

Activity – Two Kingdom Vs Five Kingdom Classification

Subject	Biology
Class	XI
Chapter	Biological Classification
Topic	Classification of Organisms
Duration	2 periods
Nature of the Activity	Group Activity

What will we learn? (Learning Outcome) –

understand the importance of classification, the need for change in the two kingdom classification, recall the basis of five-kingdom classification

Skills- Remembering, Analysing, Classifying

What we have to do? – Study the need of five kingdom classification through a group activity

What do we require?

Two sets of placards of at least 20 different organisms (if number of students in the class is 40), like *Amoeba*, yeast, bacteria, cyanobacteria, *Spirogyra*, fern, pine, tiger, rose, mushroom, crab, *Euglena*, *Paramecium*, moss, *Plasmodium* and so on; set of placards of two kingdoms (plant and animal), placards of the five kingdoms.

What do we need to know?

- Classification is done to make the study of organisms easy. It can be changed upon discovery of new properties/ features/ behavior of organisms, using different systems of classification.
- Characteristic features of organisms belonging to different groups/ categories, with examples
- Whittaker's 5 kingdom classification

- **Teacher's activity-** Teacher will give the instructions along with the steps of how to undertake this activity (Student's activity), by dividing the students into two groups.

How will we proceed?

➤ **Student's activity**

1. The class will be divided into two groups- Group A-Two kingdoms and Group B-Five kingdoms.
2. The placards of the different kingdoms will be placed on different desks in two different rows.
3. All the (20) students of group A will pick a card (from the set of twenty, with names of different organisms) and place it against either of the two kingdoms

4. All the (20) students of group B will pick a card (from the set of twenty, with names of different organisms) and place it against the five kingdoms
5. The organisms which belong to the other 3 kingdoms, other than plant and animal will be listed
6. The reason why the given organism was placed in a different kingdom (other than plant or animal kingdom) will be written alongside.

What have we observed?

Organisms	Kingdom as per 2 kingdom classification	Kingdom as per 5 kingdom classification	Reason for changing the kingdom
Bacteria	Plantae	Monera	No nucleus

What have we learnt? Organisms having distinct features (like presence/absence of nucleus, photosynthetic/ non-photosynthetic, cell wall made up of different compounds, unicellular/ multicellular, chlorophyllous/ achlorophyllous), cannot be categorized together in the same kingdom

What would we like to know ?

Why a variety of autotrophic and heterotrophic organisms, been categorized under Kingdom Protista ?

Let me Evaluate myself-

1. What are the three domains of life?
2. Write two terms each, that completely describe Kingdom Monera and Protista.
3. What is Chemotaxonomy? Give an example to explain.

4. Search the net and cite an example where classification was changed due to cytological studies.
5. If you were to change the five-kingdom classification, which other kingdom would you add and why?