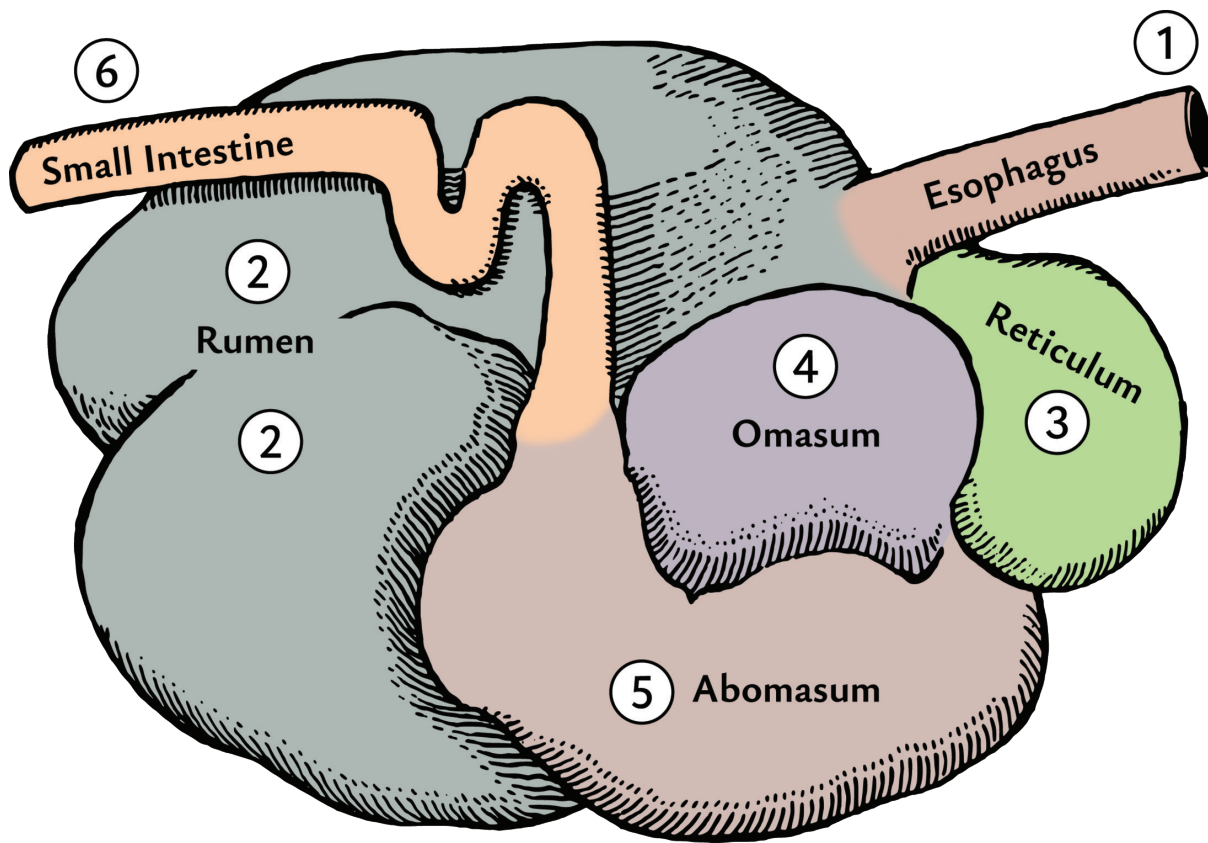


Modular Design in the Cow

The cow is designed with a combination of standard vertebrate modules, including the limbs, along with the unique structure of the cow's stomach. The cow's stomach is designed for the mutually beneficial relationship between the cow and the microorganisms that live in it.



When the cow swallows chewed food down the esophagus (1), it passes into the reticulorumen (2 and 3), where bacteria ferment it.

The cow then regurgitates the food to be chewed again as “cud” (rumination). It then passes through the reticulorumen (2,3) into the omasum (4), where some fatty acids are absorbed.

Smaller food particles pass into the true stomach, the abomasum (5), where they are digested. Nutrient absorption occurs in the small intestine (6).

Ruminant 4-chambered stomach

Image: Wikipedia