

Table 3.2. Glossary of terms used to describe phyla

<p>1. Body symmetry refers to the arrangement of the parts of an organism.</p> <p>Asymmetry. Lacking regularity or pattern in the arrangement of body parts.</p> <p>Bilateral symmetry. Having similar body parts divided by an imaginary axis or line. The right side is similar to the left side (like a mirror image), but the top is different from the bottom.</p> <p>Radial symmetry. Having similar parts radiating from the central axis of the body in a plane or cylinder, and can be divided into equal segments like a pie. The top is different from the bottom.</p>
<p>2. Body segmentation refers to the division of body parts into distinct units, not including legs. An animal is either segmented or non-segmented.</p> <p>Segmented. Having a series of body parts, or segments, one following the other. Segments are often alike, and can have repeated features, like gonads in each segment (as in some worms).</p> <p>Non-segmented. Having no repetition of body parts.</p>
<p>3. Body location refers to orientation of body features. Special location terms are used particularly with bilaterally symmetrical animals.</p> <p>Anterior. Referring to the head end, usually containing sensory organs.</p> <p>Posterior. Referring to the hind end of an animal, often containing an excretory vent.</p> <p>Dorsal. Referring to the upper or back surface of an animal.</p> <p>Ventral. Referring to the lower or front surface of an animal.</p> <p>Lateral. Referring to the side of an animal.</p>
<p>4. Skeleton refers to the support structure that gives the body shape and a place for attaching the tissues and organs of the body.</p> <p>Exoskeleton. A hard shell outside the epidermis (skin). Tissues and organs are attached to the inner surfaces of the shell.</p> <p>Endoskeleton. Hard plates or bones inside the epidermis with organs and tissues attached to the outer surfaces.</p> <p>Hydrostatic skeleton. Cavities inside the body that become rigid when filled with fluid under pressure, usually lacking hard parts.</p>
<p>5. Digestive tract refers to parts and arrangements of digestive structures.</p> <p>No digestive tract. There is no digestive cavity or tube.</p>

Saclike tract. Having a digestive pouch. The mouth and the anus are the same opening (like the opening in a balloon).

Complete digestive tract. Having a mouth, a digestive tube, and an anus (like an earthworm's).

6. **Nervous system** refers to parts and arrangements of nerve structures.

Dorsal nerve cord runs along the "top" (dorsal side) of the animal above (dorsal to) the digestive tract.

Ventral nerve cord runs along the "bottom" (ventral side) of the animal below (ventral to) the digestive tract.

Nerve net runs throughout the animal (as in a three-dimensional spider web).

Radial nerve cord fans out in rays from the center of the animal.

Ganglion (the plural is *ganglia*) is a small swelling of the nerve cord, which may be anywhere on the cord.

Ladder-like nerve cord may form one row or branch into as many as three parts. Each main branch is controlled by ganglia.

Brain is an enlarged anterior part of the nerve cord.

7. **Respiratory structure** refers to types of body parts where respiration takes place.

Skin or **epidermis**, the outermost layer of cells, allows oxygen to pass directly into the animal. If the skin allows sufficient gas exchange, there are no special organs for respiration in animals such as worms, sponges, or cnidarians.

Gills are thin, leaf-like organs that remove dissolved oxygen from the water. They appear in fish, clams, lobsters, and other water-breathing animals.

Lungs are organs that remove oxygen from the air. They appear in amphibians, reptiles, mammals, and other air-breathing animals (like snail and insects).

8. **Locomotion** refers to how animals move around (if they move).

Sessile. Attached to the bottom, unable to move around.

Motile. Able to move from place to place by crawling or swimming.

9. **Reproduction** describes how an organism passes its genetic material to future generations.

Sexual. Organisms that reproduce by the meeting of sex cells (usually sperm and eggs).

Asexual. Organisms that can reproduce without a sexual partner.

Clone. Many asexual organisms produce exact genetic copies of themselves called clones.

Bud. When an asexual organism reproduces by budding off a small piece of itself that grows into a new individual.

Colonial. Many asexually reproducing animals, like corals, living in groups or clusters, often attached to each other.

Solitary. Living singly, not as part of a group or cluster.

10. **Unique features** are features in each phylum not found in any other. Often these features are indicated in the name of the phylum. For example, the term *Arthropoda* means jointed feet. Arthropods have segmented and jointed exoskeletons not seen in any other group.