

Esophagus

Esophageal
sphincter

Longitudinal
muscle layer

Circular
muscle layer

Oblique
muscle layer

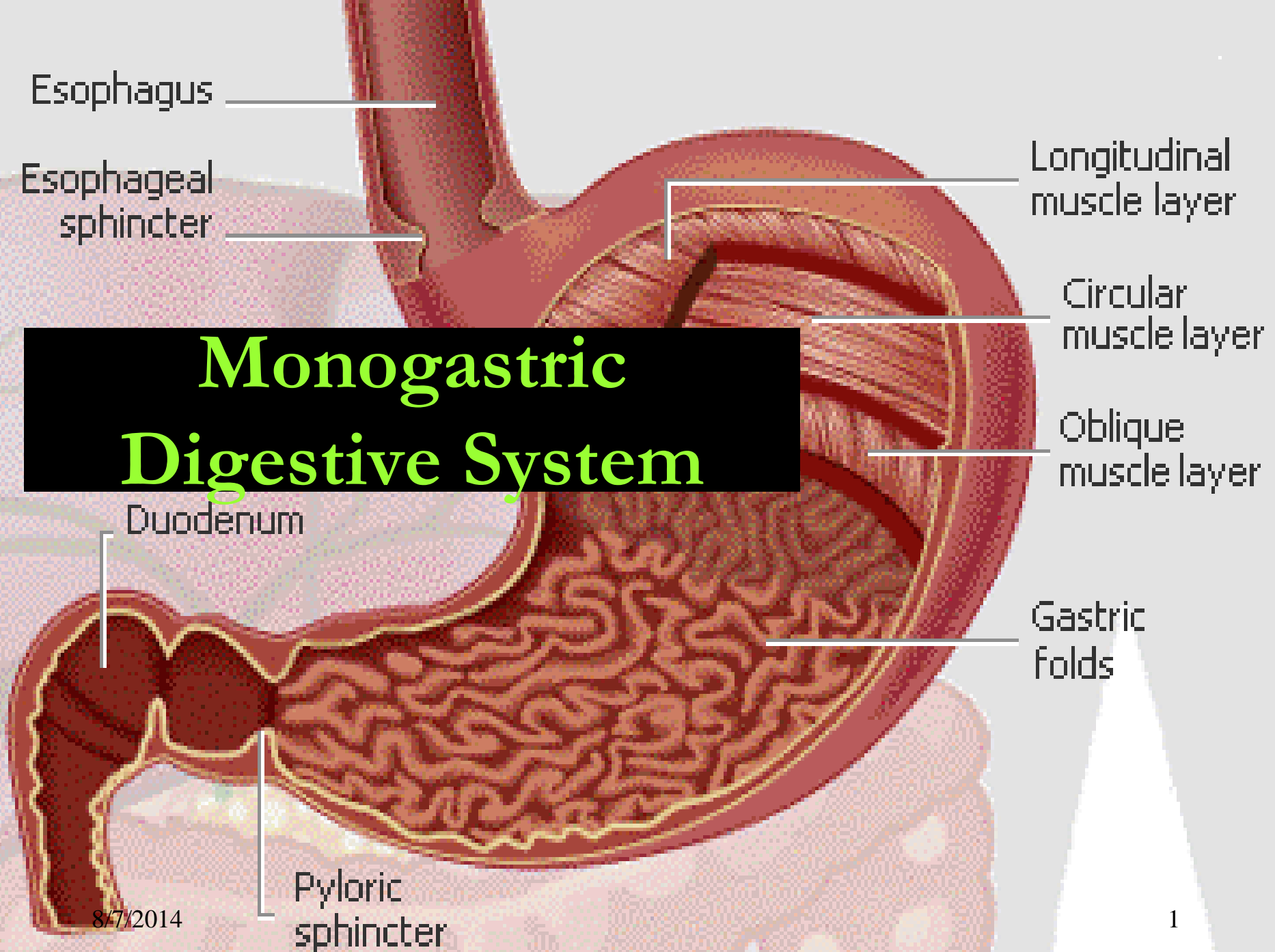
Gastric
folds

Monogastric Digestive System

Duodenum

Pyloric
sphincter

8/7/2014

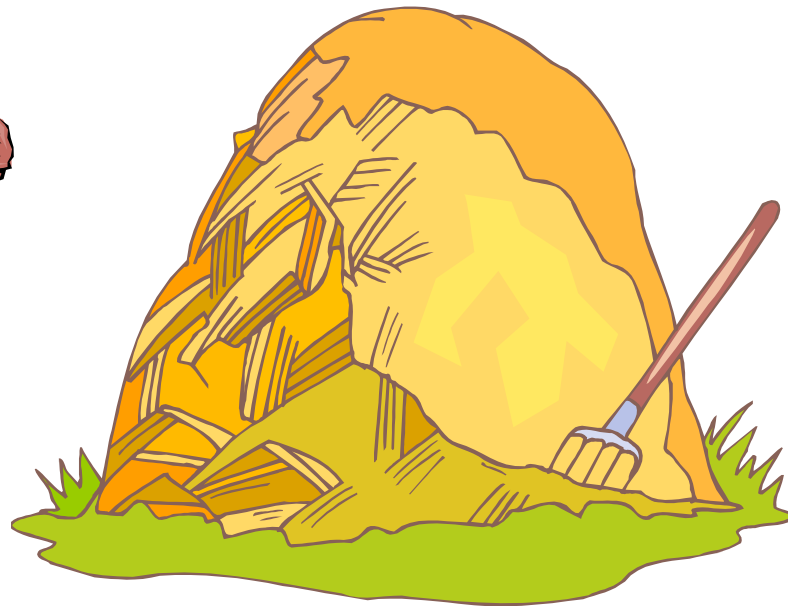


Different Digestive Systems

- The three different types of digestive systems are:
 - Monogastric
 - Modified Monogastric
 - Ruminant

What is Digestion?

Digestion is the process by which large, complex nutrient molecules are broken down into simpler molecules capable of being used by the organism for food.



Simple Stomach

Humans, swine, rabbits, chickens and horses all have a simple stomach, which is also known as a monogastric digestive system.

