

General Topic: Life Sciences: Ecosystems, Biodiversity

Lesson Overview:

Students learn how living and nonliving things interact in **ecosystems**, and why **biodiversity** is important for balance in nature.

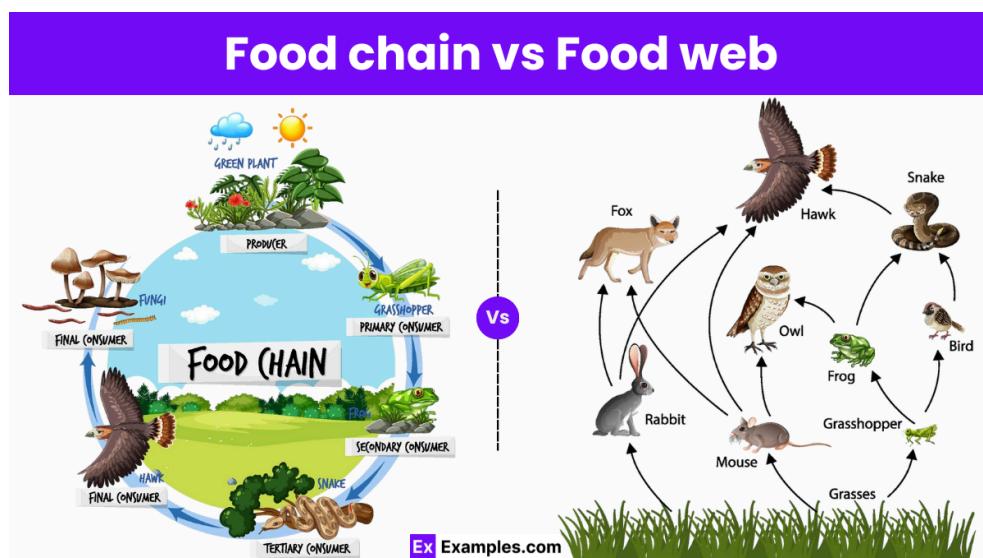
Key Concepts and Subtopics:

- Parts of an ecosystem (producers, consumers, decomposers)

Producers	Consumers	Decomposers
Make their own food	Eat other organisms for food	Break down dead material
		

Reference:<https://worksheetfullverda.z19.web.core.windows.net/producers-decomposers-consumers-examples.html>

- Food chains and food webs



- Importance of biodiversity in maintaining balance

◆ Why is Biodiversity Important?
<p>1. Food Chain Balance </p> <ul style="list-style-type: none"> Every living thing depends on another for food. Example: If frogs disappear, insects will multiply too much, and snakes will lose food. <p>2. Clean Air and Water </p> <ul style="list-style-type: none"> Trees and plants produce oxygen and filter air. Wetlands and forests help clean water. <p>3. Medicine and Resources </p> <ul style="list-style-type: none"> Many medicines come from plants and animals. Wood, cotton, and other materials come from nature. <p>4. Disaster Protection </p> <ul style="list-style-type: none"> Mangroves protect coastal areas from strong waves. Forests prevent floods and landslides.

- Human impacts on ecosystems (deforestation, pollution)

● Human Impacts on Ecosystems
<p>Humans can help or harm the environment. Unfortunately, some activities damage ecosystems and disturb the balance of nature.</p> <p>1. Deforestation (cutting down too many trees) </p> <ul style="list-style-type: none"> Animals lose their homes (habitat loss). Soil erosion and flooding happen because no trees hold the soil. Less oxygen is produced. <p>Example: Illegal logging in forests → fewer birds, monkeys, and other wildlife.</p> <p>2. Pollution </p> <ul style="list-style-type: none"> Air Pollution – from smoke of factories and vehicles → causes dirty air and health problems. Water Pollution – from trash, chemicals, and oil spills → kills fish and harms water supply. Land Pollution – from too much garbage and plastics → destroys soil and harms animals. <p>Example: Throwing plastic in rivers → fish eat plastic → people eat fish → humans also get affected.</p> <p>3. Other Human Activities</p> <ul style="list-style-type: none"> Overfishing  – catching too many fish, not giving them time to reproduce. Mining – destroys land and habitats. Using too many chemicals – pesticides harm insects, soil, and even water.

Real-Life Example:

Coral reefs provide shelter for fish and protect coastlines, but too much pollution can destroy them.

Remember This!

- Biodiversity keeps ecosystems healthy and supports human life.

