LIVING AND NON LIVING THINGS

(1-5)

Here are **10 core science topics commonly taught from Grades 1–5**, written in a kid-friendly, school-appropriate way:

1. **Living & Non-Living Things**
   Understanding what makes something alive (plants, animals, humans) vs. non-living objects.
2. **Plants & Animals (Life Science)**
   Plant parts, animal types, habitats, food chains, and how living things grow and survive.
3. **Human Body & Health**
   Basic body systems, senses, nutrition, hygiene, and staying healthy.
4. **Earth & Space**
   Earth, Sun, Moon, stars, day and night, seasons, weather, and planets (intro level).
5. **Weather & Climate**
   Types of weather, seasons, clouds, rain, wind, and simple weather tools.
6. **Matter (Solids, Liquids, Gases)**
   States of matter, changes like melting/freezing, and basic properties (hard, soft, heavy).
7. **Energy & Forces**
   Light, heat, sound, magnets, pushes and pulls, gravity, and simple machines.
8. **Ecosystems & Environment**
   Habitats, recycling, conservation, pollution, and caring for Earth.
9. **Scientific Skills & Experiments**
   Observing, measuring, predicting, asking questions, and doing simple experiments safely.
10. **Technology & Engineering Basics**
    Simple tools, building structures, problem-solving, and how science helps everyday life.

Here are the **TOP 10 topics under "Living & Non-Living Things"** for **Grades 1–5**, written in simple, school-friendly language:

1. **Characteristics of Living Things**
   Living things grow, breathe, need food, move, and reproduce.
2. **Non-Living Things**
   Objects that do not grow, breathe, or need food (rocks, toys, books).
3. **Plants as Living Things**
   Parts of plants, how plants grow, and what plants need to live.
4. **Animals as Living Things**
   Types of animals, how they move, eat, and live.

5. **Needs of Living Things**
   Food, water, air, shelter, and sunlight.
6. **Growth and Changes in Living Things**
   Life cycles of plants and animals (seed → plant, baby → adult).
7. **Movement in Living Things**
   How animals move and how plants respond to light and touch.
8. **Living vs Non-Living Comparison**
   Similarities and differences using examples.
9. **Natural vs Man-Made Things**
   Things from nature (trees, animals) vs things made by humans (chairs, cars).
10. **Caring for Living Things**
    Taking care of plants, animals, and the environment.

Living things are organisms that show certain special features that non-living things do not. The main **characteristics of living things** are explained below in detail, with simple examples suitable for Grades 1–5.

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1. Living things need food

All living things need food to get **energy**.

- Plants make their own food using sunlight, air, and water (photosynthesis).
- Animals and humans eat plants or other animals.

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2. Living things breathe (respiration)

Living things breathe to get **oxygen**, which helps release energy from food.

- Humans and animals breathe through lungs.
- Fish breathe through gills.
- Plants breathe through tiny openings in their leaves.

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3. Living things grow

Living things **increase in size and change** as they grow.

- A baby grows into an adult.
- A seed grows into a plant.
  Non-living things do not grow on their own.

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4. Living things move

Living things can move on their own.

- Animals walk, fly, swim, or crawl.
- Plants move slowly (leaves turn toward sunlight, flowers open and close).

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5. Living things reproduce

Living things can **produce young ones** or new plants.

- Animals give birth or lay eggs.
- Plants produce seeds.
  This helps living things continue their kind.

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6. Living things respond to stimuli

Living things react to changes around them.

- Humans feel hot or cold.
- Plants bend toward light.
- Animals run away from danger.

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7. Living things excrete waste

Living things remove **waste materials** from their bodies.

- Humans sweat and pass urine.
- Plants release waste gases through leaves.

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8. Living things have a life span

All living things are **born, grow, and die**.

- Plants, animals, and humans do not live forever.
- Non-living things do not have a life cycle.

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9. Living things need air and water

Air and water are essential for survival.

