# *Topic 1: How does human being distinguish living things?*

**By the end of the lesson, you will:**

- *Know the characteristics of the 5 kingdoms of living things.*
- *Be able to use characteristics and nomenclature to classify living things.*

Task 1.
Read the text.

Scientists use criteria for classification to organize living things into groups. Classification enables them to compare different living things. Scientist classify all living things into five kingdoms by three main criteria: *type of cells, how the cells are grouped, and nutrition.*

All living organisms are composed of organic substances: *proteins, fats and carbohydrates*. Living things whose cells do not have a nucleus are called **prokaryotes.** Organisms whose cells have a nucleus are called **eukaryotes.**

All living organisms feed. Food serves as a source of necessary substances and energy. Plants feed on ***photosynthesis.*** They are **autotrophic.** Animals and fungi absorb organic substances of other organisms, from which their substances are synthesized. Such organisms are called **heterotrophs.** Bacteria and protozoa can be both **autotrophs and heterotrophs**.

Bacteria, protozoa and fungi have **no tissues**. The body of plants and animals **consists of tissues**.

*Complete the sentences:*

Heterotrophs feed on_____

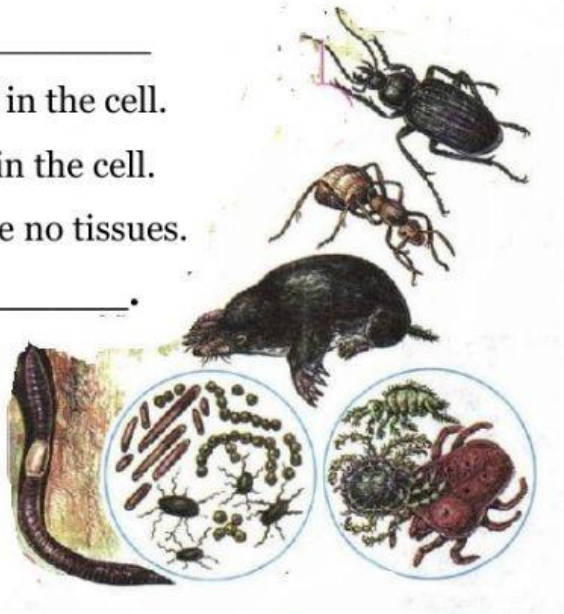
Autotrophs obtain energy_____

Prokaryotes have_____ in the cell.

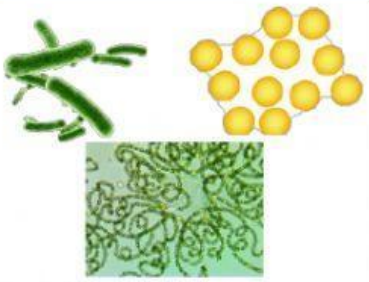
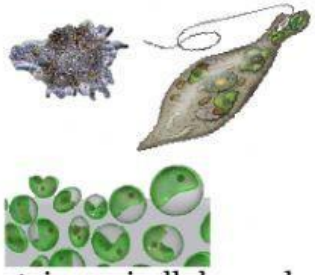
Eukaryotes have_____ in the cell.

_____ have no tissues.

The body of plants and animals consists _____.



## What are the five kingdoms?

| Monera kingdom | Protoctist Kingdom | Fungi Kingdom |
|---|---|---|
|  |  |  |
| Contains unicellular, prokaryotic organisms. They may be autotrophic or heterotrophic. **Bacteria and cyanobacteria** | Contains unicellular and multicellular living things. They are all eukaryotes. They have no tissues. They may be autotrophic or heterotrophic. **Protozoa, algae.** | Contains unicellular and multicellular living things. They are eukaryotes. They have no tissues. They are heterotrophic. **Yeasts, moulds, mushrooms** |

| Plant Kingdom | Animal Kingdom |
|---|---|
|  |  |
| Contains multicellular eukaryotes. They have tissues. They are autotrophic. **Mosses, ferns, conifers, flowering plants.** | Contains multicellular eukaryotes. They have tissues. They are heterotrophic. **Animals: may be invertebrate or vertebrate.** |

Task 2.

**Complete the table to describe the five kingdoms:**

| Kingdom | Type of cells | Tissues | Autotrophic / Heterotrophic |
|---|---|---|---|
| Moneran | | | |
| Protoctist | | | |
| Fungi | | | |
| Plant | | | |
| Animal | | | |
| | | | |

**glossary:** unicellular, multicellular, have tissues, have no tissues, autotrophic, heterotrophic

**What should you know?**

Living things can be differentiated by the way they feed, reproduce, interact with their environment, etc. They are classified into different groups. The main group is the kingdom. Each kingdom is then divided into subgroups.