

# XSEED

FOUNDATION FOR LIFE

## NEW XSEED PREMIUM SCHOOLS PROGRAMME



- 21<sup>st</sup> Century Skills & Confidence Building Focus
- Unique Problem-Solving Approach
- 5-Step Experiential Learning Method
- HOTS Emphasis

Volume 1

# Science

GRADE  
**03**

25 LEARNING BLOCKS AS PER SYLLABUS

1 All About Leaves



Students will understand that different plants have different types of leaves and that most leaves make food for the plants.

2 Fruits and Seeds



Students will understand that seeds grow into new plants and fruits protect the seed.

3 Stems and Roots



Students will be able to understand that stems and roots play an important role to help a plant live and grow.

4 Features of Birds



Students will understand that birds have different kinds of feathers, beaks, claws and wings according to the environment they live in.

5 Creepy Crawly Animals



Students will understand that there are many small creatures on earth and that earthworm is a very useful creature.

6 Food Habits of Animals



Students will understand that different animals have different types of teeth which help them eat different kinds of food.

7 Movement in Animals



Students will understand that animals have different structural features which decide the way they move and that animals move in various manners.

8 Living Things



Students will understand that all living things breathe, reproduce, move, need food, grow and feel, but animals do these things differently from plants.

9 Bones, Joints And Muscles



Students will understand that bones give us structure and protect our internal organs and that joints and muscles help move the body parts.

10 Organ System of Our Body



Students will understand that organs make different organ systems in our body and that these systems work together to keep us alive.

11 Personal Care and Cleanliness



Students will understand that our sense organs are very useful for us and we need to keep them clean.

12 Accidents and Safety



Students understand that there are dangers around them and that there are different ways of dealing with danger.

13 Cooking Food



Students will understand that we can eat some foods raw, while others need to be cooked to make them soft and easy to digest.

14 Diversity in Food We Eat



Students will understand that all of us need to eat food but the kind and amount of food varies based on age and the place where we live.

15 Local Sources of Water



Students will understand that we have many sources for water here and in our homes. We have built ways to bring water to our individual homes.

16 Water Pollution



Students will understand why we need to purify water before drinking and the different techniques to purify water at home.

17 Scarcity of Water



Students will understand that water is a limited resource and propose ways to conserve water.

18 Materials and Their Forms



Students will become aware of the materials around us by understanding that things around us are in one of the three forms - solid, liquid or gas.

19 Soil



Students will understand that soil is an important natural resource without which life would not exist.

20 Fibres



Students will understand that fibres are made from different fibres and that there are different ways to take care of the fabrics.

21 Force



Students will understand that there are different types of forces and they have different effects on objects.

22 Measurement



Students will understand that measurement of time and length can be done using non-standard or standard body or measurement.

23 Earth, Moon, and Sun



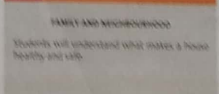
Students will understand that the shape of the Earth is spherical and that the movement of the Earth is responsible for making of day and night.

24 Natural Disaster



Students will understand that natural disasters can harm life and that there are ways to keep ourselves safe during and after a natural disaster.

25 Healthy Homes



Students will understand what makes a home healthy and safe.





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Volume 1

**Science**

GRADE  
**04**

1 More About Flowers



Students will understand that there are many kinds of flowers and we use flowers for many different purposes in our daily life.

2 Uses of Plants



Students will understand that plants are useful for us and the animals and that it is important to grow more plants.

3 Kinds of Plants



Students will understand that there are many kinds of plants and they have different physical features to adapt to the place they grow in.

4 Food for Plants



Students will understand that plants make their own food through a process using carbon dioxide, water and sunlight.

5 Kinds of Animals



Students will understand that animals have similarities and differences in their physical features that can be used to divide them into groups.

6 More About Insects



Students will understand that although insects have the same body structure, they vary in other characteristics.

7 Life Cycle of Animals



Students will understand that animals change as they grow and that animals differ in the way they take care of their young.

8 Where Animals Live



Students will understand that animals have different physical features that help them move and find food in the places they live.

9 Our Teeth



Students will understand the importance of taking care of teeth and will identify ways to take care of teeth.

