows into a baby plant in the presence of light, warmth, air and _____, it is called germination.

C. Name the following.

1. Two plants that are grown from roots
2. Two plants that are grown from stems



- Two seeds that are dispersed by explosion
- Two examples of kharif crops
- The part of seed that protects the baby plant inside a seed

D. Guess who I am.

- I am added to make the soil fertile.
- I contain food for the baby plant. I am a part of the seed.
- I am a climber. My seeds are dispersed through explosion.

E. Circle the odd one.

- Mango, Rose, Wheat, Coriander
- Money plant, Rose, *Hibiscus*, Lotus
- Onion, Ginger, Potato, Sweet potato
- Dahlia*, Carrot, Radish, Cotton
- Maple, Cotton, Mango, Dandelion



F. Look at the picture.

- This type of farming is called _____.
- Where do you find people who do this type of farming?
- What are the benefits of this type of farming?



G. Make a herbarium of flowers.

Collect a few flowers and put each of the flowers in between newspapers or some old box. Also, you can put under your mattress. After a few days, take them out and paste them on your scrapbook.



H Grow sweet potato

Materials needed: a sweet potato and a small jar of water

Instructions: Keep the sweet potato in a jar of water. Keep it for two days.

Observation: You will see bunches of leaves at the top of root. You can keep this as a decorative plant. If you want to grow potatoes then, cut the small plants when they are 15 to 20 cm long and plant them in the soil.



I. In the questions given below, there are two statements marked as Assertion (A) and Reason (R). Read the statements and choose the correct option.

Assertion & Reason

- a. If both Assertion (A) and Reason (R) are correct and Reason (R) is the correct explanation of Assertion (A).
 - b. If both Assertion (A) and Reason (R) are correct but Reason (R) is NOT the correct explanation of Assertion (A).
 - c. Assertion (A) is true, but Reason (R) is false.
 - d. Assertion (A) is false, but Reason (R) is true.
- 1. Assertion (A):** Fruits, such as pea and poppy burst open, scatter the seeds away from the plant.
Reason (R): These seeds stick to the bodies of animals or birds and are carried away.
- 2. Assertion (A):** Fencing keeps the bigger animals away.
Reason (R): Scarecrows protect the crop from birds.

J. Answer the following questions.

1. What is germination?
2. What is seed dispersal? What is its importance ?
3. What is the difference between kharif and rabi crops?
4. How do animals help in seed dispersal?
5. How are cotton and maple seeds dispersed?
6. Explain the structure of a seed with the help of a well-labelled diagram.
7. What is agriculture? Write the different stages of agriculture.



Life Skills and Integration

K. Learn to make sprouts at home.

Soak mung bean or chick pea seeds for at least 10-12 hours in fresh, cool water in a wide mouth mason jar. Next day, discard all the water, strain the seeds, keep them in a wet cotton cloth and tighten the cloth. Keep it for one day. Next day you will see the sprouts.

- L.** Some plants and trees are found in specific regions of India. For example, pine trees are mostly found in hilly areas such as Uttarakhand and Himachal Pradesh. Name four such plants and the region, where they are found.

Integrated to Social Studies



Think Green

Visit a gardener. Learn some gardening skills from him. Make a home garden and grow some new plants. Water them regularly.

