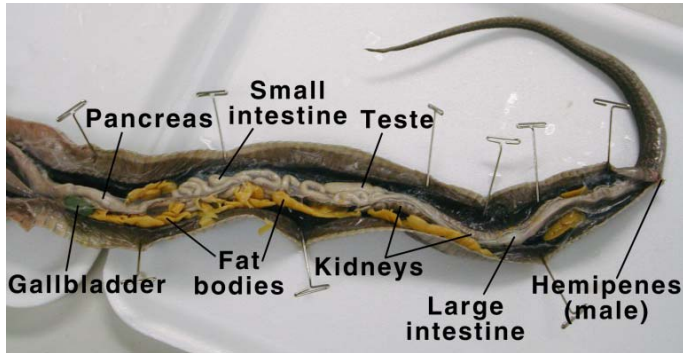


Stomach: A long sac that connects to the esophagus and to the small intestine in the lower part of the body. The stomach is strong and elastic, allowing it to stretch around prey that is swallowed whole.



Gallbladder: Small and round, it stores bile that aids in digestion. Bile gives the gallbladder a greenish color.

Pancreas: Located near the gallbladder, it looks like an extension of the stomach and connects to the intestine.

Small intestine: This starts below the stomach and forms many coils. Its main function is to absorb nutrients from the food it receives from the stomach.

Large intestine: Located below the small intestine. Any food that is not absorbed is passed to the large intestine, where excess water is absorbed, leaving behind only solid waste that is eliminated through the cloacal opening.

Gonads: These look similar to the intestine, but are not connected to it. Male snakes are identifiable by testes inside and hemipenes at the cloacal opening. Females have a pair of ovaries and may have eggs.

Kidneys: Located near the end of the large intestine. Although they are similar in color to the intestine, closer inspection reveals they are a different kind of tissue.

Snake

Dissection Guide



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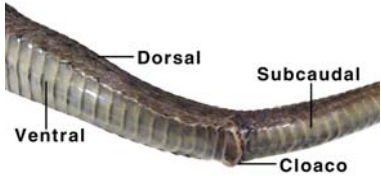
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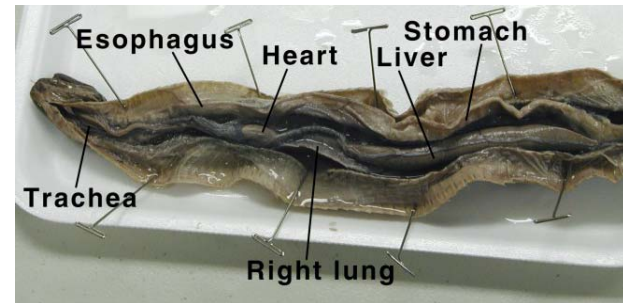
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Observation: External Anatomy

1. Before you get started, inspect the external anatomy of the snake. The most obvious feature of the snake is its skin, which is made up of **scales**. These are made of keratin and are cool and dry. They cover and protect the snake's body, retain moisture in the body, and the dorsal (back) scales display color variation to act as camouflage.
2. Flip the snake over to examine the ventral (belly) side. The ventral scales are designed to help the snake move. These also allow the snake to feel vibrations through the ground, giving it important information about other animals in its environment.
3. At the tail end, there is an opening called the **cloaca**. This serves as a means to excrete waste, to mate, and, in female snakes, is the place where eggs exit the body.A diagram of a snake's tail, showing the dorsal (back) and ventral (belly) sides. The subcaudal region is labeled, and the cloaca is shown as an opening at the end of the tail.
4. The small end portion of the tail that starts at the cloaca is known as the **subcaudal**.
5. Examine the head of the snake. Its eyes are located on top of the head to increase its field of vision. Transparent scales, known as brille, cover the eyes. They serve as a permanent protective covering.
6. Looking inside the mouth, find the tongue. A snake both tastes and smells with its tongue. It flickers its tongue in and out to pick up scent particles in the air. The tongue is forked because when the snake brings the tongue back into its mouth, the tips are inserted into two pockets in the mouth, known as the Jacobson's Organ. This is where the brain interprets the smells picked up by the tongue.
7. There is a tube-like protuberance with a hole in it in the mouth. This is the **epiglottis**, a tube attached to the trachea. It allows the snake to breathe while swallowing its prey.
8. All snakes have teeth, but only venomous snakes have fangs. The teeth are curved backward to prevent prey from escaping as well as aid the snake in swallowing its prey.
9. The lower jaw is also designed for swallowing prey. Instead of being one solid bone, the lower jaw is made of two separate bones that are attached by a stretchy ligament to allow the snake to stretch its mouth over prey that is larger than its head.

Dissection: Internal Anatomy

1. Lay the snake down on the dissecting tray, ventral side up.
2. Using scissors, make a long incision through the skin on the ventral surface, from the cloacal opening to the throat. As you cut, lift the skin up so that you only cut the skin and none of the organs underneath. After cutting through the skin, carefully pull it back and pin it down on either side, cutting the membrane layer underneath as necessary.
3. A thin membrane covers the organs to keep them securely in place while the snake moves. Carefully cut away this membrane to separate it from the organs. This is the longest part of the dissection process, but proceed slowly so as not to damage the organs.



Identify the major organs listed below:

Trachea: Also known as the windpipe, this dark-colored tube brings air into the lung. The epiglottis is attached to it.

Esophagus: This is the tube that food travels down to the stomach. It looks similar to the stomach and stretches well to accommodate whole prey.

Heart: Located just below the trachea, it is three-chambered like the hearts of frogs and most reptiles.

Right lung: Because a snake's body is long and cylindrical, its lungs are structurally different than other animals to fit inside the body. This long, narrow sac starts near the heart and is located between the liver and the stomach. It is about 1/3 the length of the snake's body. The left lung is absent in most snakes, so snakes basically have only one working lung.

Liver: A long orange colored organ on the snake's right side. It is the largest organ and can be found between the stomach and heart.