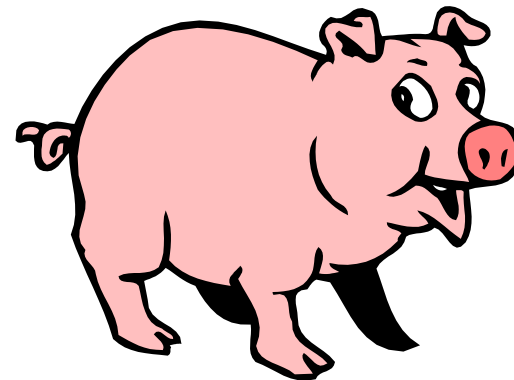
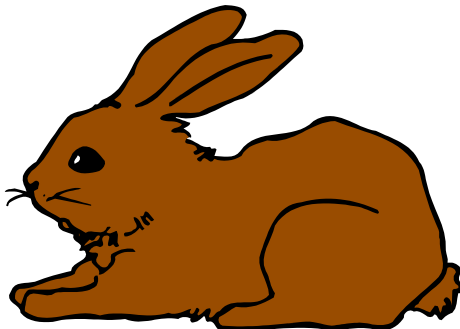
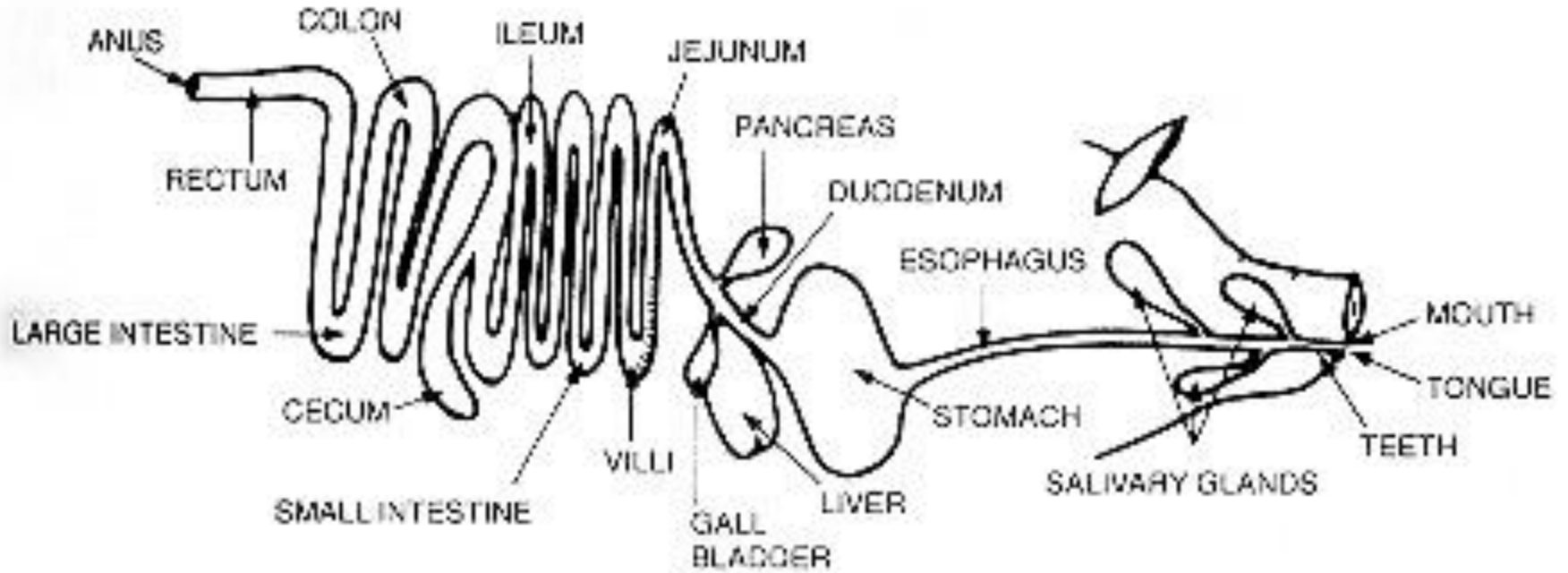


Monogastric



- Carnivores and omnivores have monogastric digestive systems.
- Monogastric systems have a simple stomach structure and only one compartment.
- Some animals with monogastric digestive systems are pigs and rabbits. Humans also have monogastric digestive systems.

Digestive Tract of the Monogastric Mammal



8/7/2014



Parts and functions of the monogastric mammal digestive system continued...

- **Small Intestine**

- enzymatic digestion and absorption
- Functions of the small intestine: digestion of proteins, carbohydrates, and fats; absorption of the end products of digestion
 1. **duodenum** - most digestion occurs here
 2. **jejunum** - some digestion and some absorption occur
 3. **ileum** - mostly absorption
- Bile - made in liver, stored in gall bladder, active in the small intestine, emulsifies fat to aid in digestion

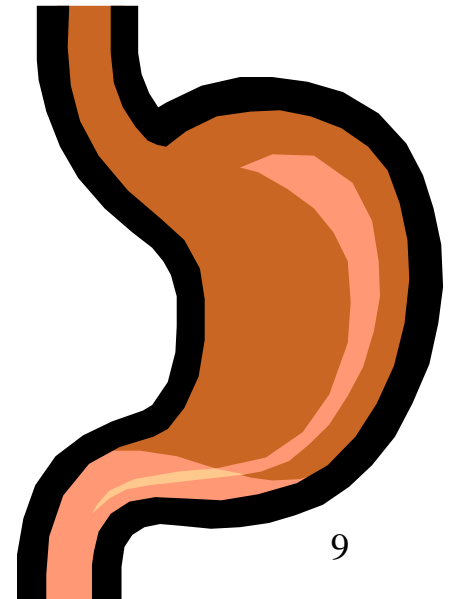
Parts and functions of the monogastric mammal digestive system continued...

