

## Animal digestion and nutrition

# Get a feel for the digestive system of a ruminant - teacher

*What does each compartment of the ruminant stomach feel like?*

Advanced preparation for this activity is required.

### Materials

4 buckets/tubs to represent 4 compartments of the ruminant digestive system

4 garbage bags to hold the buckets/hide them from students

Reticulum:

- formerly frozen waffles
- wet starting feed ration\*
- water

Rumen:

- rubber shower mat with “papillae-type projections”
- gelatin with feed mixed in it
- water
- gluten or flour

Omasum:

- shower loofahs
- wet distillers grain\*\*
- water

Abomasum:

- plastic wrap bunched up
- hair gel
- wet distillers grain\*\*

\*Starting feed ration such as a textured calf feed starter may be found at a feed mill, or a store such as Tractor Supply or Family Farm and Home store, or can be made with corn, molasses, oats, and any pelleted food (chicken or rabbit feed).

\*\*Most local feed mills or stores (mentioned above) will carry distillers grains. Rice bran or soaked/soggy grape nuts cereal will give a similar effect (most appropriate for the abomasum portion to show the progression of breakdown).

### Procedure

Set up the four buckets filled with different items inside to replicate the four compartments of a ruminant's stomach. Use the materials to “fill” each compartment of the stomach. Each bucket should be placed inside a large garbage bag and students will have to determine what part of the stomach it is based on purely by feel. Add potent feeds so that each experience will have a certain amount of smell to it as well. Molasses works well for the **reticulum** model. It has a sweet aroma. Explain that it tastes sweet like it smells so that the cow/calf wants to eat it. For the **rumen**, add dill pickle juice or vinegar to provide a fermentation smell.

*This activity was adapted from the NAAE Communities of Practice*

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