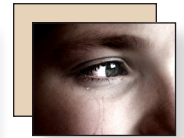


kids' kreation



RUMINANTS

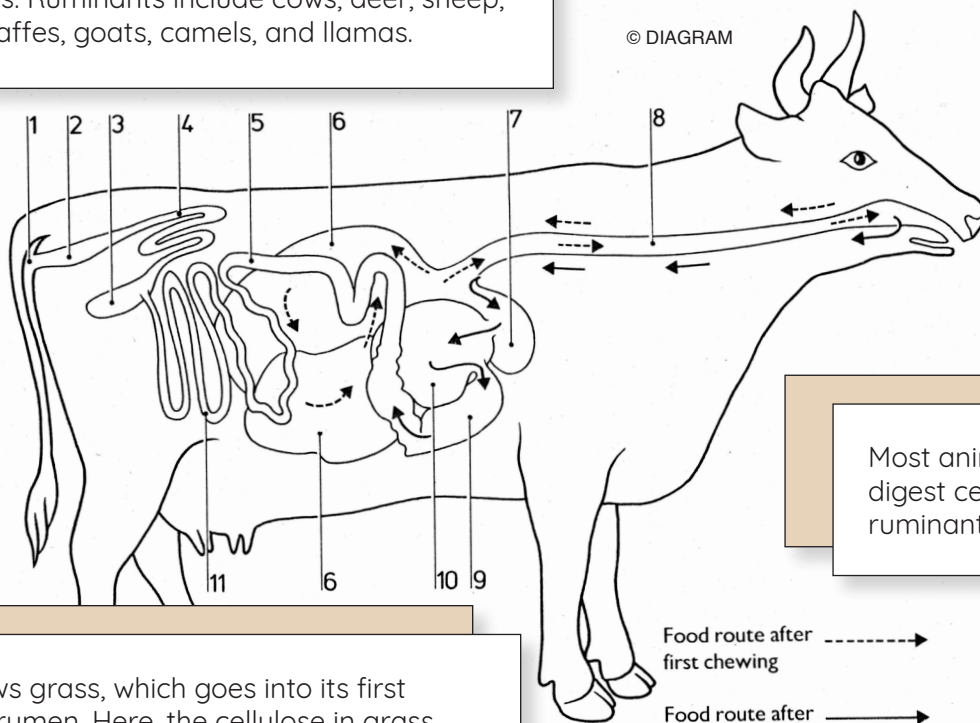
Christ's ingenious way of getting energy from grass

Jesus gave cows four stomachs: the rumen, reticulum, omasum, and abomasum. The rumen and the reticulum can hold up to 80 gallons of liquid!

Ruminants are mammals with bacteria in their stomachs that can digest cellulose, a tough material found in plants. Ruminants include cows, deer, sheep, antelopes, giraffes, goats, camels, and llamas.

© DIAGRAM

- 1 Anus
- 2 Rectum
- 3 Cecum
- 4 Colon
- 5 Duodenum
- 6 Rumen
- 7 Reticulum
- 8 Esophagus
- 9 Abomasum
- 10 Omasum
- 11 Small intestine



Most animals cannot digest cellulose, ruminants can.

A cow swallows grass, which goes into its first stomach, the rumen. Here, the cellulose in grass is partially broken down by bacteria in a process known as fermentation.

Food route after first chewing

Food route after second chewing (chewing the cud)

After several hours, a bolus of grass (cud) is regurgitated into the cow's mouth to be chewed. The grass is then swallowed again, passing through the reticulum to the omasum.

The grass is churned in the omasum and passed on to the abomasum for further digestion.

WORD SEARCH

WORD BANK

ACID	EAT
CHYME	GASTRIC
COW	GIZZARD
CROP	PELLET
DIGEST	SOVEREIGN
DOG	STOMACH

F C I R T S A G I K
 N A L A Y M B C R Z
 C G I Z Z A R D I G
 T S I D L E N I B D
 E T A E H M T G F O
 L O C V R E P E N G
 L G O O M E D S Q C
 E C W Y P H V T R U
 P W H H C A M O T S
 I C Q E J J P X S K

FAMILY ACTIVITY:

Owl pellets



Owls are unique among birds because they usually eat their prey whole, and because of weak stomach acids are unable to digest the fur, feathers, bones, and teeth of the animals they eat. If you are able to find an owl pellet, you can then discover what your neighborhood owl has been eating.

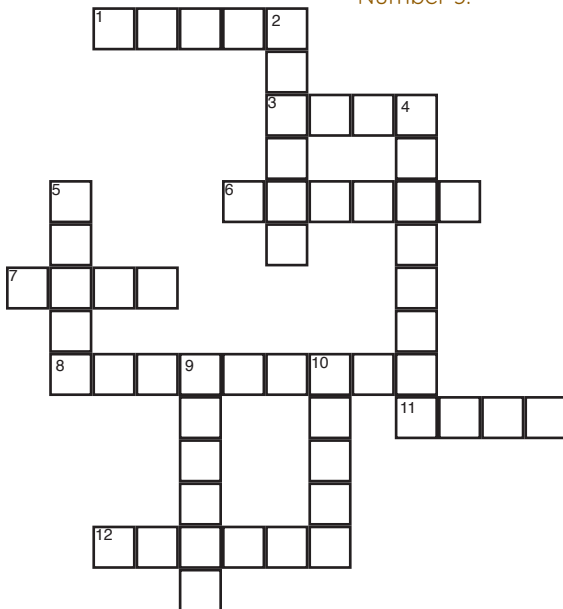
Although owls sometimes live in cities, you are more likely to find evidence of owls in and around open fields and woodlands. Search near the base of trees (the daytime roosts or nighttime perches of owls) for what looks like a fuzzy, oblong ball of fur and/or feathers. Owl pellets tend to indicate the size of the bird—generally the bigger the owl, the larger the pellet produced. Pellets can be quite small, but with large birds can reach the size of four inches long and two inches in diameter.

Carefully collect the pellet in a small bag and transport it home for further study. Place the pellet on a paper towel and very carefully tease the pellet apart using tweezers. Try to identify the skeletal remains of the animals it has eaten. Don't be surprised to find more than one skull (owls may eat several animals before regurgitating a pellet). You may also find the hard remains of insects.

Owl pellet—© MyImages - Micha / Shutterstock

CROSSWORD

The words used in the CROSSWORD are taken from the articles found in **CREATOR** Volume 25 Number 3.



Answers to CROSSWORD found in *kids' kreation* # 102

Across: 2. BACTERIA 3. MIGRATE 5. ARCTIC
 7. ECOSYSTEMS 9. SPIDERS
Down: 1. OBEDIENCE 2. BEAUTY 4. EARTH
 6. CICADAS 8. SNAKE

Across

1. Solid food stays in our stomachs two to six _____.
3. _____ usually swallow their prey whole.
6. The honeybee shares _____, stored in its social stomach, with other members of its family.
7. The stomach of a _____ whale can hold one ton of food.
8. The _____ is a tube that allows food to pass from your mouth to your stomach.
11. The Lord Jesus Christ placed the stomach of a lobster in its _____.
12. The Everglade Kite eats only _____.

Down

2. The gizzards of some birds contain fine _____ to help grind food, such as hard seeds.
4. The _____ can turn one of its two stomachs inside-out.
5. God placed a _____ on either end of your stomach to control the flow of food in and out.
9. _____ eat bamboo.
10. The Creator gave the vulture strong stomach acids to kill _____ in its food.