

Theme 1: Living and Non-Living things

The objective of this theme is to help children identify living and non-living things in the surroundings and also develop an understanding of the concepts related to living and non-living things based on observable features. The emphasis is more on development of various processes/ skills such as observation, discrimination, and classification, etc.

Learning Outcomes:

Children will be able to:

- ☑ enlist living and non-living things seen in the surroundings;
- ☑ identify characteristics of living and non-living based on observable features and their classification;
- ☑ cite examples of living/non-living based on observation;
- ☑ draw pictures of living/non-living and name them;
- ☑ describe features of living/non-living in their own words;
- ☑ develop sensitivity towards plants, animals and the environment.

Living and Non-Living things		
Key Concepts	Suggested Transactional Processes	Suggested Learning Resources
<p>➤ Living and Non-living things in the surroundings:</p> <ul style="list-style-type: none"> ☛ Examples of living and non-living. ☛ Features of living and non-living. ☛ Difference between living and non-living 	<ul style="list-style-type: none"> ➤ Revisiting Class II concepts. ➤ Building on previous learning. ➤ Providing opportunities to children to share personal experiences. ➤ Organizing visits to the school garden/nearby areas to observe some living and non-living things. ➤ Organizing activities related to identifying objects and things and classifying them according to living/non-living. ➤ Encouraging children to describe observable features of living beings in their own words. ➤ Conducting group work (on chart to differentiate between living (visuals) and non-living things. ➤ Drawing pictures of objects/living beings and naming them. 	<ul style="list-style-type: none"> ➤ Pictures / photos of living and non-living. ➤ Boards to display pictures of living and living/non-living things. ➤ Drawings made by the children and the teacher. ➤ Worksheets on new concepts.

Life skills: Inculcation of culture for working together, Care and compassion towards animals, sensitivity towards plants, animals and the environment.

Theme 2: Human Body

The prime focus of this theme is to acquaint children with the location, structure, and function of the different internal organs in the human body. Emphasis has been laid on understanding the process of respiration through a working model (in non-technical language). The underlying idea is to inculcate healthy habits related to the breathing process and develop core skills of science learning i.e. observation, explanation, discussion, etc.

Learning Outcomes:

Children will be able to:

- indicate and identify various internal organs of the human body in the picture/diagram/model;
- locate the position of internal organs on the cut out/model of human body;
- draw pictures of major internal organs and label them;
- draw and label the parts of respiratory system (organs);
- discuss the need for breathing process for human beings;
- explain (in their own words) the process of breathing;
- discuss causes and problems of air pollution for living beings in daily life;
- suggest ways to reduce air pollution in the surroundings.

Human Body		
Key Concepts	Suggested Transactional Processes	Suggested Learning Resources
<ul style="list-style-type: none"> ➤ Internal organs of the Human body: general structure, location and functions of the different internal organs. ➤ Respiratory system: Parts /organs of the respiratory system, (nose, windpipe, lungs) and their functions, process (inhale & exhale) of breathing. ➤ Diagram and labelling of organs of the respiratory system ➤ Simple process of deep breathing. ➤ Working model of the respiratory system. ➤ Air Pollution - Causes and problems *. 	<ul style="list-style-type: none"> ➤ Revisiting previous concepts learnt in Class II. Building on previous learning by initiating discussion on the learning of Class II concepts. ➤ Providing opportunities to children to share their personal experiences. ➤ Drawing pictures of internal organs on charts and labelling them with the support of teacher/ elders / peer group. ➤ Explaining the process of breathing by using a model. ➤ Demonstrating the process of inhalation/exhalation in class. Asking children to follow. ➤ Initiating a discussion (in small groups) on the need for proper breathing process. ➤ Developing models of the respiratory system in groups. ➤ Discussing in small group problems and causes of air pollution and sharing the information in the Class (only awareness level). ➤ Conducting activities with cards. 	<ul style="list-style-type: none"> ➤ Charts/pictures of various internal organs of human body. ➤ Picture cards of different internal organs. ➤ Cut outs of the human body depicting position of internal organs. ➤ Working model of the respiratory system. ➤ Improvisation of model of respiratory system (with the support of elders). ➤ Worksheets/ assignments.