•Enzymes in the small intestine

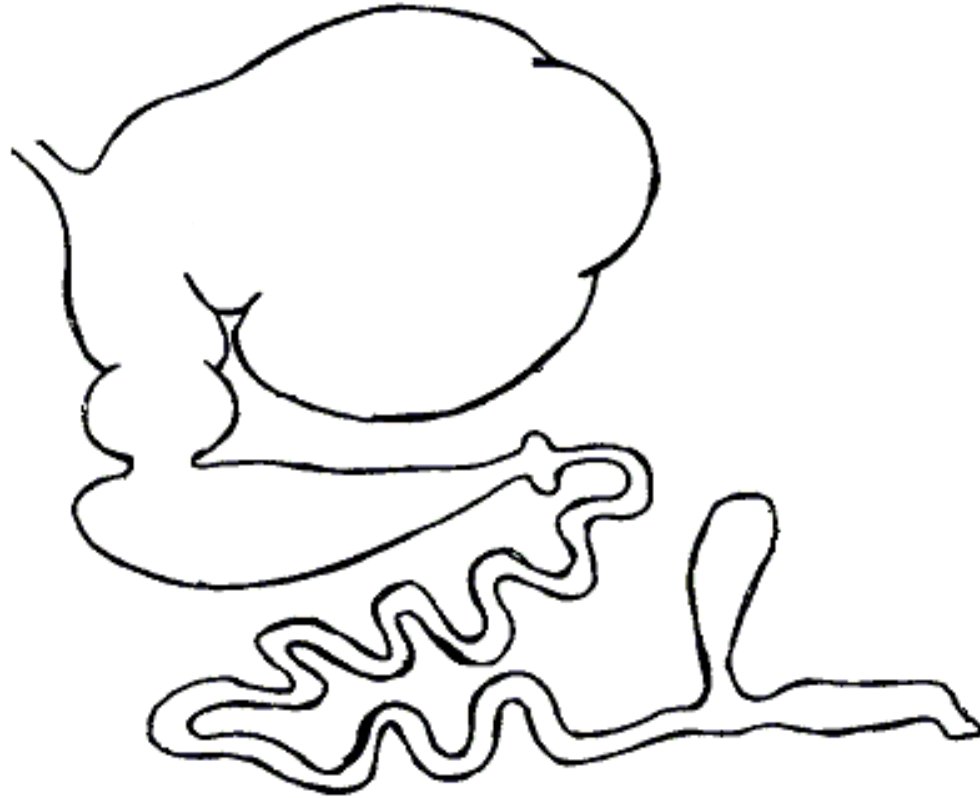
Enzyme	Function	Source
trypsin	digest proteins	secreted from pancreas
chymotrypsin		
carboxypeptidases		
pancreatic amylase	digests carbohydrates	secreted from pancreas
lipases	digests lipids	
disaccharidases	digests carbohydrates	secreted from small intestine
dipeptidases	digest peptides	

Parts and functions of the monogastric mammal digestive system continued...

- **Cecum** - essentially non-functioning in many monogastrics. Rabbits and horses have an enlarged cecum that acts like a rumen and is involved with microbial digestion (fermentation)
- **Large Intestine**
 - bacterial activity
 - water absorption
 - waste storage



What type of digestive system is this?