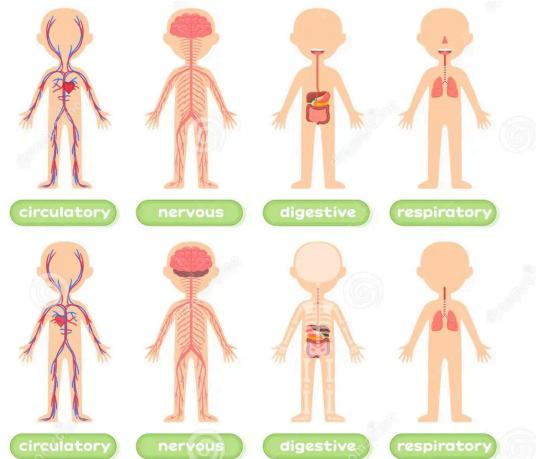
General Topic: Human Body Systems and Health

Lesson Overview:

Covers how **body systems** function together and how to maintain good **health**.

Key Concepts and Subtopics:

- Digestive, circulatory, respiratory, and nervous systems



ID 238185031 © Alexandra2205

- Immune system and disease prevention

◆ What is the Immune System?

The immune system is our body's defense army 🚒 🧵.

It protects us from germs like bacteria, viruses, and fungi that cause sickness.

- White Blood Cells (Soldiers) → attack and destroy germs.
- Antibodies (Special Weapons) → remember germs so they can fight them faster next time.

◆ How Does It Work?

- Germ enters the body (example: virus from coughing).
- The immune system detects the invader.
- White blood cells fight and destroy the germ.
- Body remembers → next time, you won't get sick easily.

◆ How to Keep the Immune System Strong

- ✓ Eat healthy food 🍎 🥗
- ✓ Get enough sleep 😴
- ✓ Exercise regularly 🏃
- ✓ Practice good hygiene (handwashing 💧, brushing teeth)
- ✓ Get vaccinated 💉

- Importance of nutrition, exercise, and hygiene

1. Nutrition (Healthy Eating)

Food is the fuel of the body. Eating balanced meals keeps us strong and healthy.

- Go Foods (Rice, bread, pasta) → give energy 
- Grow Foods (Meat, fish, milk, beans) → build muscles 
- Glow Foods (Fruits, vegetables) → protect from sickness 

Example: If you eat vegetables every day, you get vitamins that make your immune system strong.

2. Exercise

Exercise makes the body active and keeps the heart healthy.

- Strengthens muscles and bones 
- Improves blood circulation 
- Reduces stress and makes you happy 

Example: Playing basketball, running, or even dancing = good exercise!

3. Hygiene (Cleanliness)

Hygiene means taking care of your body to prevent germs from entering.

- Wash hands before eating 
- Brush teeth after meals 
- Take a bath every day 
- Keep surroundings clean 

Example: Washing hands with soap removes germs that cause stomach ache.

- Harmful effects of unhealthy habits (smoking, drugs, poor diet)

1. Smoking

- Damages the lungs → hard to breathe
- Causes coughing and asthma
- Can lead to serious diseases (like cancer)

Example: A smoker may get tired quickly when playing basketball compared to a non-smoker.

2. Drugs (Illegal / Misused Medicine)

- Affects the brain → poor memory and slow thinking
- Destroys organs like liver and kidneys
- Can cause addiction (hard to stop once started)

Example: A student who uses drugs may lose focus and stop doing well in school.

3. Poor Diet (Eating too much junk food, sweets, oily food)

- Leads to obesity (too much weight)
- Causes diabetes, heart problems, and weak bones
- Lowers energy → always feeling tired

Example: Eating only fast food and soda instead of fruits and vegetables can make the body weak and sickly.

Real-Life Example:

Exercising strengthens the heart and lungs, keeping the body healthier.

Remember This!

- *Healthy choices protect your body systems and keep you strong.*

General Topic: Matter and Energy: Physical and Chemical Properties

Lesson Overview:

Students explore how **matter and energy** interact through their **properties and changes**.

Key Concepts and Subtopics:

- States of matter: solid, liquid, gas

1. Solid

- Has definite shape and definite volume
- Particles are packed **tightly together**
- Cannot easily change shape unless broken or cut

Examples: rock, book, chair, ice cube

2. Liquid

- Has definite volume but no definite shape
- Takes the shape of its container (cup, bottle, glass)
- Particles are close but can move around each other

Examples: water, milk, juice

3. Gas

- Has no definite shape and no definite volume
- Expands to fill any container
- Particles are far apart and move freely

Examples: air, oxygen, steam from boiling water

- Physical properties (color, shape, size, mass, volume, density)

1. Color

- Tells us how an object looks to our eyes.

Example: Apples can be red, green, or yellow.

4. Mass

- How heavy an object is (measured in grams or kilograms).

