



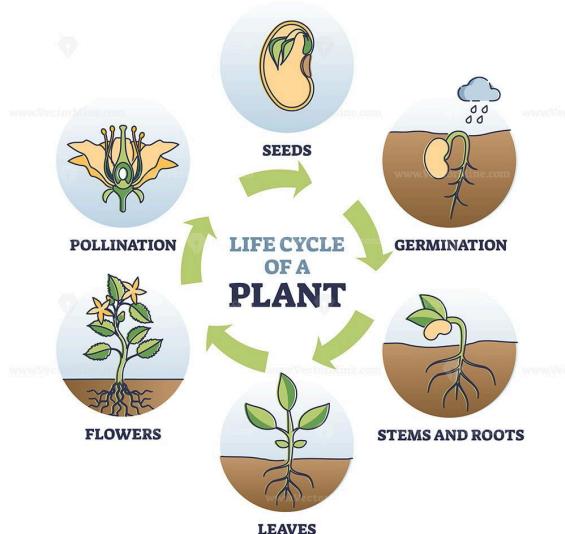
# General Topic: Life Cycles of Plants and Animals

## Lesson Overview:

Students explore the stages of **growth and development** in plants and animals, understanding how life begins, grows, reproduces, and ends.

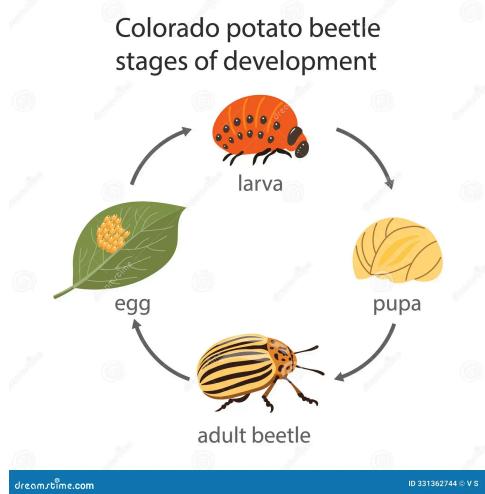
## Key Concepts and Subtopics:

- Stages in the life cycle of plants (seed, germination, growth, reproduction)



Reference:<https://www.pinterest.ie/pin/life-cycle-of-plant-with-seeds-growth-in-biological-labeled-outline-diagram--732538695650164852/>

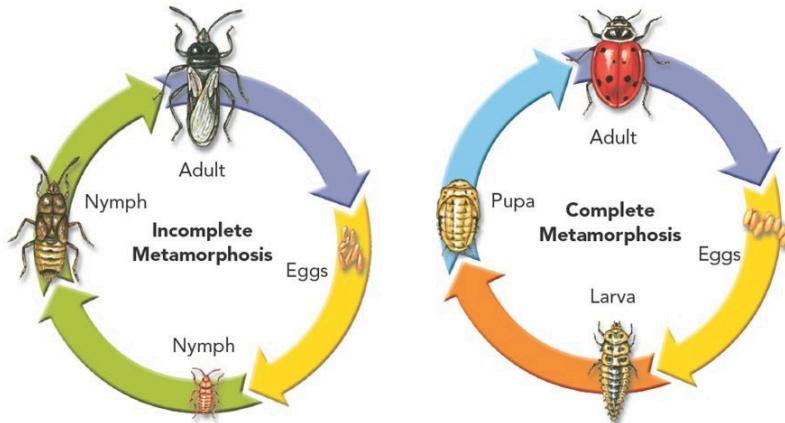
- Life cycles of animals (egg, larva, pupa, adult for insects; egg to adult for birds, amphibians, reptiles)





- Metamorphosis and non-metamorphosis animals

## Complete vs. Incomplete Metamorphosis



Reference: <https://animaldifferences.com/page/2/>

- The role of reproduction in species survival

<p>● <b>What is Reproduction?</b></p> <p>Reproduction is the process by which living things produce offspring (babies, young, or new plants).</p>
<p>● <b>Why is it Important?</b></p> <ul style="list-style-type: none"><li>Ensures the continuation of the species (hindi mauubos).</li><li>Passes on traits (katangian) from parents to offspring.</li><li>Maintains the balance in ecosystems (more plants → more food for animals).</li></ul>
<p>● <b>Types of Reproduction</b></p> <ol style="list-style-type: none"><li>1. Asexual Reproduction – only one parent, offspring are exact copies.<ul style="list-style-type: none"><li>Example: Hydra budding 🧜, potato growing from tuber 🥔</li></ul></li><li>2. Sexual Reproduction – involves two parents, offspring are unique.<ul style="list-style-type: none"><li>Example: Humans 👩, dogs 🐶, flowering plants 🌸</li></ul></li></ol>

### Real-Life Example:

Observing a caterpillar turn into a butterfly.

