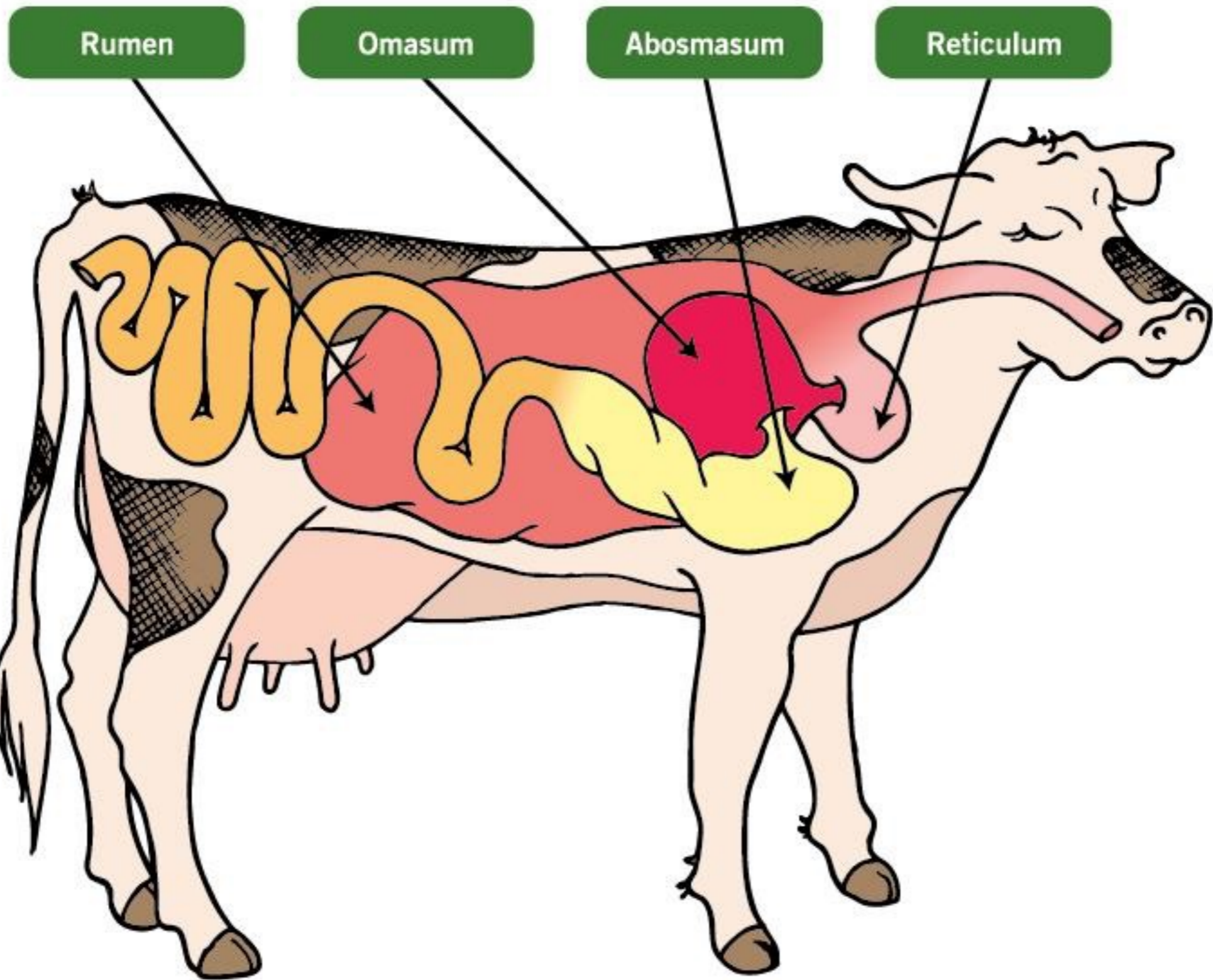




COWS AND THEIR DIGESTIVE SYSTEM

The one stomach has four compartments: 1. the rumen, 2. the reticulum, 3. the omasum, 4. and the abomasum.

In the Rumen, microbes ferment the feed and produce fatty acids, the cow's energy source. In addition, the microbes produce vitamins B, K, and amino acids.



Reticulum tissues form a network like a honeycomb and further breaks down the cellulose.

The **Omasum** looks like leaves or pages of a book. It absorbs water & other substances.

The **Abomasum** is the true stomach and releases hydrochloric acid and digestive enzymes necessary to break down feeds. The feed material then moves into the intestines.

All bovines have one true stomach. It is called the **abomasum**. Upstream from the abomasum, are three compartments of the esophagus. The first is the largest, the **rumen**, followed by the **reticulum**, and finally the **omasum**. Each plays a special role in the breaking down of cellulose, and each has an interior surface texture that is very distinctive.

The **rumen** resembles a towel. It occupies about three-quarters of the animal's entire abdominal cavity.



When food enters the rumen it comes in contact with bacteria and starts to ferment. This food will be gradually digested, but requires extended grinding to expose the surface of the leaves and grains to the bacteria. This is accomplished when the animal chews its cud. Chewing the cud is when previously swallowed food is regurgitated back up the esophagus (via reverse peristalsis) to the mouth for further chewing, with additional saliva and its enzymes being added. Humans do not possess this system, so we cannot digest the cellulose in raw leaves in salads, for example.

The reticulum has a honey-comb appearance.



The omasum resembles the pages of a book.