10 Digestion



Students will understand that digestion enables us to take out nutrients from food and excrete what is not useful.

11 First Aid



Students will understand the importance of first aid and the steps to be followed in different emergency situations.

12 Balanced Diet



Students will understand the importance of eating foods from all the 5 food groups to keep us healthy.

13 Nutrients in Food



Students will understand that food contain different nutrients which help us grow and be healthy.

14 Drinking Water



Students will understand that potable water needs to be saved as there is scarcity of freshwater.

15 Water Purification



Students will understand that water needs to be purified before drinking and that several methods are used to purify water.

16 Evaporation and Condensation



Students will understand that evaporation and condensation are important because they drive the water cycle.

17 Kinds of Wind



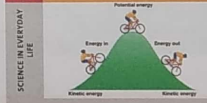
Students will understand that winds are classified on the basis of speed of moving air. Some types of winds like land and sea breeze and monsoon winds affect weather.

18 Air Pollution



Students will understand that air pollution is caused by adding harmful substances to the air and it can be harmful for our health and environment.

19 Energy



Students will understand how energy can cause change and that the sun is the ultimate source of energy.

20 Sun and the Weather



Students will understand that the tilt of the earth's axis as it revolves around the sun causes the seasons which affect the weather of a place.

21 The Solar System



Students will understand that the solar system is made of many heavenly bodies moving around the sun and that each of these has a fixed pattern of movement.

22 Different Clothes



Students will understand that we wear different clothes in places with different climates and that members of some professions wear uniforms that are suitable for their work.

23 Soil Erosion



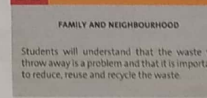
Students will understand that soil erosion is damaging for plants and animals and it is important to prevent it.

24 Save Natural Resources



Students will understand that natural resources are useful to us and that we need to use them carefully as they are limited.

25 Dealing with Waste



Students will understand that the waste we throw away is a problem and that it is important to reduce, reuse and recycle the waste.

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# Science

GRADE  
**05**

NAME:

CLASS:

SCHOOL:

25 LEARNING BLOCKS AS PER SYLLABUS

1 Germination of Seeds



Students understand that plants have a life cycle which begins with the germination of a seed.

2 Growing New Plants



Students understand that seed dispersal and vegetative propagation are adaptations in plants that play an important role in the continued survival of a plant species.

3 Cultivating Crops



Students understand that good cultivation practices provides people more food and fiber.

4 Super Senses



Students understand that some animals have senses that are stronger than the others and these help them adapt to their surroundings better.

5 Habitat and Adaptation



Students understand that the body features of animals have adapted to help them survive in their habitat.

6 Protecting Animal Habitat



Students understand that animal habitats are important for their existence and must be protected.

7 Joints in Our Body



Students understand that humans have different types of joints that help them move in different ways.

8 Our Nervous System



Students understand that the brain controls and coordinates the activities of our body.

9 Communicable Diseases



Students understand that communicable diseases are caused by germs that can spread, and it is necessary to prevent these diseases.

10 Diet and Health



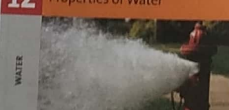
Students understand that a balanced diet is important for the healthy functioning of our body and that deficiency or excess of any nutrient can lead to diseases.

11 Preserving Food



Students understand that food spoils because of micro organisms in the surroundings and eating spoiled food is harmful, so we need to preserve it.

12 Properties of Water



Students understand that water has some unique properties. It exerts force and pressure and is a universal solvent. These properties of water help us in many ways.

13 Rivers: Major Source of Water



Students understand that rivers are the main source of fresh water for living and farming and that we have innovated to make use of this water resource.

14 Water - A Natural Resource



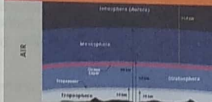
Students understand that people pollute water, which is a major cause of water scarcity.

15 Properties of Air



Students understand that air exerts pressure, and we make use of air pressure to perform many day-to-day activities.

16 Our Atmosphere



Students understand the role of the Earth's atmosphere in creating suitable climatic conditions which help in sustaining life on Earth.

17 Motion, Force, And Work



Students understand how force can explain a variety of motions they see around them, and that force both are needed for work to happen.