- Animals drink water and breathe air.
- Plants need water and air to make food.

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10. Living things are made of cells

All living things are made of **cells**, which are the smallest units of life.

- Some living things have one cell (bacteria).
- Others have many cells (plants, animals, humans).

Summary

Living things **eat, breathe, grow, move, reproduce, respond, excrete, need air and water, are made of cells, and have a life span**.

Non-living things are objects that do not have life. They do not show the features that living things have. Below are the **characteristics of non-living things**, explained clearly and in detail for Grades 1–5.

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1. Non-living things do not need food

Non-living things do not eat or make food.

- A chair, stone, or book does not need food to get energy.
- They do not feel hungry or thirsty.

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2. Non-living things do not breathe

Non-living things do not breathe or respire.

- They do not need oxygen.
- They do not have lungs, gills, or breathing parts.

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3. Non-living things do not grow

Non-living things do not grow by themselves.

- A rock stays the same size.
- A toy does not grow bigger unless someone adds parts to it.

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4. Non-living things cannot move on their own

Non-living things cannot move by themselves.

- A ball moves only when kicked.
- A car moves only when driven by a person or powered by a machine.

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5. Non-living things do not reproduce

Non-living things cannot make more of their own kind.

- A chair cannot make another chair.
- A book cannot produce books.

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6. Non-living things do not respond to stimuli

Non-living things do not react to heat, light, touch, or sound.

- A stone does not feel pain.
- A table does not respond when touched.

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7. Non-living things do not excrete waste

Non-living things do not produce or remove waste.

- They do not sweat, urinate, or release gases.
- Any change in them is usually due to outside forces.

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8. Non-living things do not have a life span

Non-living things are not born and do not die.

- They may break, rust, or wear out, but this is not the same as dying.

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9. Non-living things do not need air or water

They do not depend on air or water to survive.

- A rock can stay underwater or in air without any change.

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10. Non-living things are not made of cells

Non-living things are not made of cells.

- Cells are the basic unit of life, and only living things have them.

Summary

Non-living things **do not eat, breathe, grow, move by themselves, reproduce, respond, excrete, need air or water, have a life span, or have cells**.

Here is a **clear comparison table of Living and Non-Living Things**, suitable for **Grades 1–5**:

Basis of Comparison	Living Things	Non-Living Things
Life	Have life	Do not have life
Food	Need food for energy	Do not need food
Breathing	Breathe (respire)	Do not breathe
Growth	Grow naturally	Do not grow on their own
Movement	Can move by themselves	Cannot move on their own
Reproduction	Can reproduce young ones	Cannot reproduce
Response	Respond to stimuli (light, touch, heat)	Do not respond

Waste Removal	Excrete waste materials	Do not excrete waste
Life Span	Are born, grow, and die	Are not born and do not die
Cells	Made of cells	Not made of cells

Examples

- **Living Things:** Humans, animals, plants, birds
- **Non-Living Things:** Table, stone, book, car

Plants are living things, so they show all the basic characteristics of life. Below is a **detailed explanation of the characteristics of plants as living things**, written clearly for **Grades 1–5**, with examples.

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1. Plants need food

Plants need food to grow and stay alive.

- Plants make their own food by a process called **photosynthesis**.
- They use **sunlight, water, and carbon dioxide** to prepare food in their leaves.
- This food gives them energy to grow.

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2. Plants breathe (respire)

Plants also breathe, but differently from animals.

- They take in oxygen and give out carbon dioxide.
- Breathing happens through tiny openings in leaves called **stomata**.
- Respiration helps plants release energy from food.

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3. Plants grow

Plants grow throughout their life.

- A seed grows into a seedling and then into a big plant or tree.
- Roots grow downward, and shoots grow upward.
- Growth happens naturally without human help.

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4. Plants show movement

Plants cannot move from place to place, but they **show movement**.

- Leaves turn toward sunlight.
- Roots grow toward water.
- Flowers may open and close.