Integration: Languages, Health and Physical Education, Social Studies (The Environment)

Note: *Air Pollution - Causes, effects and ways to prevent air pollution have been discussed in Classes IV in Social Studies.

Theme 3: Animals: Birds

This theme is aimed at providing information and developing awareness regarding birds seen in the surroundings/ environment. It is also expected to develop an understanding of the specific features of birds (which make them fly), body parts, food habits and where they live. Development of core skills such as, observation, discrimination, identification, by using content identified under the theme is also an inherent part of this theme.

Learning Outcomes:

Children will be able to:

- recognize and name common birds seen in the surroundings;
- draw pictures of common birds and label their body parts;
- discuss and describe food habits of some common birds (in their own words);
- recognize nests/ pictures of some birds;
- identify nests of interesting birds and draw them;
- make model of nests using locally available material;
- develop care and compassion/empathy towards animals / birds.

Animals: Birds		
Key Concepts	Suggested Transactional Processes	Suggested Learning Resources
<ul style="list-style-type: none"> ➤ Animals: Birds Common birds*, local / Indian. ➤ Body parts – beaks, feet, feathers. ➤ How birds fly. ➤ Food habits. ➤ Nests of some interesting birds (weaver, tailor, woodpecker birds). ➤ Some other interesting facts about birds (eggs, sounds, habitat). ➤ Bird bath and care for animals. 	<ul style="list-style-type: none"> ➤ Organizing visits to the park or garden to observe birds and identify them. ➤ Organizing activities with children individually and in groups: <ul style="list-style-type: none"> ☛ To group bird's cards based on their beaks, feathers, claws. ☛ Making diagrams of some common birds and labelling their parts. ➤ Providing opportunities and encouraging children to find additional facts on birds (internet) and share the same in the class. ➤ Group discussion on how and why birds fly. ➤ Sharing experiences narratives/ stories to inculcate values for care and compassion towards animals, ➤ Creating situations and providing live examples. ➤ Providing opportunities to children to develop/solve puzzles, riddles, poems on birds, to develop creative expression. 	<ul style="list-style-type: none"> ➤ Pictures of various birds. ➤ Nests of some birds. ➤ Scrap book on pictures of birds. ➤ Documentary films. ➤ e-material on birds' life. ➤ Children's drawings and paintings.

Integration: Languages

Life skills: Sensitivity towards environment and birds

Note: *The idea of including common birds under this theme is to provide teachers with the flexibility to select them as per the children's contexts.*

Theme 4: Animals: Common Insects

This theme aims at providing interesting facts related to some common insects observed in the surroundings in order to develop an understanding and also sensitivity in children towards animals and the environment. The theme is also expected to develop the skills of observation, discussion, care and concern for other living beings and the environment.

Learning Outcomes:

Children will be able to:

- name some common insects seen in the surroundings;
- identify some insects seen at home;
- draw pictures and label main parts of insects;
- discuss harmful effects of some insects (termites, mosquitoes, housefly, etc.) on humans;
- suggest remedies to prevent harmful effects of insects on human beings;
- discuss some social insects (butterfly, honeybee) which are useful for human beings;
- explain the life cycle of honey bee in their own words;
- develop compassion for animals;
- develop a sensitivity towards the environment and living beings.

