

LAINAB

TARIQ

BATCH

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National

Officers Academy

Every Day Science

What do you know about the Animal Kingdom?  
Differentiate b/w vertebrates and invertebrates with suitable examples?

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## Animal Kingdom:-

Animals is a group of animals which are Multicellular, diploid, heterotrophic, move from place to place at some stage of life show specialized tissues like muscles and nerves.

According to recent reports Kingdom Animalia is comprised of more than half a million (1500,000) spp of animals.

### 1.2:- Characteristics:-

- They are Eukaryotes
- They are diploid
- They produce haploid gametes ( $n$ ) i.e sperm or egg
- They are motile
- The outer most covering of all their cell is a cell membrane

### 2.1:- Difference b/w vertebrates & invertebrates:-

# Vertebrates

These animals which possess a backbone

Definition :-

Complex internal skeleton made of bones or cartilage

Highly developed brain & spinal cord

Mostly medium to large animals

Mostly Sexual Reproduction

closed blood system

Fishes  
Amphibians  
Reptiles  
Birds  
Mammals

# Invertebrates :-

These animals which do not possess back bones.

Body structure :-

simple and no internal skeleton

Nervous System:

less developed nervous system

Size :-

Mostly small animals (except some like Octopus)

Reproduction

Sexual or asexual (like budding, fragmentation)

Blood system

Mostly open blood system

Examples :-

Insects  
Mollusks  
Arthropods  
Worms

"Animals are multicellular organisms that obtain energy by consuming other organisms and show diverse body forms and functions" Campbell biology

Survey of plant and Animal Kingdom a brief survey of plant and animal Kingdom to pinpoint similarities and diversities?

## (1) Similarities between Plant and Animals:

→ Both are living organisms

They grow, reproduce, and respond to the environment

→ Both have cells:

Plant and animals are made up of cells, although plant cell have cellwall and chloroplasts while animal cell do not

→ Both need energy:

Plant get energy from sunlight, animals get it from food. But both need energy to survive

→ Both show Adaptations:

Each group has special features to survive in their environment (e.g cactus in desert)

→ Both Maintain internal Balance

They control internal conditions like water temp and nutrients.

## (2) Diversity in Nature (how plant and animals differ)

plant and animals show huge diversity meaning there is great variety in their structure, lifestyle and roles

## Plant

## Animals:-

Mode of nutrition  
make their own food (autotrophic)

cannot make food; depend on plant or other animals (heterotrophic)

Movement:-  
Mostly fixed in one place (sessile)

Actively move from place to place

### Body structure

have roots, stem, leaves

have organ like heart, lungs, stomach, muscles

### Growth Pattern

grow throughout life

stop growing after maturity

### Sensitivity

Respond slowly (e.g. sunflower turns towards sun)

Respond quickly using their nervous system

### Reproduction

seeds, spores, vegetative propagation

mostly reproduce sexually

### Cell structure

Have cell wall & chloroplasts

Do not have a cell wall or chl

### Food storage

store food as starch

store food as glycogen

## (3) Survey Of Plant Kingdom:-

- 3-1: Algae simple plants found in water (e.g. green algae)
- 3-2: Bryophytes small plants; need water to reproduce (e.g. moss)
- 3-3: Pteridophytes have vascular tissue but produce spores e.g. ferns
- 3-4: Gymnosperm plant with naked seeds (e.g. pine trees)
- 3-5: Angiosperms Flowering plants with fruit e.g. Mango, Rose

(3) 4:- Survey OF Animal Kingdom:-

4.1:- Invertebrates:-

Animals without backbones (e.g insects, jelly fish)

4.2 vertebrates:-

Animal with backbone (e.g fish birds, mammals)

v:- Conclusion

Together, plant and animals maintain the balance of nature. Plants produce oxygen and food, while animals depend on them and help in process like pollination and seed dispersal.