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5. Plants reproduce

Plants can make new plants.

- Some plants grow from **seeds** (mango, sunflower).
- Some grow from **parts of plants** like stems or roots (potato, rose).
- Reproduction helps plants continue their kind.

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6. Plants respond to stimuli

Plants respond to changes in their surroundings.

- They bend toward light.
- Some plants close their leaves when touched (touch-me-not plant).
- They respond to water, gravity, and temperature.

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7. Plants excrete waste

Plants remove waste materials from their bodies.

- Waste gases are released through leaves.
- Some waste is stored in old leaves, bark, or fruits, which later fall off.

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8. Plants need air, water, and sunlight

Plants need:

- **Air** to breathe and make food

- **Water** to grow and transport food
- **Sunlight** to prepare food
  Without these, plants cannot survive.

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9. Plants have a life span

Plants have a life cycle.

- They are born as seeds.
- They grow, reproduce, and finally die.
- Some plants live for a short time, while trees live for many years.

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10. Plants are made of cells

Plants are made of tiny units called **cells**.

- Plant cells help in growth, breathing, and making food.
- Cells are the basic units of life.

Summary

Plants are living things because they **make food, breathe, grow, move, reproduce, respond to stimuli, excrete waste, need air and water, have a life span, and are made of cells**.

Animals are living things, so they show all the basic characteristics of life. Below is a **detailed explanation of the characteristics of animals as living things**, written clearly and simply for **Grades 1–5**, with examples.

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1. Animals need food

Animals need food to get **energy** for growth, movement, and survival.

- Animals cannot make their own food.
- Some animals eat plants (herbivores), some eat other animals (carnivores), and some eat both (omnivores).

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2. Animals breathe (respire)

Animals breathe to get **oxygen**, which helps release energy from food.

- Humans and mammals breathe through lungs.
- Fish breathe through gills.
- Insects breathe through tiny holes called spiracles.

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3. Animals grow

Animals grow and change as they grow.

- A baby animal grows into an adult.
- Some animals change shape as they grow, like a caterpillar becoming a butterfly.

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4. Animals can move from place to place

Animals can move freely to find food, water, and shelter.

- Birds fly, fish swim, and animals walk or run.
- Movement helps animals escape from danger.

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5. Animals reproduce

Animals can produce young ones.

- Some animals give birth to babies (cow, dog).
- Some animals lay eggs (hen, frog).
  Reproduction helps continue their species.

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6. Animals respond to stimuli

Animals respond quickly to changes in their surroundings.

- They move away from danger.
- They react to sound, light, touch, heat, and cold.

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7. Animals excrete waste

Animals remove waste materials from their bodies.

- Humans pass urine and sweat.
- Animals release carbon dioxide when they breathe out.

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8. Animals need air and water

Animals need:

- **Air** to breathe
- **Water** to survive
  Without air and water, animals cannot live.

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9. Animals have a life span

Animals have a life cycle.

- They are born, grow, reproduce, and die.
- Different animals live for different lengths of time.

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10. Animals are made of cells

Animals are made of tiny units called **cells**.

- Cells form tissues and organs.
- Cells are the basic units of life.

Summary

Animals are living things because they **need food, breathe, grow, move, reproduce, respond to stimuli, excrete waste, need air and water, have a life span, and are made of cells**.

Living things (plants, animals, and humans) need certain basic things to **survive, grow, and stay healthy**. These are called the **needs of living things**. Below is a **detailed explanation**, suitable for **Grades 1–5**, with examples.

1. Food

Food is the most important need of living things.

- Food provides **energy** to move, grow, and repair the body.
- **Plants** make their own food using sunlight, air, and water.
- **Animals and humans** get food from plants or other animals.
- Without food, living things become weak and cannot survive.

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2. Water

Water is essential for all living things.