Animals: Common Insects		
Key Concepts	Suggested Transactional Processes	Suggested Learning Resources
<ul style="list-style-type: none"> ➤ Common Insects*: ants, beetles, bees, flies, mosquitoes, butterfly. ➤ Body parts of an insect: head, thorax, abdomen, legs, wings. ➤ Life cycle of a butterfly. ➤ Some social insects (ants, bees), at home and in the environment. ➤ Harmful effects of insects. (mosquitoes, termites, lice, cockroaches, houseflies, bedbugs). ➤ Remedies. 	<ul style="list-style-type: none"> ➤ Organizing group discussions to share children's personal experiences. ➤ Providing material, visual, e-content/ film to children and sharing the same to construct new knowledge and know more facts about insects. ➤ Assigning project work both individually and in groups on this theme. ➤ Providing opportunities to find out (internet) the life cycle of ants, bees and discuss the same in class. ➤ Collecting information/ stories/ poems on the life of ants/ bees as social animals. ➤ Narrating/ sharing experiences of harmful effects of some insects experienced at home. ➤ Encouraging children to suggest remedies to overcome harmful effects at home/ in the surroundings. ➤ Discussing interesting facts regarding insects ➤ Developing a scrapbook 	<ul style="list-style-type: none"> ➤ Photos/ charts/cards on different kinds of insects. ➤ Picture of different parts of common insects (mosquito, house fly). ➤ Scrap book on insects. ➤ e-material. ➤ Picture / charts on the life cycle of honey bee, butterfly. ➤ Children's drawings ➤ Development of scrapbook.

Integration: Languages

Life Skill: Sensitivity towards animals and the environment.

***Note:** The idea of putting common insects under the theme is to provide freedom to the teacher to select them as per the children's contexts.

Theme 5: Plants in the Surroundings

The theme 'Plants in the Surroundings' is aimed at developing an awareness and understanding in children about various parts of plants including seeds. In addition, it aims to develop sensitivity towards plants and environment and other skills such as, observation, experimentation and discussion.

Learning Outcomes:

Children will be able to:

- ✓ appreciate the beauty of plants (flowers, leaves);
- ✓ identify different parts and sub-parts of a plant and label them;
- ✓ explain functions of each part of a plant in their own words;
- ✓ demonstrate creative expression (leaf, floral design);
- ✓ locate position of the seed in the plant;
- ✓ draw picture of a seed and label the main parts;
- ✓ distinguish different kinds of seeds (gram, green pea) seen at home/in the kitchen;
- ✓ develop sensitivity towards plants and the environment;
- ✓ perform simple experiments to demonstrate the process of germination (with the help of elders).

Plants in the Surroundings		
Key Concepts	Suggested Transactional Processes	Suggested Learning Resources
<ul style="list-style-type: none"> ➤ Parts of Plants. ➤ Structure and function of each part of the plant (root, stem, leaf, flower and fruit). ➤ Structure of a seed. ➤ Kinds of seeds. ➤ Process of germination, need of water, air, warmth for germination. ➤ Care of plants. 	<ul style="list-style-type: none"> ➤ Providing opportunities to children to observe parts and sub-parts of plants and draw them. ➤ Discussing functions of different parts of plants. ➤ Providing opportunities to children to share their personal experiences related to seed germination/ formation of sprouts in different seasons. ➤ Setting up experiments on seed germination with the involvement of the teacher/elders. ➤ Providing hands on experiences (different types of seeds) to children to do activities on seed germination individually and in groups and recording their observations and inferences in their own words in a table. ➤ Collecting poems/ stories related to care of plants. ➤ Doing activities related to creative expression by using leaves and flowers. 	<ul style="list-style-type: none"> ➤ Different types of plants ➤ Children's drawings. ➤ Narratives related to care of plants and environment. ➤ Various kinds of seeds observation of (soaked/ unsoaked). ➤ Simple experiment to demonstrate seed germination. ➤ Pictures/charts showing various kinds of plants.

Integration: Languages

Life skills: Care and sensitivity towards plants and environment.

Theme 6: Food we get from Plants

The theme 'Food we get from Plants' is aimed at familiarising children with the various uses of different parts of plants as an environmental resource. The theme will also help develop the skills of observation, experimentation, care and sensitivity towards plants, and also healthy habits related to food.

Learning Outcomes:

Children will be able to:

- identify plants as herbs, shrubs, trees and climbers and give examples of each;
- draw pictures of each kind of plant (herbs, shrubs, climbers, trees);
- draw pictures of some fruits and colour them;
- enlist leaves, seeds, fruits, flowers and roots of plants used in and as food items;
- name plants used for medicinal purposes (oil, spices);
- enlist some medicinal seeds, leaves, buds etc., and name the plants;
- develop sensitivity towards plants;
- show respect and value for food and avoid wastage of food.