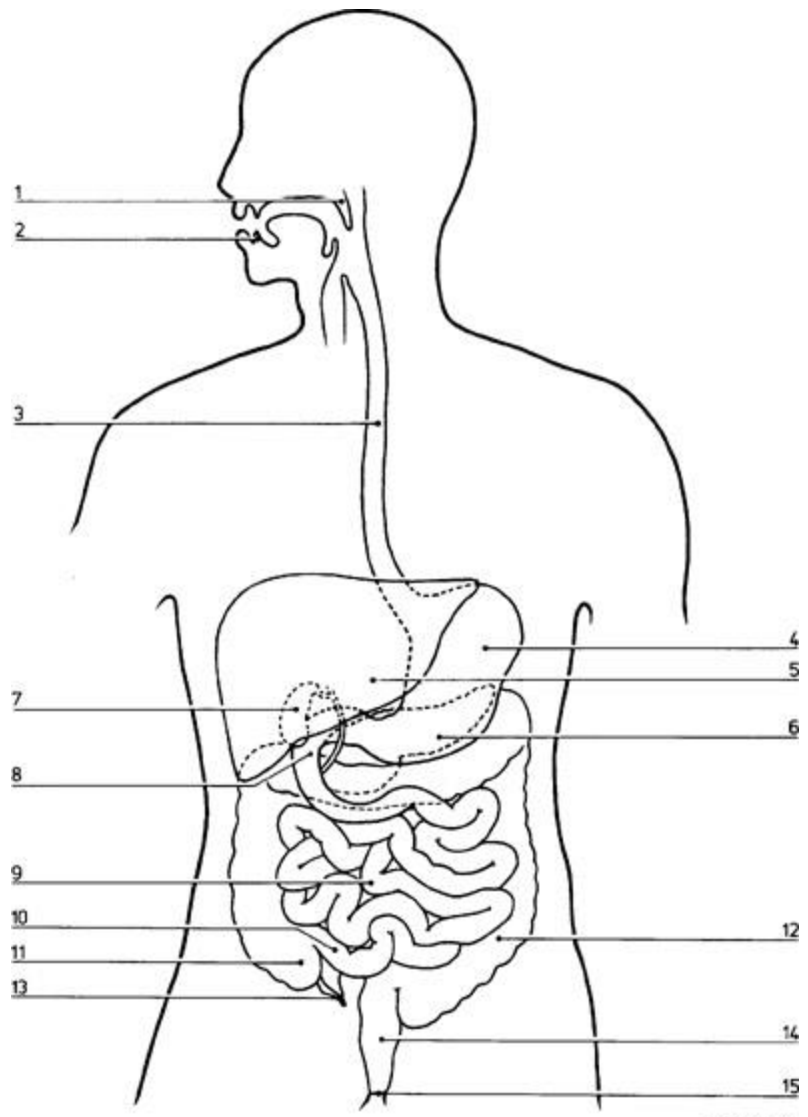


What type of system is this?



Monogastric

How does that compare to you?



8/7/2014

Monogastric Digestive Systems

Different Digestive Systems

- The three different types of digestive systems are:



Simple Stomach

Humans, _____, rabbits, _____ and horses all have a simple stomach, which is also known as a _____ digestive system.

