**Chapter 1 Study Guide**

**Essential Question:  What are some ways to classify living things?**

**Vocabulary:**

*cell*: smallest unit of a living thing that can perform all life processes. all living things are made of cells.

*nucleus*: the control center for the cell

*cytoplasm*: the gel-like substance in the cell that contains all the things that the cell needs to carry out life processes.

*chloroplast*: special parts in plant cells that collect the Sun’s energy and make the plant green.

*genus*: first part of the scientific name. A group of closely related living things.

*species*: the second part of the scientific name. A group of similar organisms that can mate and produce offspring.

*vertebrates*: animals with a backbone

*invertebrates*: animals without a backbone

**Key concepts for study:**

* Scientists use microscopes to study the details of cells because they make objects seem larger than they are.
* Both plant and animal cells contain a cell membrane, nucleus, and cytoplasm.  Plant cells also contain a cell wall and a chloroplast; animal cells do not
* Groups of cells form a tissue, groups of tissues form organs, groups of organs form organ systems
* Viruses can reproduce using other cells.
* There are two types of plants:  vascular and nonvascular.  Vascular plants have a system of tubes to support the plant and carry water and nutrients to the plant’s organs: leaves, stems, and roots.  Nonvascular plants pass water and nutrients from cell to cell, and do not have true leaves, stems, or roots.
* Plants reproduce by means of seeds, spores, or pollen.  Conifers (pine trees) and flowering plants both produce seeds.
* Some behaviors, such as lion cubs learning how to get food, are learned from watching their parents.
* Adaptations, such as bird feathers, or a zebra’s stripes, are physical traits that help animals move, get food, protect itself, and reproduce.  They are passed on from generation to generation.
* Animals migrate to find a place to reproduce or to find food.
* Insects have six legs and three main body parts.  Arthropods, such as spiders, have eight legs and two main body parts.
* Clams, arthopods, mullusks, and worms are all invertebrates.
* Birds, fish, amphibians, mammals, and reptiles are all vertebrates.
* Hibernating animals slow down body functions and store fat to conserve energy.