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### Remember This!

- Every living thing has a cycle that ensures its species continues.



# General Topic: Human Body Systems

## Lesson Overview:

Introduces major systems of the **human body and their functions**.

## Key Concepts and Subtopics:

- Circulatory system – heart and blood vessels
  - Main Parts: Heart , blood, blood vessels
  - Function: Carries oxygen and nutrients around the body, removes waste.
  - Analogy: Like a delivery system that brings supplies to every cell.
- Respiratory system – lungs and breathing
  - Main Parts: Lungs , nose, trachea
  - Function: Brings oxygen in and releases carbon dioxide.
  - Analogy: Like breathing balloons that fill and empty.
- Digestive system – breaking down food into nutrients
  - Main Parts: Mouth , stomach, intestines
  - Function: Breaks down food into nutrients for energy and growth.
  - Analogy: Like a food factory that turns food into fuel.
- Musculoskeletal system – muscles and bones for movement
  - Main Parts: Muscles , bones , joints
  - Function: Helps the body stand, move, and protect organs.
  - Analogy: Like the frame and engine of a car .
- Nervous system – brain, spinal cord, nerves for control and coordination
  - Main Parts: Brain , spinal cord, nerves
  - Function: Controls body actions, thoughts, and senses.
  - Analogy: Like a computer sending messages through wires.

## Real-Life Example:

Breathing faster after running because your body needs more oxygen.

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## Remember This!

- *Body systems work together—no system works alone.*



# General Topic: Matter: Physical and Chemical Changes

## Lesson Overview:

Explains the differences between **physical and chemical changes** in matter.

## Key Concepts and Subtopics:

- Physical change – change in appearance but no new substance (melting ice, cutting paper)

- Change in appearance only
- No new substance is formed
- Examples:
  - Melting ice → water
  - Cutting paper
  - Breaking glass

Tip: Can usually be reversed!

- Chemical change – new substances formed (rusting, burning, cooking)

- New substance is formed
- Can't easily go back to original form
- Examples:
  - Rusting of iron
  - Burning wood
  - Cooking an egg

Tip: Usually permanent!

- Indicators of chemical change (color change, gas production, temperature change, odor)

- Color change
- Gas production (bubbles/fizz)
- Temperature change (hot or cold)
- New odor

## Real-Life Example:

Boiling water (physical) vs. frying an egg (chemical).

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## Remember This!

- If a new substance is made, it's a chemical change.



# General Topic: Earth Science: Natural Resources and Weather

## Lesson Overview:

Covers **Earth's resources and weather patterns** that affect living things.

## Key Concepts and Subtopics:

- Types of natural resources (renewable, nonrenewable)
  - Renewable ☀️ 🌬️ 🌳
    - Can be replaced naturally
    - Examples: sunlight, wind, water, trees
  - Nonrenewable ↗ 📉
    - Limited supply, cannot be replaced quickly
    - Examples: coal, oil, natural gas, minerals
- Importance of conserving water, soil, and minerals
  - Water: for drinking, farming, electricity
  - Soil: for growing food 🌱
  - Minerals: for tools, buildings, technology 🚧
  - 👉 If wasted, these resources may run out!
- Weather elements (temperature, wind, rainfall)
  - 1. Temperature 🌡️ (hot or cold)
  - 2. Wind 🌬️ (direction & speed)
  - 3. Rainfall 🌧️ (amount of rain)
- Reading weather instruments and forecasts

## Real-Life Example:

Saving water during a drought to conserve resources.

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## Remember This!

- Our survival depends on how we care for Earth's resources.



# General Topic: Forces, Energy, and Simple Machines

## Lesson Overview:

Introduces how **forces** and **energy** make work easier through **simple machines**.

