

Segmented Worms

- A. Annelids, segmented worms, have **setae** (bristlelike structures) to hold on to the soil and to move; they also have bilateral symmetry, a body cavity holding organs, and two body openings (mouth and anus).
- B. Earthworms have more than 100 segments and move using their setae and two sets of muscles in the body wall.
 - 1. Earthworms ingest soil which moves to the **crop** for storage, then to the **gizzard** for grinding, then to the intestine; wastes exit the anus and help fertilize the soil.
 - 2. Earthworms have a closed circulatory system and exchange oxygen and carbon dioxide through skin covered with watery mucus.
 - 3. Earthworms have a small brain which is connected to nerves in each segment; they are hermaphrodites that must exchange sperm with another earthworm to reproduce.
- C. Marine worms, or polychaetes, have segments with setae in bundles.
 - 1. Some polychaetes are sessile, and some build tubes around their bodies for protection.
 - 2. Some polychaetes such as the bristleworm are free-swimming.
- D. Leeches are segmented worms without setae; they feed on blood from other animals.
 - 1. Leeches are used in medicine to prevent blood from coagulating and to heal surgical sites.
 - 2. Leeches release chemicals that are being studied as treatments for heart and circulatory diseases, strokes, arthritis, and glaucoma.
- E. Segmented worms are valuable since they aerate the soil, produce medically useful chemicals, and provide food for many fish, invertebrates, and mammals.
- F. Segmented worms probably evolved in the sea and may have had a common ancestor with mollusks.

DISCUSSION QUESTION:

How do earthworms breathe? *They exchange carbon dioxide and oxygen through their skin.*