Food We get from Plants		
Key Concepts	Suggested Transactional Processes	Suggested Learning Resources
<ul style="list-style-type: none"> ➤ Plants as herbs, shrubs, trees and climbers and their examples. ➤ Parts of plants used as food items: leaves, roots, fruits, seeds, flowers. ➤ Plant products such as oil, spices, pulses and other edible things (medicinal leaves, seeds). 	<ul style="list-style-type: none"> ➤ Citing sharing and discussing with children examples of different kinds of plants. ➤ Encouraging children to draw pictures of flowers, fruits and other parts of plants used as food. ➤ Organising small group discussions on uses of parts of plants. ➤ Providing materials to observe kinds of plants (herbs, shrubs, climbers) and drawing them. ➤ Enlisting various parts of plants used for medicinal purposes. ➤ Organising group activities to classify plant products as pulses, grains, leaves, fruits, seeds, roots and identify the plants. ➤ Organising activities by involving children to develop creative expression e.g. thumb, finger impression to create flowers, leaves, making designs using colours. ➤ Visiting to an open area (garden) to observe various kinds of plants 	<ul style="list-style-type: none"> ➤ Pictures/ photos of different kinds of fruits/ flowers. ➤ Actual flowers and fruits of various kind. ➤ A herbarium. ➤ Pictures of herbs, shrubs, trees, climbers. ➤ Plant products as edible and non-edible parts. ➤ Narratives on care of plants.

Integration: Languages, Social Studies (The Environment)

Theme 7: Forms of Matter: Solids, Liquids and Gases

The theme 'Forms of Matter' is expected to develop an understanding of different forms of matter found in day to day life along with their examples. The theme would also provide an awareness about observable properties of different forms of matter. The focus of the theme is to develop concept formation related to different forms of matter, to enable children link the forms with their daily life. It also aims at developing skills of observation, classification and experimentation.

Learning Outcomes:

Children will be able to:

- identify natural and man-made things in the surroundings;
- distinguish and classify solids, liquids and gases based on their observable properties;
- cite an example of each form based on observation in the surroundings;
- draw pictures of experiments that show the properties of each form;
- explain uses of solids/ liquids/ gases in daily life.

Forms of Matter: Solids, Liquids and Gases		
Key Concepts	Suggested Transactional Processes	Suggested Learning Resources
<ul style="list-style-type: none"> ➤ Forms of Matter: solids liquids and gases. ➤ Examples of solids and their properties. ➤ Examples of liquids and their properties. ➤ Examples of gases and their properties. ➤ Uses of matter. 	<ul style="list-style-type: none"> ➤ Providing opportunities to children to share their personal experiences by asking them to enlist solids, liquids and gases seen at home. ➤ Demonstrating the properties (through simple experiments) of solid, liquid and gases (with the support of teachers). ➤ Conducting activities/ experiments to observe forms of matter (e.g. ice. water and vapour) ➤ Conducting discussion about the distinction between solids, liquids and gases based on their observable physical properties. ➤ Sharing narratives, materials/ e-material on different forms of water. ➤ Assigning individual and/or group projects on how to save water (making slogans, writing success stories, etc.). ➤ Discussing various kinds of materials in different forms (solid, liquid, gas) available in school/ home/ surroundings 	<ul style="list-style-type: none"> ➤ Pictures, charts and materials on solids, liquids and gases. ➤ Experiments that depict simple properties and forms of matter ➤ Project work. ➤ E- material / visuals on the concerned theme.

Note: Focus of the theme should be on observation and simple experimentation.

Theme 8: Some Properties of Water

The theme 'Properties of Water' is aimed at providing an understanding of some properties of water which can be easily observed by children through activities. Children would also get an understanding of the conditions that affect making of a solution. The theme further aims to discuss 'what floats and what sinks' in water, in a fun and interesting manner.

Learning Outcomes:

Children will be able to:

- ✔ identify different properties of water (based on observations);
- ✔ classify materials based on solubility in water (soluble and not soluble in water);
- ✔ demonstrate (through experiments) properties of some materials that dissolve in water and some that do not;
- ✔ classify objects that float/sink in water (experimentally);
- ✔ conduct simple experiments on their own to make simple solutions using common substances (salt, sugar).

