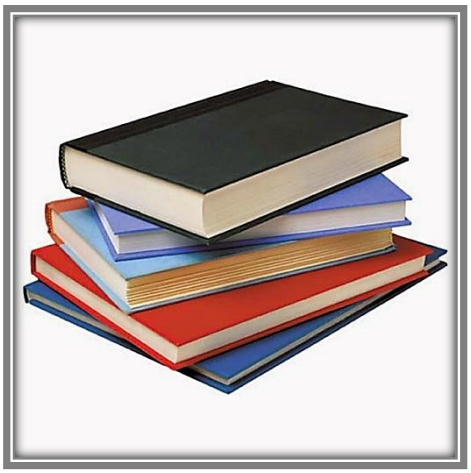
МИНИСТЕРСТВО ОБРАЗОВАНИЯ РОССИЙСКОЙ ФЕДЕРАЦИИ
ФЕДЕРАЛЬНОЕ ГОСУДАРСТВЕННОЕ БЮДЖЕТНОЕ
ОБРАЗОВАТЕЛЬНОЕ УЧРЕЖДЕНИЕ
ВЫСШЕГО ОБРАЗОВАНИЯ
ВОРОНЕЖСКИЙ ГОСУДАРСТВЕННЫЙ АГРАРНЫЙ
УНИВЕРСИТЕТ ИМ. ИМПЕРАТОРА ПЕТРА I

Кафедра русского и иностранных языков

ENGLISH FOR VETERINARY MEDICINE 2

Учебное пособие по дисциплине «Иностранный язык» для обучающихся по всем направлениям факультета ветеринарной медицины и технологии животноводства



Воронеж 2017

УДК 811.111(075)
ББК 81.2-923я7
С14

Рецензенты:

Сысоев П.В., доктор педагогических наук, профессор, начальник управления научно-исследовательской деятельности студентов и молодых ученых Тамбовского государственного университета им. Г.Р. Державина;

Щевелева Г.М., доктор педагогических наук, профессор кафедры истории, философии и социально-политических дисциплин Воронежского государственного аграрного университета им. императора Петра I.

Саенко Е.С., Соломатина А.Г.

С14 English for Veterinary Medicine 2: учебное пособие для обучающихся по всем направлениям факультета ветеринарной медицины и технологии животноводства / Саенко Е.С., Соломатина А.Г.– составители. – Воронеж: ФГБОУ ВО Воронежский ГАУ, 2017. – 110 с.

ISBN 978-5-7267-09512
ISBN 978-5-7267-09536

Данное учебное пособие содержит языковой материал академического характера и включает изучение специальной терминологии в области ветеринарии. Материал учебного пособия подобран не только с учетом профессиональных интересов обучающихся, но и с точки зрения его новизны и актуальности на сегодняшний день. В результате освоения материала данного учебного пособия, обучающиеся сформируют и усовершенствуют навыки чтения и перевода профессионально-ориентированных текстов и расширят лексический запас в академической и научной сфере. Учебное пособие также содержит курс повторения грамматики английского языка.

В раздел для дополнительного чтения вошли актуальные профессионально-ориентированные тексты, содержащие информацию по проблемам биологии, ветеринарной медицины, экологии, сельского хозяйства и т.д.

Для обучающихся по всем направлениям факультета ветеринарной медицины и технологии животноводства, продолжающих изучение английского языка на уровне Pre-Intermediate – Intermediate

ISBN 978-5-7267-09512
ISBN 978-5-7267-09536

MAP OF THE BOOK

UNIT 1

VOCABULARY ***Non-contagious Diseases***

1. Read the article. Find the synonyms from the article to the words and phrases below. Then translate the article.

1. heart disease
2. present from birth
3. passed on through generations
4. occur later in life
5. tiredness
6. neoplasms
7. hemanalysis
8. additives

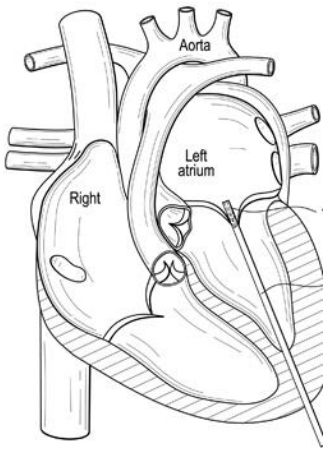
HEART DISEASE IN DOGS

Cardiovascular disease is any condition of the heart or blood vessels that disrupts the normal function of the heart and vasculature to deliver oxygenated blood to the body. Heart diseases can be congenital or acquired. Many heart diseases in animals are heritable.

The most common form of heart disease in dogs is valvular disease. Heartworm disease causes 13% of heart disease. Myocardial disease makes up 8% of heart disease and primarily affects large breed dogs of all ages. Heart failure is not a specific heart disease, but rather is the final common manifestation of many types of heart disease.

The clinical signs of heart disease depend on the type of disease and severity. The most common symptoms are fatigue, reduced willingness to walk or exercise, difficulty breathing, loss of appetite, weight loss, a distended abdomen, trouble sleeping or coughing.

A veterinarian often diagnoses heart disease by reviewing the medical history and signs, conducting a physical examination, and interpreting the results of specific tests or imaging procedures. The physical examination includes using a stethoscope to listen to the sounds made by the dog's internal organs, especially the heart, lungs, and abdominal organs, and examining parts of the body by feeling with hands and fingers. Imaging techniques include x-rays; electrocardiography; and echocardiography. Most cardiovascular diseases can be diagnosed by physical examination and x-rays. Electrocardiography is specific for diagnosis of arrhythmias. Echocardiography is excellent for detecting heart tumors, or for detecting pericardial disease. Heartworm disease is diagnosed best by performing a blood test to detect the presence of female heartworms.