- It helps in **digestion, transport of nutrients**, and **removal of waste**.
- Plants need water to grow and make food.
- Animals and humans drink water to stay alive.
- Without water, living things cannot live for long.

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3. Air

Living things need air for breathing.

- **Animals and humans** need oxygen from air to release energy from food.
- **Plants** need carbon dioxide to make food and oxygen to breathe.
- Without air, living things cannot survive.

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4. Shelter

Shelter protects living things from danger and bad weather.

- Animals live in nests, burrows, caves, or trees.
- Humans live in houses.
- Shelter provides safety from heat, cold, rain, and enemies.

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5. Sunlight

Sunlight is very important, especially for plants.

- Plants use sunlight to make food (photosynthesis).
- Sunlight keeps living things warm and helps plants grow.
- Without sunlight, plants cannot prepare food.

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6. Space

Living things need space to live and grow.

- Plants need space to spread roots and leaves.
- Animals need space to move freely and find food.
- Too little space can cause poor growth and sickness.

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7. Proper Temperature

Living things need a suitable temperature.

- Very hot or very cold conditions can harm living things.
- Animals adapt to their environment to survive.
- Plants grow best in suitable weather conditions.

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8. Nutrients and Minerals

Living things need nutrients to stay healthy.

- Plants get minerals from soil.
- Animals and humans get nutrients from food.
- Nutrients help in growth and development.

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9. Care and Protection

Living things need care to stay healthy.

- Plants need watering and protection from pests.
- Animals need food, shelter, and care.
- Humans need care, rest, and cleanliness.

Summary

Living things need **food, water, air, shelter, sunlight, space, proper temperature, nutrients, and care** to live, grow, and stay healthy.

Growth and changes are important characteristics of **living things**. All living things grow and go through different **changes during their life cycle**. Below is a **detailed explanation**, written clearly for **Grades 1–5**, with examples.

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1. What is growth?

Growth means an increase in size, height, weight, or strength of a living thing.

- Growth happens **naturally** from inside the body.
- Living things grow by using **food, water, and air**.

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2. Growth in plants

Plants grow throughout their life.

a) From seed to plant

- A **seed** grows into a **seedling**.
- The seedling grows into a **young plant** and then a **mature plant**.

b) Parts that grow

- Roots grow downward to absorb water and minerals.
- Stems grow upward toward sunlight.
- Leaves grow to help make food.

c) Continuous growth

- Plants keep growing as long as they are alive.

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3. Growth in animals

Animals grow for a certain period of time.

a) From young to adult

- A baby animal grows into an adult.
- Example: calf → cow, chick → hen.

b) Body changes

- Animals become taller, heavier, and stronger.
- Body parts develop as they grow.

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4. Changes during growth (Life cycle)

Living things go through **different stages** in their life cycle.

a) Life cycle of plants

- Seed → Seedling → Plant → Flower → Fruit → Seed

b) Life cycle of animals

- Example (butterfly):
  Egg → Caterpillar → Pupa → Butterfly

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5. Metamorphosis

Some animals change their body shape completely. This is called **metamorphosis**.

- Frog: egg → tadpole → frog
- Butterfly: caterpillar → butterfly

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6. Changes in humans

Humans also grow and change.

- Baby → Child → Teenager → Adult
- Changes happen in height, weight, voice, and body shape.

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7. Growth needs

For proper growth, living things need:

- Food
- Water
- Air
- Sunlight (for plants)
- Proper care

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8. Difference between growth in living and non-living things

- Living things grow **from inside**.
- Non-living things do not grow on their own.

Summary

Living things **grow and change naturally** as they move through different stages of life. Growth involves an increase in size, and changes help living things develop into adults.

Movement is an important characteristic of **living things**. All living things show some kind of movement, even if it is slow or not easily seen. Below is a **detailed explanation of movement in living things**, written clearly for **Grades 1–5**, with examples.

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1. What is movement?

Movement means a change in position of the whole body or a part of the body.