Some Properties of Water		
Key Concepts	Suggested Transactional Processes	Suggested Learning Resources
Revision of Class II learning ➤ Physical Properties of water (occupy space, take shape of the container) ➤ Water and water solutions. ➤ Conditions that affect making of a solution (stirring, warm water). ➤ Common soluble and insoluble substances in water (simple experiments). ➤ Objects that float, sink in water (through simple activities).	➤ Revisiting concepts learnt in Class II. ➤ Conducting activities/ experiments (in group) to demonstrate some physical properties of water (occupy space, take shape of the container). ➤ Conducting activities to demonstrate objects that sink/float. ➤ Demonstrating: <ul style="list-style-type: none"> ☛ <i>how to make solution of common substances.</i> ☛ <i>soluble and insoluble substances in water and with examples.</i> ☛ <i>various conditions that affect making solution of water (warm / cold water, stirring / not stirring)</i> 	➤ Solution of water (salt, sugar). ➤ Collection of soluble and non-soluble substances. ➤ Water, objects that sink and float. ➤ Containers of different sizes.

Note: This theme should be covered in class as a fun and play activity. The focus is not on drawing inferences.

Theme 9: Water as a Resource

This theme is aimed at creating awareness regarding different forms of water and their applications in day-to-day life. The theme is also expected to throw some light on the process of evaporation and condensation in simple terms. Causes of water impurities and ways to purify water, along with uses of water harvesting as a way to protect and conserve the water resources in the environment will form a part of the theme. Children will also develop skills of discussion, explanation and experimentation through this theme.

Learning Outcomes:

Children will be able to:

- discuss properties of different forms of water (solid, liquid, gas);
- explain the water cycle (as seen in daily life) in their own words;
- draw a picture of the water cycle and label different forms of water in the water cycle;
- discuss reasons for water impurities in the environment;
- explain ways of water purification used at home/school;
- appreciate the use of rainwater harvesting in daily life;
- suggest ways to conserve water.

Water as a Resource		
Key Concepts	Suggested Transactional Processes	Suggested Learning Resources
Revisit learning of Class II ➤ Change of state of water: evaporation, condensation through simple activities (using non-technical terms). ➤ Water impurities: types and causes. ➤ Purification of water: various ways and processes (layers cloth, boiling, chlorine.) ➤ Rainwater harvesting: need and ways of doing it.	➤ Revisiting concepts/learning in Class II. ➤ Building on previous learning. ➤ Demonstrating pictures/ films/ chart of water cycle and the process of formation of different forms of water. ➤ Drawing a picture of water cycle. ➤ Demonstrating different ways of purification of water (at home/ school) followed by group activity by children. ➤ Organising visits to show / ways/ process of rain water harvesting; and making models. ➤ Discussing various ways to purify water at home and drawing pictures of demonstrations. ➤ Providing opportunities to discuss /share, ask questions from teacher, elders regarding water impurities, causes, and types of impurities seen in daily life ➤ Encouraging children to write ways and slogans to save water.	➤ Picture/film ➤ Children's drawings on water cycle, ways of purification. ➤ A chart/pictures on the process of rain water harvesting. ➤ Model of rainwater harvesting.

Integration: Languages, Health and Physical Education, Social Studies (The Environment)

Life Skills: Sensitivity towards environment (saving water)

Theme 10: Sun as a Natural Resource

The theme 'Sun as a Natural Resource' is expected to develop an understanding of the the importance of the sun, its various uses in daily life and how the sun can be used as a renewable resource of energy. The theme would also expect to develop an understanding of energy, both renewable and non-renewable.

Learning Outcomes:

Children will be able to:

- explain the concept of energy in their own words.
- enlist what activities can be done in the sun in different seasons;
- appreciate the use of solar energy in daily life (solar cooker, solar cell, solar heater, solar panels on crossings of roads, on roof tops);
- discuss ways to save energy at home/school;
- explain that the sun is needed for the process of photosynthesis in plants;
- give reasons why the sun is necessary for living organisms;
- enlist uses of solar cell, solar cooker, etc. to save electricity/energy;
- discuss other sources of energy (renewable & non-renewable).

