**What Is a Animal?**

**What characteristics do all animals have?**

Animals come in many shapes, forms, and sizes. Scientists estimate that there are between 1 and 2 million species of animals! Some, like whales and elephants, are bigger than a truck. Others, like dust mites, are microscopic.

**The Kingdom Animalia**

Scientists divide the Kingdom Animalia into two major groups: _________________ and _________________.

A vertebrate is an animal with a _________________.

An invertebrate is an animal _________________ a backbone.

About _________________ of all animals are invertebrates. This diverse group includes sponges, jellyfish, worms, insects, and mollusks. Only about _________________ of all animals are vertebrates which belong to the Phylum Chordata. Vertebrates include fish, amphibians, reptiles, birds, and mammals.

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<tr>
<th>Phylum</th>
<th>Estimated number of species</th>
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</thead>
<tbody>
<tr>
<td>Sponges</td>
<td>10,000</td>
<td>Flateworms</td>
<td>25,000</td>
<td>Mollusks</td>
<td>110,000</td>
<td>Arthropods</td>
<td>1,000,000</td>
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<td>Cnidarians</td>
<td>9,500</td>
<td>Roundworms</td>
<td>80,000</td>
<td>Annelids</td>
<td>9,000</td>
<td>Echinoderms</td>
<td>6,000</td>
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**All animals must perform certain functions to stay alive.**

These include response to the environment, feeding, digestion, respiration, transport of materials, and reproduction. The process of _________________ has produced great diversity in adaptations to these functions.

Despite this diversity, most animals share all of the following characteristics.

1. Animals are _________________ and have eukaryotic cells.

   Animals have different levels of organization. Some animals consist of cells with a few _________________ layers.

   Others are complex with _________________. Except for sponges, animal cells are arranged into _________________.

   Tissues are necessary to produce organs and organ systems. Tissues, organs, and organ systems are what enabled the evolution of organisms with large, _________________ bodies.

2. Animal cells lack _________________. A _________________ supports the tissues of some animals. The skeleton may be
or _________________. In some tissues, protein molecules found outside the cell membrane hold the cells together and provide support.

3. Animals have a period of _________________ development. Each animal starts out as a one-celled _zygote_ (a fertilized ____________) that divides into a multicellular _________________ (an organism in its earliest stage of development). During embryonic development, cells become specialized and _________________ form. The growth of tissues, organs, and organ systems requires a period of embryonic development.

4. Animals are __________________. A consumer is an organism that consumes _________________ other organisms. Animals cannot make their own _____________. To get energy and nutrients, they must eat other organisms or organic substances. This is a major characteristic that sets animals apart from _________________.

5. Animals can _________________. Being a consumer often requires movement in order to capture _________________. Most animals can move during at least some part of their life cycle.

6. Most animals have _________________ and _________________ tissue. Muscle tissue is made of muscle cells and allows animals to move. Nervous tissue is made of nerve cells and enables coordinated movement and _________________ to stimuli.

7. Animals are _________________ (a matched set of chromosomes in the cell nucleus from each parent). Their sex cells are haploid (a single set of chromosomes) and are produced by meiosis.