**OP: Knowing your Kingdoms**

**(Outcome 14)**

**Name: \_\_\_\_\_KEY\_\_\_\_\_\_\_\_\_\_\_\_ Biology 11**

**Directions:** Complete the following questions using your textbook and chart, these questions will give you a better understanding of each kingdom.

1. How do decomposers help the ecosystem recycle nutrients? (pg. 476)

*Organisms digest the dead tissue by eating and breaking down the dead matter into simpler materials that are released into the soil.*

1. What would happen to plants and animals if decomposers did not recycle nutrients? (pg. 476)

*They would continue to remain and build up over time as there would be nothing to break them down. Over time the nutrients within the soil would also become depleted causing all autotrophs (plants) that rely on it to begin to die off destroying the ecosystem.*

1. Why do plants and animals need nitrogen? (pg.477)

*To make amino acids which are the building blocks for DNA and in turn proteins within the body.*

1. Explain why each of the protist kingdom classifications are NOT part of their respective eukaryotic kingdoms (ex: why are plant-like protists not considered to be part of Kingdom Plantae)? (You may need to do some research for this)

*Animal -like protists = not Kingdom Animalia because they are unicellular*

*Plant-like protists = not Kingdom Plantae because they are mostly unicellular and don’t have a vascular system to bring water through*

*Fungi-like protists = not Kingdom Fungi because they don’t have chitin in their cell walls*

1. What types of organisms decompose material? (pg. 476)

*Bacteria, fungus-like protists and fungi*

1. Much of Kingdom Protista is algae, why is this such an important part of Earth’s functioning? (pg. 515)

*Algae is a major food source of ocean organisms and produces much of the Earth’s oxygen (50%)*

1. When do we believe fungi first occurred on Earth? Why was this significant? (pg. 537)

*Fossil records show fungi first to be on earth 460 mya, this is at the same time the first life appeared. It is significant as it is believed they helped early plants obtain nutrients as it recycled these necessary materials back into the earth.*

1. State which kingdom(s) fit each situation.

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| **Situation** | **Kingdom(s) it is true for** |
| Which kingdom(s) contain decomposers? | *eubacteria, archaebacteria, some protists & fungi* |
| Which kingdom(s) contain autotrophs? | *Kingdom protista (plant-like), kingdom plantae* |
| Which kingdom(s) contain prokaryotes? | *eubacteria, archaebacteria and most of protista* |
| Which kingdom(s) contain unicellular organisms? | *eubacteria, archaebacteria and most protists* |
| Which kingdom(s) contain a cell membrane that protects them in the harsh environments they live in? | *archaebacteria (uncommon lipids)* |
| I am unicellular and heterotrophic, which kingdom(s) can I be found in? | *eubacteria, archaebacteria and protista* |
| I am autotrophic and unicellular, which kingdom(s) can I be found in? \*\*Note should have said multicellular | *eubacteria, archaebacteria and protista \*\*Note should have been kingdom plantae* |
| I do not contain a cell wall, which kingdom(s) can I be found in? | *Kingdom Animalia & animal-like protists* |
| I am heterotrophic, multicellular, and sessile, which kingdom(s) can I be found in? | *Kingdom Fungi* |