## Key Concepts and Subtopics:

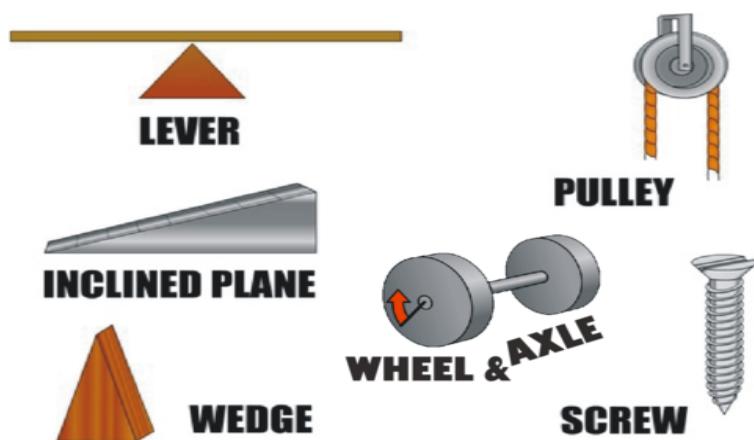
- Types of forces (push, pull, friction, gravity)

- Push ➡ moving something away
- Pull ➡ bringing something closer
- Friction ⚪ force that slows down motion
- Gravity 🌎 pulls everything toward Earth

- Forms of energy (kinetic, potential, light, heat, sound)

- Kinetic Energy🏃‍♂️ moving objects
- Potential Energy储能 stored energy (like stretched rubber band)
- Light Energy💡 from the Sun or lamps
- Heat Energy🔥 from fire, stove, or the Sun
- Sound Energy🎶 from vibrations (music, voices)

- Simple machines (lever, pulley, inclined plane, screw, wedge, wheel and axle)



Reference:<https://quizlet.com/138869253/6th-gr-simple-machines-flash-cards/>



- How machines reduce effort
  - Machines make work easier by:
    - Changing the direction of force (e.g., pulley)
    - Increasing force applied (e.g., lever)
    - Allowing objects to move with less effort (e.g., ramp)

### **Real-Life Example:**

Using a pulley to lift a heavy bucket.

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### ***Remember This!***

- *Machines don't reduce work—they make it easier to do.*



# General Topic: Environment and Sustainability

## Lesson Overview:

Teaches how to **protect the environment** and use resources wisely.

## Key Concepts and Subtopics:

- Reduce, reuse, recycle

### REDUCE REUSE RECYCLE

**As a learning environment we are part of a wider community. As part of this community we support sustainability and encourage the children and families to support this also. When families donate items to us we are often able to reuse these items as play resources.**

A big thank you for donating your unwanted boxes and containers to our kinder room. Jack and his friends decided that they wanted to use them to set up their own supermarket in the dramatic play area. They also used some of them in the construction area to make a box tower.

**Early Years Learning Framework:**  
Children are connected and contribute to their world - Through exploring how to reduce, reuse and recycle the children are able to become socially responsible and show respect for the environment.

Reference: <https://www.pinterest.com.au/pin/521573200568184220/>

- Protecting biodiversity

- **Biodiversity** = variety of plants and animals in nature
- Why important?
  - Keeps balance in ecosystems 🌳
  - Provides food, medicine, clean air & water 🍎💊💦
- How to protect?
  - Plant trees 🌳
  - Avoid hunting endangered animals 🦌🌳
  - Protect forests and oceans 🌊



- Sustainable farming and fishing

- Sustainable = use resources wisely so they last
- Farming 🌱
  - Crop rotation (change crops each season)
  - Avoid too much pesticide
- Fishing 🐟
  - Catch only grown fish 🐟
  - Avoid using harmful nets or chemicals

- Effects of pollution and climate change

- Pollution = dirtying the land, water, or air 🚧🚫
  - Smoke from factories 🚗🏭
  - Trash in rivers and oceans 🚮
- Climate change = Earth getting hotter 🌡️
  - Melting ice 🏊 → higher sea levels 🌊
  - Stronger typhoons and droughts 🌪️☀️
- What can we do?
  - Reduce, Reuse, Recycle 🌍
  - Save electricity and water 💡💧
  - Walk, bike, or carpool 🚲

### Real-Life Example:

Planting trees to improve air quality and reduce carbon dioxide.

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### Remember This!

- A healthy environment means a healthy future.