Example: A bag of rice is heavier than a loaf of bread.

2. Shape

- The form of an object.

Example: A ball is round  , while a book is rectangular .

5. Volume

- The space an object takes up.

Example: Water filling up a glass has volume.

3. Size

- How big or small something is.

Example: An ant  is small, while an elephant  is big.

6. Density

- How tightly packed the particles are.

Example: A rock sinks in water because it is denser, while wood floats because it is less dense.

- Chemical properties (flammability, reactivity)

1. Flammability (Ability to Burn)

- Tells us if a substance can catch fire.
- When something burns, it changes into new substances (ash, smoke, gases).

Examples:

- Paper  and wood  are flammable.
- Metal pots  do not easily burn.

2. Reactivity (Ability to React with Other Substances)

- Tells us how a substance interacts with air, water, acids, or other chemicals.
- Can cause color change, bubbles, rust, or even explosions.

Examples:

- Iron + water + air → rust (new substance)
- Vinegar + baking soda → bubbles/gas
- Some metals react strongly with acid.

- Conservation of matter and energy

Conservation of Matter

Matter cannot be created or destroyed — it only changes form.

- When wood burns, it becomes ash, smoke, and gases — pero same total amount of matter pa rin.
- When ice melts, it turns into water — same water molecules, just a different state.

 Key Idea: The amount of matter stays the same, kahit magbago ang itsura o estado.

Conservation of Energy

Energy cannot be created or destroyed — it only changes from one form to another.

- A light bulb changes electrical energy → light + heat.
- Plants use sunlight (light energy) → chemical energy in food.
- When you eat food, chemical energy becomes movement + heat.

 Key Idea: Energy doesn't disappear — it just moves or transforms.

Real-Life Example:

Salt dissolving in water (physical) vs. wood burning into ash (chemical).

Remember This!

- Matter cannot be created or destroyed—only changed.

General Topic: Earth and Space: Planets, Solar System, Natural Phenomena

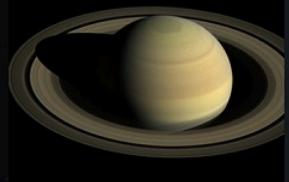
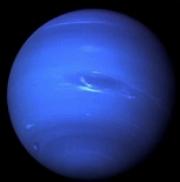
Lesson Overview:

Students study **Earth's place in the solar system** and **natural events** that affect the planet.

Key Concepts and Subtopics:

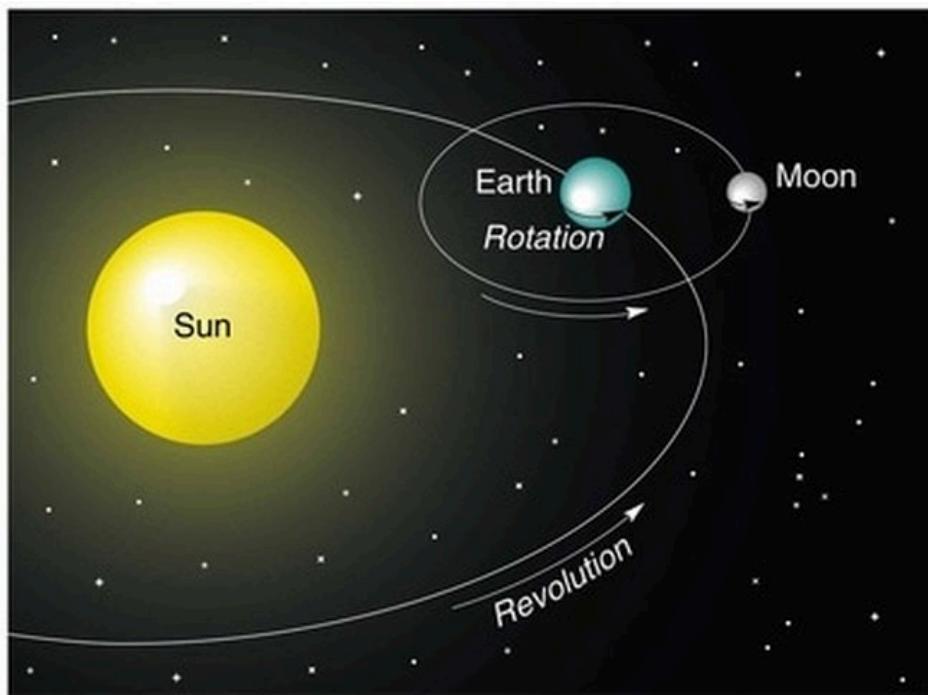
- Planets and their characteristics

Planets in Our Solar System

	Mercury Mercury—the smallest planet in our solar system and closest to the Sun—is only slightly larger than Earth's Moon. Mercury is the fastest planet, zipping around the Sun every 88 Earth days.		Venus Venus spins slowly in the opposite direction from most planets. A thick atmosphere traps heat in a runaway greenhouse effect, making it the hottest planet in our solar system.
	Earth Earth—our home planet—is the only place we know of so far that's inhabited by living things. It's also the only planet in our solar system with liquid water on the surface.		Mars Mars is a dusty, cold, desert world with a very thin atmosphere. There is strong evidence Mars was – billions of years ago – wetter and warmer, with a thicker atmosphere.
	Jupiter Jupiter is more than twice as massive than the other planets of our solar system combined. The giant planet's Great Red spot is a centuries-old storm bigger than Earth.		Saturn Adorned with a dazzling, complex system of icy rings, Saturn is unique in our solar system. The other giant planets have rings, but none are as spectacular as Saturn's.
	Uranus Uranus—seventh planet from the Sun—rotates at a nearly 90-degree angle from the plane of its orbit. This unique tilt makes Uranus appear to spin on its side.		Neptune Neptune—the eighth and most distant major planet orbiting our Sun—is dark, cold and whipped by supersonic winds. It was the first planet located through mathematical calculations.

Reference: <https://animalia-life.club/qa/pictures/solar-system-planets-sun>

- Sun, moon, and Earth's movements (rotation, revolution)



Reference:<https://science8sc.weebly.com/earths-moon.html>

- Eclipses, tides, phases of the moon

1. Eclipses

Eclipses happen when the Sun, Earth, and Moon line up.

- Solar Eclipse ☀️●●●
 - The Moon blocks the Sun.
 - Happens during new moon.
 - Day becomes dark for a short time.
- Lunar Eclipse ☀️●●●
 - The Earth blocks sunlight from reaching the Moon.
 - Happens during full moon.
 - The Moon looks red/orange (blood moon).

2. Tides

Tides = rise and fall of sea level caused by the Moon's gravity ↗.

- High Tide ↗ → water level rises.
- Low Tide 🌊 → water level falls.
- 👉 Happens twice a day.
- 👉 Important for fishing, travel, and coastal life.

3. Phases of the Moon

The Moon doesn't make its own light ☀️ — it reflects sunlight. Its shape seems to change because of its position around Earth.

Main Phases:

- New Moon – invisible
- Waxing Crescent – small sliver grows
- First Quarter – half moon (right side lit)
- Waxing Gibbous – almost full
- Full Moon – fully lit
- Waning Gibbous – starts shrinking
- Last Quarter – half moon (left side lit)
- Waning Crescent – tiny sliver before new moon

- Natural phenomena: earthquakes, volcanoes, typhoons



Reference:<https://stock.adobe.com/kr/images/of-various-natural-disasters-icons-such-as-floods-tornadoes-wildfires-hurricanes-earthquakes-tsunamis-volcanoes-droughts-avalanches-landslides-storms-lightning-blizzards/835226747>

Real-Life Example:

The phases of the moon explain why we see it differently each night.

Remember This!

- *Earth is part of a larger system—the solar system—that influences our lives.*

General Topic: Forces, Work, and Simple Machines

Lesson Overview:

Explains how **forces** act on objects and how **machines** help humans do **work**.

Key Concepts and Subtopics:

- Types of forces (gravity, friction, magnetic force)

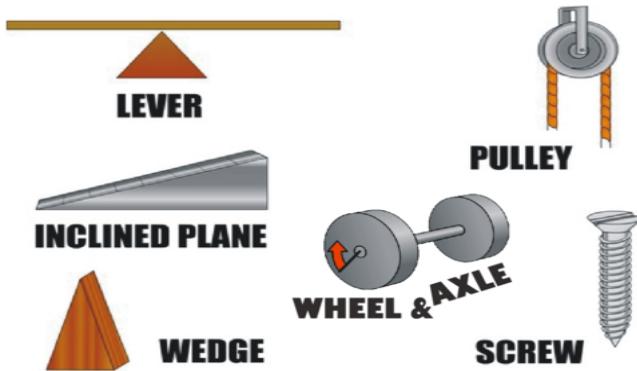


Reference:<https://www.pinterest.ph/pin/71916925286005794/>

- Work, power, and energy

<p> 1. Work</p> <ul style="list-style-type: none">• Definition: Work is done when a force moves an object in the direction of the force.• Formula: $\text{Work} = \text{Force} \times \text{Distance}$• Example: Pushing a box 5 meters forward.👉 If the object doesn't move, no work is done (kahit napagod ka pa).
<p> 2. Energy</p> <ul style="list-style-type: none">• Definition: The ability to do work.• Types of Energy:<ul style="list-style-type: none">• Kinetic Energy – energy of motion (running, falling ball).• Potential Energy – stored energy (stretched rubber band, water in a dam).
<p> 3. Power</p> <ul style="list-style-type: none">• Definition: How fast work is done.• Formula: $\text{Power} = \frac{\text{Work}}{\text{Time}}$• Example: Two kids climb stairs. The one who climbs faster uses more power.