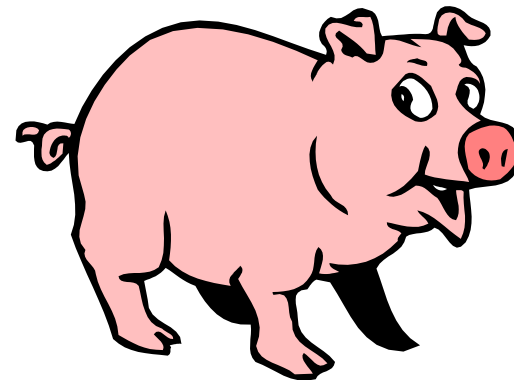
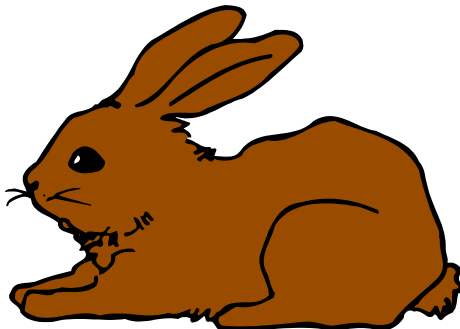
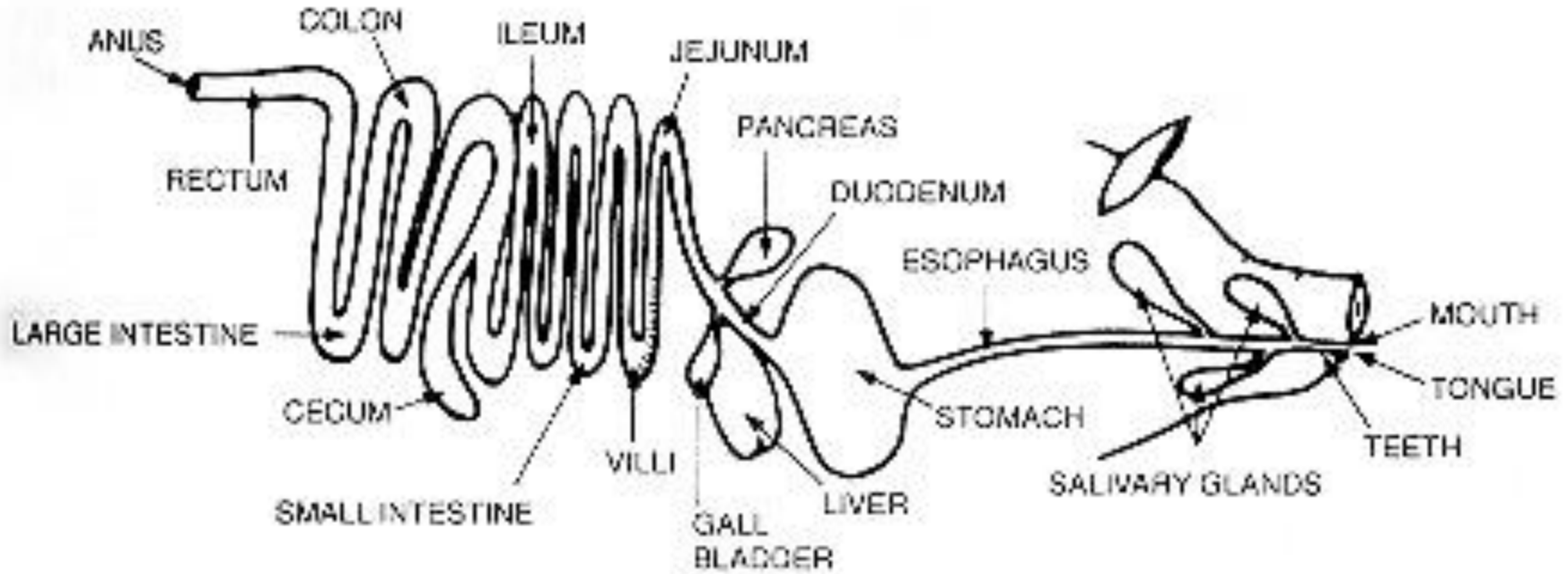


Monogastric



- _____ and omnivores have monogastric digestive systems.
- Monogastric systems have a simple stomach structure and only _____ compartment.
- Some animals with monogastric digestive systems are pigs and rabbits. _____ also have monogastric digestive systems.

Digestive Tract of the Monogastric Mammal



8/7/2014

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Parts and functions of the monogastric mammal digestive system continued...

• Small Intestine

-enzymatic digestion and absorption

-Functions of the small intestine: digestion of _____, carbohydrates, and _____; absorption of the end products of digestion

1. **duodenum** - _____

2. _____ - some digestion and some absorption occur

3. **ileum** - _____

-Bile - made in liver, stored in gall bladder, active in the small intestine, _____ to aid in digestion.