Sun as a Natural Resource		
Key Concepts	Suggested Transactional Processes	Suggested Learning Resources
Revisit learning of class II ➤ Sun as a natural source of energy. ➤ Sun for growth, photosynthesis, in plants. ➤ Use of sun for solar cooker/ cooking, drying. ➤ Solar cells as a source of electricity. ➤ Renewable & non-renewable sources of energy (meaning in non-technical terms with examples). ➤ Conservation of energy.	➤ Revisiting concepts learnt in Class II. ➤ Building on previous learning. ➤ Providing opportunities to children to share personal experiences related to sun (in different seasons) ➤ Demonstrating how the solar cooker and solar cell work and discussing their uses in daily life. ➤ Discussing how use of solar cooker, solar cell, solar panel etc. can save electricity and save the environment. ➤ Showing pictures of different seasons, to show the effect of sun on human activities. ➤ Assigning projects (individual/ group) on: ☛ Ways to save energy. ☛ Use of Sun in daily life ☛ Diagram to show conservation of solar energy	➤ Discussion on children's personal experiences. ➤ Children's drawings. ➤ Pictures and Scenes of different seasons and sun. ➤ Written description about sun. ➤ Pictures of the Solar cooker and its uses. ➤ Pictures of the Solar cell, solar panel and its uses.

Integration: Languages

Life Skills: Sensitivity towards environment (saving energy)

Theme 11: Cleanliness, Health and Hygiene

The theme aims to inculcate in children healthy habits related to oneself and the surroundings, by using their personal experiences and narratives as learning resources. The theme is also expected to develop sensitivity towards environment by using various action-oriented activities. Skills such as observation, discussing, appreciation will also be developed.

Learning Outcomes:

Children will be able to:

- ✔ demonstrate personal cleanliness of body parts;
- ✔ identify causes of unclean surroundings;
- ✔ enlist 'do's and 'don'ts' to keep the surroundings clean;
- ✔ suggest ways to keep the public places clean;
- ✔ discuss what makes the body healthy;
- ✔ follow/appreciate need for healthy living;
- ✔ appreciate the need of exercise / yoga / recreational activities for healthy living.

Cleanliness, Health and Hygiene		
Key Concepts	Suggested Transactional Processes	Suggested Learning Resources
<ul style="list-style-type: none"> ➤ Personal cleanliness: Hand washing, nails, hair, clothes, other body parts. ➤ Looking after your body in terms of food, rest, exercise, recreational activities. ➤ Cleanliness in the surroundings; causes of unhealthy surroundings (use of polythene, spitting, garbage). ➤ Ways to improve the surroundings. ➤ Knowledge about the Swachhh Bharat Abhiyan: activities for clean surroundings. 	<ul style="list-style-type: none"> ➤ Discussing and sharing the personal experiences of children. ➤ Organizing small survey (group/work) involving visiting some places near the school and sharing the status of cleanliness. This will be followed by a discussion. ➤ Assigning individual/group projects to children to meet 5 families & suggest ways to reduce garbage on the roads/surroundings. ➤ Making slogans / posters on personal hygiene and on keeping the surroundings clean. ➤ Organizing survey of some places in the school (tap, toilets, garden, playground, dustbins, etc.) and discussing in class their state of cleanliness. ➤ Discussing "Swachhh Bharat Abhiyan Mission" in the class and suggesting how to make it successful by their contributing to it through small actions. ➤ Organising visit to public places (Railway station, bus stop, open places) 	<ul style="list-style-type: none"> ➤ Personal experiences of children. ➤ Pictures depicting healthy habits (yoga, exercise personal cleanliness). ➤ Talk by a doctor/ teacher. ➤ Steps taken by parents for a clean home.

Integration: Languages, Health and Physical Education, Social Studies (The Environment)

Life Skills: Cleanliness, health and hygiene for healthy living, environmental sensitivity