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



Reference:<https://quizlet.com/13886925/6th-gr-simple-machines-flash-cards/>

- Mechanical advantage

◆ **What is Mechanical Advantage?**

👉 Mechanical Advantage (MA) tells us how many times a machine makes work easier.

- Machines don't lessen the total work, they just make it easier.
- Formula:

$$M A = \frac{\text{Load (Output Force)}}{\text{Effort (Input Force)}}$$

◆ **Simple Examples**

1. Lever (see-saw, crowbar)
 - If you lift a rock with a crowbar, the lever gives you more force.
 - Example: MA = 4 → means the lever makes you 4× stronger.
2. Pulley (used in wells or construction)
 - If one pulley has MA = 2, you only need half the effort to lift the bucket of water.
3. Inclined Plane (ramp)
 - Pushing a box up a ramp is easier than lifting it straight.
 - Longer ramps = higher MA.

◆ **Why is it Important?**

- Less effort needed for heavy tasks.
- Used in daily life: opening bottles (opener = lever), carrying loads (wheelbarrow), moving things upstairs (ramp).

Real-Life Example:

Using a ramp to move a box requires less effort than lifting it directly.

Remember This!

- *Machines make work easier by reducing the effort needed.*

General Topic: Environmental Stewardship

Lesson Overview:

Students learn the importance of caring for the environment and protecting natural resources.

Key Concepts and Subtopics:

- Environmental issues: pollution, climate change, habitat destruction



- Reduce, reuse, recycle practices

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.

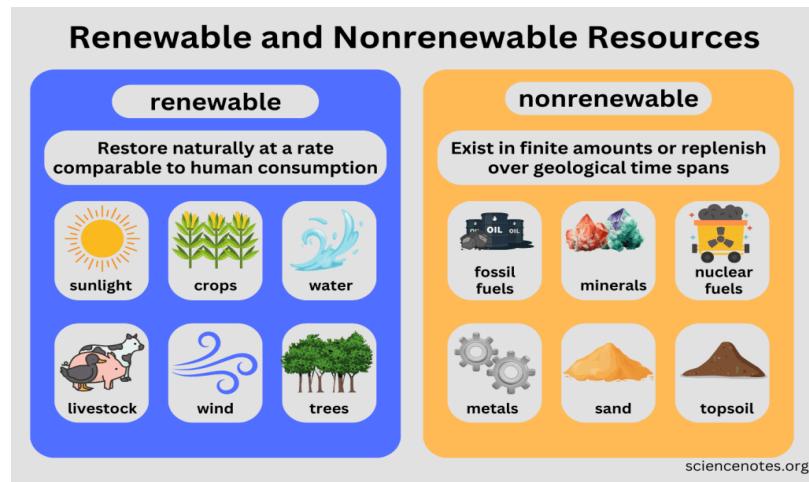






Early Years Learning Framework:
Children are connected and contribute to their world - Through exploring how to reduce, reuse and recycle the children are able to become socially responsible and show respect for the environment.

- Renewable vs. non-renewable resources



- Role of humans in protecting ecosystems

◆ **What is an Ecosystem?**

An ecosystem is the community of living things (plants, animals, humans) interacting with their environment (air, water, soil).

👉 When ecosystems are healthy, life stays balanced.

◆ **Role of Humans in Protection**

Humans can help keep ecosystems safe by:

1. **Planting Trees** 🌳
 - Trees give oxygen, prevent floods, and provide homes for animals.
2. **Proper Waste Management** 🏠
 - Reduce, Reuse, Recycle.
 - Avoid throwing trash in rivers and oceans.
3. **Conserving Water and Energy** 💧⚡
 - Turn off faucets and lights when not in use.
4. **Protecting Wildlife** 🐾
 - Avoid hunting endangered species.
 - Support wildlife sanctuaries and marine reserves.
5. **Using Eco-friendly Practices** 🌎
 - Walk or bike instead of always riding cars.
 - Use reusable bags and bottles.

Real-Life Example:

Recycling plastic bottles reduces waste and pollution in oceans.

Remember This!

- *Caring for the environment today ensures a better future for all.*