18 Friction



Students will understand that friction is a force that acts when two things rub against each other. It is both good and bad for us in daily life.

19 Simple Machines



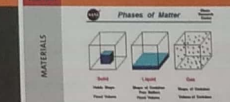
Students understand that simple machine can help reduce the effort to do work.

20 Saving Energy



Students understand that we depend mainly on non-renewable sources of energy, and that it is important to save them as they are limited.

21 Matter and Its Properties



Students understand that the properties of solids, liquids and gases are determined by the arrangement of their particles.

22 Physical Changes



Students understand that many changes we see around us involve only a change in state of matter, and are known as physical changes.

23 Rocks and Minerals



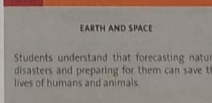
Students understand that there is a rock cycle which enables rocks to change from one type to the other.

24 Space Research



Students understand that people are curious about the things they see in space, and so they invented technology to help them explore space.

25 Nature's Calamities



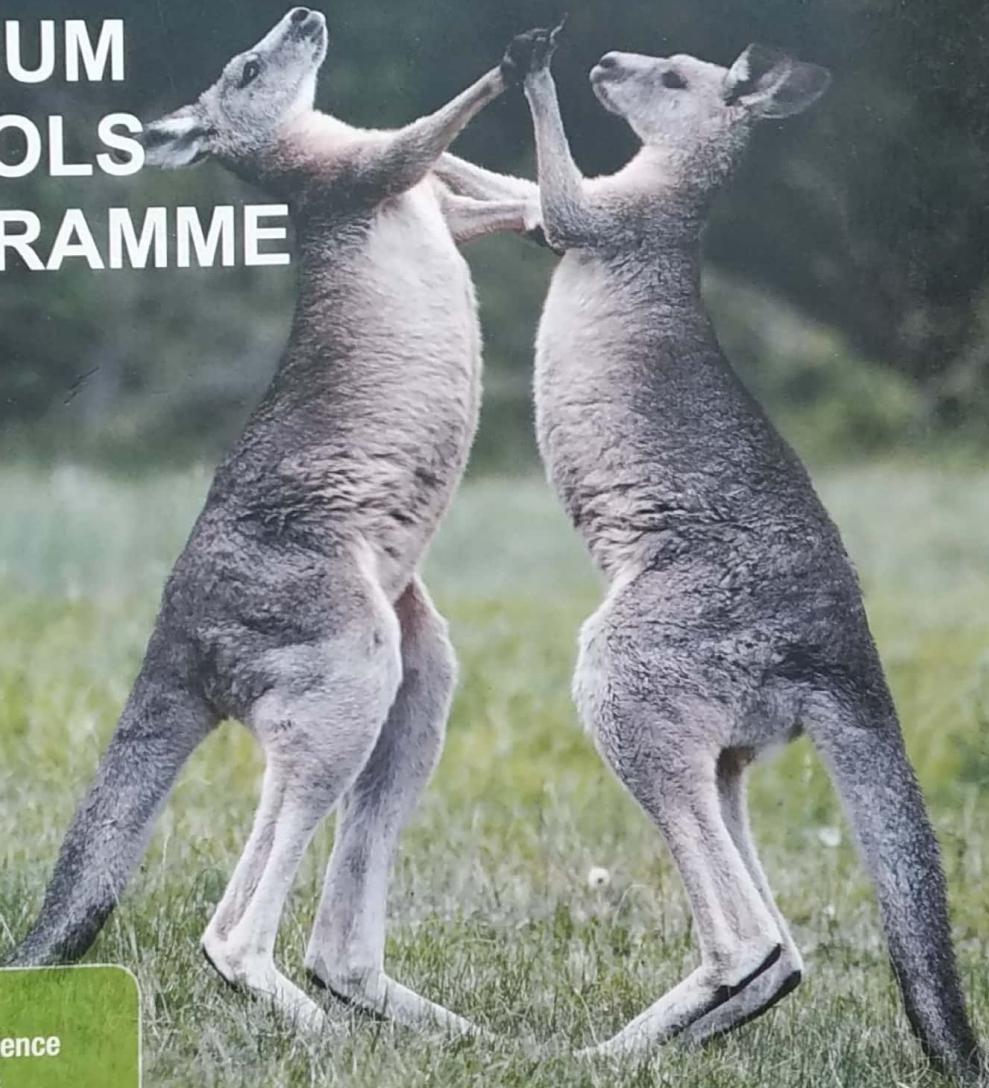
Students understand that forecasting natural disasters and preparing for them can save the lives of humans and animals.