- Living things can move **on their own**.
- Movement helps living things find food, water, shelter, and stay safe.

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2. Movement in animals

Animals show **clear and fast movement**.

a) Types of movement

- **Walking/Running** – humans, dogs, horses
- **Flying** – birds, insects
- **Swimming** – fish, whales
- **Crawling/Slithering** – snakes, worms

b) Why animals move

- To search for food and water
- To escape from enemies
- To find shelter
- To look for a mate

Animals use body parts like **legs, wings, fins, and muscles** for movement.

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3. Movement in plants

Plants cannot move from place to place, but they **do show movement**.

a) Movement of plant parts

- Leaves turn toward sunlight.
- Flowers open and close.
- Roots grow toward water.

b) Slow movement

- Plant movement is **slow** and not easily noticed.
- Example: Sunflower turning toward the Sun.

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4. Movement in humans

Humans move using **bones and muscles**.

- We walk, run, jump, and write.
- Movement helps us work, play, and stay healthy.

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5. Movement in microscopic living things

Very tiny living things also move.

- Bacteria move using tiny hair-like structures.
- Amoeba moves by changing its shape.

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6. Movement as a sign of life

- All living things show movement at some stage of life.
- Non-living things cannot move by themselves.
- If a non-living thing moves, it needs **external force** (push or pull).

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7. Importance of movement

Movement helps living things:

- Survive
- Grow strong
- Respond to danger
- Carry out daily activities

Summary

Living things show movement. **Animals move from place to place**, while **plants show slow movement of their parts**. Movement is an important sign that something is living.

Below is a **detailed comparison between Living and Non-Living Things**, explained clearly for **Grades 1–5**, with points and examples.

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1. Meaning

Living Things
Living things have life. They can grow, breathe, move, and reproduce.
Examples: Humans, animals, plants, birds.

Non-Living Things
Non-living things do not have life. They cannot grow or breathe.
Examples: Table, stone, book, chair.

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2. Need for Food

- **Living things** need food for energy, growth, and repair.
- **Non-living things** do not need food.

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3. Breathing (Respiration)

- **Living things** breathe to release energy from food.
- **Non-living things** do not breathe.

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4. Growth

- **Living things** grow naturally from inside their bodies.
- **Non-living things** do not grow on their own.

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5. Movement

- **Living things** can move by themselves.
    - Animals move from place to place.
    - Plants show slow movement of parts.
- **Non-living things** cannot move by themselves and need force.

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6. Reproduction

- **Living things** can reproduce and make new living things.
- **Non-living things** cannot reproduce.

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7. Response to Surroundings

- **Living things** respond to heat, light, sound, touch, and danger.
- **Non-living things** do not respond.

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8. Excretion

- **Living things** remove waste from their bodies.
- **Non-living things** do not produce or remove waste.

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9. Need for Air and Water

- **Living things** need air and water to survive.
- **Non-living things** do not need air or water.

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10. Life Span

- **Living things** are born, grow, reproduce, and die.
- **Non-living things** are not born and do not die (they may break or wear out).

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11. Cells

- **Living things** are made of cells, the smallest units of life.
- **Non-living things** are not made of cells.

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12. Examples

- **Living:** Dog, tree, bird, human
- **Non-Living:** Rock, car, pencil, bottle

Summary Table

Feature	Living Things	Non-Living Things
Life	Have life	No life
Food	Needed	Not needed
Growth	Grow naturally	Do not grow
Movement	Move on their own	Need force
Breathing	Yes	No
Reproduction	Yes	No
Response	Yes	No

Cells	Present	Absent

Conclusion

Living things show **life processes** like growth, movement, breathing, and reproduction, while non-living things do **not** show these features.

Below is a **detailed comparison of Natural and Man-Made Things**, explained clearly for **Grades 1–5**, with definitions, points, and examples.

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1. Meaning

Natural Things

Natural things are things that come from **nature**.
They are **not made by humans**.