Parts and functions of the monogastric mammal digestive system continued...

- _____ in the small intestine

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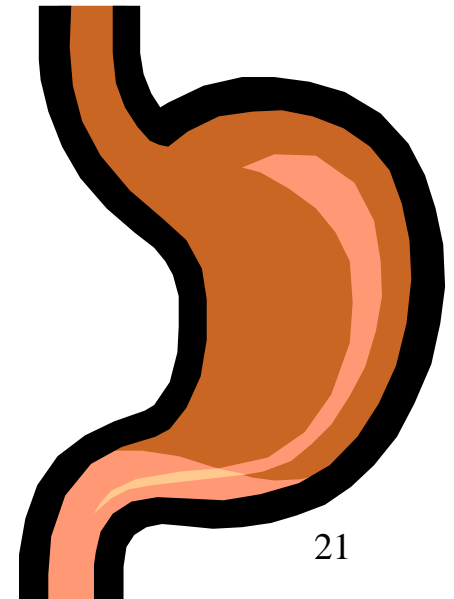
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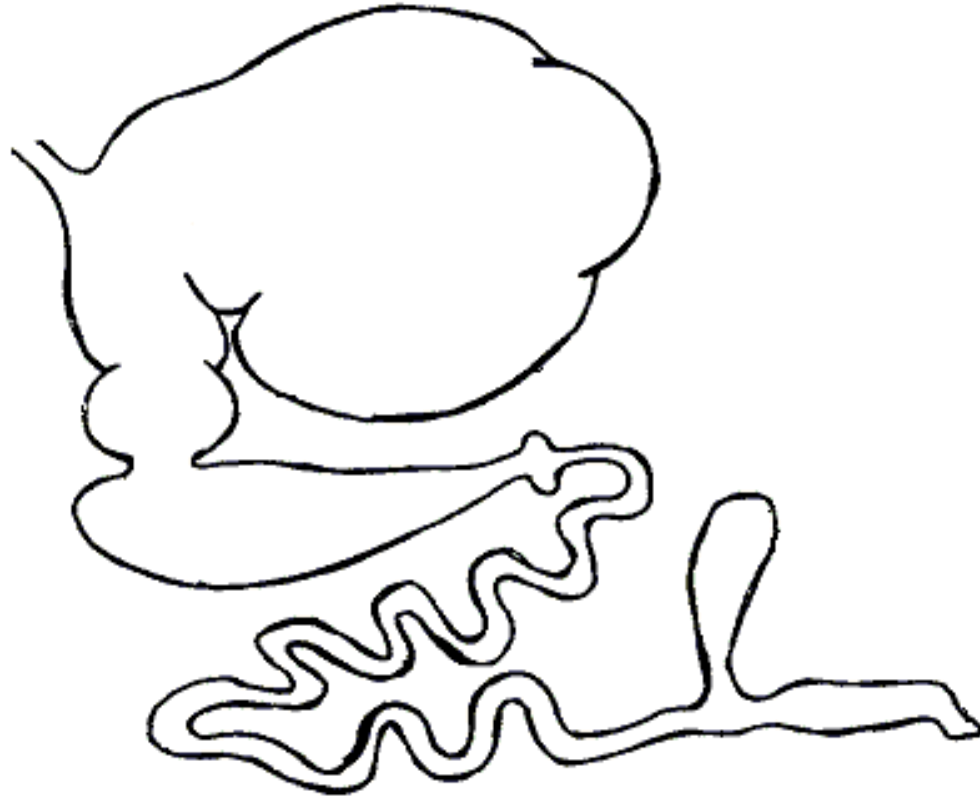
- **Large Intestine**

- bacterial activity

- _____
 - _____



What type of digestive system is this?



What type of system is this?



How does that compare to you?

