**Chapter 2 Section 2**

**Classifying Organisms**

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| Main Ideas:  1. **Biologists organize living things into groups so they are easier to study.** |  |  |
| 2. **The more classification levels that two organisms share, the more characteristics they have in common.** |  |  |
| 3. **Organisms are placed into domains and kingdoms based on their cell type, their ability to make food, and the number of cells in their bodies.** |  | Domain = the highest level of organization/ 1. Archaea  2. Bacteria 3. Eukarya  Kingdom |
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| Classification |  | He process of Grouping things together based on their similarities. |
| Taxonomy |  | The scientific study of how living things are classified. |
| Binomial nomenclature |  | Linnaeus gave each organism a unique, two part scientific name.  Binomial = 2 names |
| Genus |  | A classification grouping that contains similar, closely related organisms. |
| Species |  | A group of similar organisms that can mate with each other and produce  offspring that can also mate and reproduce. |
| Prokaryotes : bacteria and archaea |  | Organisms whose cells lack a nucleus. These include **Bacteria** and **Archaea.**  Some are autotrophs (can make their own food through photosynthesis) and some  are heterotrophs (rely on eating autotrophs for food). |
| Nucleus |  | A dense area in a cell that contains nucleic acids- the chemical instructions that direct the cells activities. |
| Eukaryote  Scientists classify organisms in the domain of eukarya into one of four kingdoms: protists, fungi, plants, and animals |  |  |
| Protists : Single celled organisms  That cannot be classified as autotrophs or heterotrophy. |  | A eukaryotic organism that cannot be classified as an  animal , plant, or fungus. |
| Fungi: are all heterotrophs |  | live by absorbing nutrients form dead or decaying    organisms |
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| Plants |  | Multi-cellular eukaryotes that live on land. Plants are  autotrophs that make their own food. Plants provide the  Food for most heterotrophs |
| Animals |  | All are multicultural heterotrophy. They have eukaryotic  Cells. |
| Eukaryote |  | Organisms with cells that contain a nucleus. |