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Volume 1

GRADE  
**06**

# Science

STUDENT WORKBOOK

NAME:

CLASS:

SCHOOL:

30 LEARNING BLOCKS AS PER SYLLABUS

1 Sources of Food



Students understand that plants & animals are our main sources of food and it is important to produce food to meet the requirements of a large population.

2 Components of Food



Students understand the role of various nutrients and the importance of a balanced diet in keeping our body healthy.

3 Variety of Fibers



Students understand that plants and animals are the main sources of natural fibers and the process of obtaining fibers from plants.

4 Making Fabric



Students understand that different natural fabrics are made from natural fibers by spinning and weaving.

5 Grouping Objects



Students understand the various ways to group materials and the purpose for grouping them is to make our work easier & systematic.

6 Separating Solid Mixtures



Students understand the need and ways to separate mixtures of solids in daily life and the principle behind each method.

7 Separating Solid-Liquid Mixtures



Students understand the methods to separate mixtures of solids and liquids and their applications in daily life.

8 Solutions



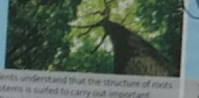
Students understand the concept of solubility and its usefulness in daily life.

9 Changes Around Us



Students understand that there are many types of changes that occur around us, and we can classify them in different ways.

10 Structure & Functions of Roots & Stems



Students understand that the structure of roots and stems is suited to carry out important functions in plants which help them to survive.

11 Structure & Functions of Leaves



Students understand that leaves have a common basic structure and perform the same functions in spite of the diversity in their features.

12 Structure & Functions of a Flower



Students understand that a flower is the reproductive part of the plant which helps produce seeds.

13 Movement in Animals



Students understand the different types of movements in various animals and how they are adapted to move in those ways.

14 Movement in the Human Body



Students understand the role of joints, bones, the skeleton and muscles in the human body.

15 Characteristics of Living Things



Students understand that living things have some distinguishing features which make them different from non-living things.

Biology    Physics    Chemistry

16 Habitat



Students understand the features of different habitats and importance of the interdependence of the biotic & abiotic components of a habitat.

17 Adaptation



Students understand that plants and animals have certain features which help them adapt to their habitat.

18 Measuring Length



Students understand the importance of estimation, measurement and the need for standard units of measurement in day-to-day life.

19 Motion



Students understand motion and observes different types of motions in daily life.

20 Light & Shadows



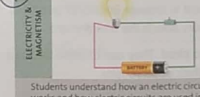
Students understand that the formation of shadows is a natural phenomenon for which a light source, an opaque object & a screen are required.

21 Light & Images



Students understand that light travels in straight lines & gets reflected, and that these properties of light are necessary to form images.

22 Electric Circuits



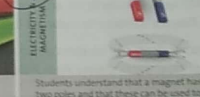
Students understand how an electric circuit works and how electric circuits are used in daily life.

23 Conductors & Insulators



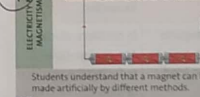
Students understand the applications of conductors and insulators in daily life and the need to follow safety precautions.

24 Properties of Magnets



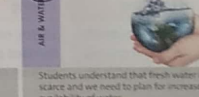
Students understand that a magnet has two poles and that these can be used to determine compass direction.

25 Making Magnets



Students understand that a magnet can be made artificially by different methods.

26 Water & Us



Students understand that fresh water is scarce and we need to plan for increased availability of water.

27 Replenishing Water



Students understand that fresh water can be replenished with rain and that trees contribute significantly to increasing rainfall.

28 Composition of Air



Students understand that air is composed of several gases and how their percentages are maintained in nature.

29 Garbage We Produce



Students understand the environmental impact of the garbage that we produce and why we need to dispose of it properly.

30 Managing Garbage



Students understand the different ways to manage garbage and the need to minimize garbage production.

Biology    Physics    Chemistry