Examples:
Trees, animals, rivers, mountains, Sun, Moon, air, water

Man-Made Things

Man-made things are things that are **made by humans** using natural materials.

Examples:
Houses, roads, cars, chairs, books, clothes, toys

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2. Source

- **Natural things** are found naturally on Earth.
- **Man-made things** are created by humans.

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3. Living or Non-Living

- **Natural things** can be **living** (plants, animals) or **non-living** (rocks, water).
- **Man-made things** are always **non-living**.

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4. Materials Used

- **Natural things** are made by nature itself.
- **Man-made things** are made using natural materials like wood, metal, cotton, and plastic.

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5. Growth

- **Natural living things** grow on their own.
- **Man-made things** do not grow.

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6. Reproduction

- **Natural living things** can reproduce.
- **Man-made things** cannot reproduce.

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7. Movement

- **Natural living things** can move.
- **Man-made things** cannot move by themselves.

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8. Changes Over Time

- **Natural things** may change naturally (plants grow, rivers flow).
- **Man-made things** change only due to human use or damage.

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9. Usefulness

- **Natural things** provide air, water, food, and shelter.
- **Man-made things** make life easier and more comfortable.

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10. Care and Protection

- **Natural things** need care and protection (plants, animals).
- **Man-made things** need maintenance and repair.

Comparison Table

Feature	Natural Things	Man-Made Things
Made by	Nature	Humans
Living	Can be living or non-living	Always non-living
Growth	Living ones grow	Do not grow
Reproduction	Living ones reproduce	Cannot reproduce
Movement	Living ones can move	Cannot move on their own
Examples	Trees, animals, rivers	House, car, book

Conclusion

Natural things are gifts of **nature**, while man-made things are created by **humans** using natural resources.

Caring for living things means looking after **plants, animals, and humans** so they can live a healthy and happy life. All living things need care because they depend on food, water, air, shelter, and protection. Below is a **detailed explanation**, suitable for **Grades 1–5**, with examples.

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1. Why caring for living things is important

- Living things cannot survive without proper care.
- Caring helps them grow well and stay healthy.
- It keeps nature balanced and safe for future generations.

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2. Caring for plants

Plants are living things and need regular care.

a) Watering plants

- Plants need enough water to grow.
- Too little or too much water can harm plants.

b) Sunlight

- Plants need sunlight to make food.
- They should be placed where they can get proper sunlight.

c) Soil and nutrients

- Healthy soil provides minerals and nutrients.
- Manure and compost help plants grow better.

d) Protecting plants

- Plants should be protected from pests and damage.
- We should not pluck leaves or flowers unnecessarily.

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3. Caring for animals

Animals depend on humans and nature for care.

a) Food and water

- Animals need proper food and clean water every day.

b) Shelter

- Animals need a safe place to live, such as sheds, nests, or homes.
- Shelter protects them from heat, cold, and rain.

c) Kindness and protection

- Animals should be treated kindly.
- We should not hurt or tease animals.

d) Health care

- Animals need cleanliness and medical care.
- Sick animals should be treated by a doctor (vet).

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4. Caring for humans

Humans are also living things and need care.

a) Healthy food

- Eating nutritious food keeps us strong and healthy.

b) Cleanliness

- Bathing regularly and washing hands prevents diseases.

c) Rest and exercise

- Proper rest and regular exercise keep the body fit.

d) Safety and care

- Children need love, care, and protection.

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5. Caring for the environment

The environment supports all living things.

a) Saving trees

- Trees give oxygen, food, and shelter.
- We should plant more trees and avoid cutting them.

b) Keeping surroundings clean

- We should not litter or pollute water and air.

c) Saving water

- Water should not be wasted.

d) Reducing pollution

- Reduce, reuse, and recycle to protect nature.

Summary

Caring for living things means **providing food, water, shelter, protection, cleanliness, and love**. When we care for plants, animals, humans, and the environment, we help all living things live better.