Treatment depends on what specific heart problem the dog has and what may be causing it. Medications help the heart work and correct irregular heartbeats and can also be used to slow fluid buildup in the lungs. Surgery is applied to correct a torn valve or to insert a pacemaker to correct the heartbeat. A prescription of low-salt diet helps decrease fluid buildup in the dog's body. Vets also recommend supplements. Dogs with congestive heart failure may benefit from vitamin B supplements, taurine, or carnitine. Antioxidants like Coenzyme Q and vitamin E may also help. Medication can also clear heartworms or bacterial infections.

2. Answer the questions.

1. What is cardiovascular disease?
2. What is the most common form of heart disease?
3. What are the most common clinical signs of heart disease?
4. What is heart failure?
5. What does the physical examination include?
6. What types of imaging procedures are used to diagnose heart disease?
7. How is heartworm disease diagnosed?
8. How do medications help?
9. When is surgery applied?
10. What supplements are recommended in case of heart disease?

3. Complete the sentences.

1. Cardiovascular disease can be _____, acquired or heritable.
2. The most common form of heart disease in dogs is _____ disease.
3. Myocardial disease primarily affects large _____ dogs of all ages.
4. Heart failure is the final common _____ of many types of heart disease.
5. The most common symptoms are fatigue, reduced _____ to walk or exercise, difficulty _____, loss of _____, weight loss, a _____ abdomen, trouble sleeping or _____.
6. The physical _____ includes using a _____ to listen to the sounds made by the dog's internal organs.
7. _____ is specific for diagnosis of arrhythmias.
8. Echocardiography is excellent for detecting heart _____.
9. _____ disease is diagnosed best by performing a blood test to detect the presence of _____ heartworms.
10. Medications help the heart work and correct irregular _____ and can also be used to slow _____ buildup in the lungs.

4. Choose the correct alternative. Translate the article.

CARDIOMYOPATHY IN CATS

Cardiomyopathy is the most common form of heart disease seen in cats, and the most common cause of heart 1) ***failure/loss.***

Some early signs of heart disease are a heart murmur, abnormalities in heart 2) ***weakness/rate,*** and cardiac rhythm disturbances.

Various diagnostic tests can be done to assist the diagnosis of heart disease in cats.

Electrocardiogram can be very useful for the 3) ***detection/prescription*** of cardiac rhythm disturbances.

X-rays are helpful for showing changes in the overall shape and size of the heart, and for detecting a buildup of 4) ***supplement/fluid.***

Echocardiography allows a view of the 5) ***internal/infectious*** dimensions of the heart, the wall thickness, and the contractility of the heart to be assessed. It can also show where a heart murmur is originating from.

When heart failure develops, various drug 6) ***heartworms/treatments*** may be available to help improve and manage the condition.

Beta-blockers - atenolol or propranolol, which slow down the heart rate and reduce the 7) ***x-ray/oxygen*** demand of the heart.

Pimobendan increases the strength of the contraction of the heart and also acts to dilate blood vessels which may help the flow of 8) ***blood/arrhythmias.***

Diuretics help remove the fluid buildup from the 9) ***antioxidants/lungs.***

Unfortunately, the true 10) ***effectiveness/surgery*** of many drugs in treating heart disease in cats is unknown, and more clinical trials are needed.

5. Translate.

1. сократительная способность сердца
2. внутренние размеры сердца
3. шум в сердце
4. скопление жидкости
5. клинические исследования
6. нарушения сердечного ритма
7. ультразвуковое исследование сердца
8. расширять кровеносные сосуды

6. Translate. Then read the article.

1. degenerative joint disease
2. a joint capsule
3. to afflict
4. an injury
5. surface
6. to assess
7. to wear down
8. anti-inflammatory
9. lameness
10. injectable
11. stiffness
12. glucosamine
13. septic arthritis
14. extent
15. detrimental
16. stem cells
17. a compromised immune system
18. corticosteroids

DEGENERATIVE JOINT DISEASE IN HORSES

Arthritis, often called degenerative joint disease (DJD), is a condition that afflicts many horses. Arthritis is not only painful, but makes it difficult for a horse to move. The condition is normally characterized as a slowly developing chronic disease of the joint in which the joint surface wears down, resulting in pain and subsequent lameness.

The most common symptoms of the disease are stiffness, joint swelling, and lameness.

There is also a type of arthritis called septic arthritis. This is an acute form of DJD caused by a bacterial infection. This is extremely detrimental to the horse and can be difficult to treat, as it is hard to get antibiotics into the joint capsule. Septic arthritis is seen in foals that have compromised immune systems or systemic disease, and also if there has been a traumatic injury near a joint.

Veterinarians diagnose arthritis in horses with a physical examination and a lameness exam. Sometimes x-rays are used to assess the severity of the arthritis, especially if the horse is still being ridden.

Arthritis cannot be treated, but in many cases, it can be managed. For example, non-steroidal anti-inflammatory drugs are a common management tool. An oral or injectable joint supplement, such as glucosamine, may also be prescribed. Direct injection of the affected joints with corticosteroids may also help. New technologies, such as the injection of stem cells into affected joints are also being developed and offered by some veterinarians.

A horse with arthritis can be managed with a proper exercise program, medications and supplements, and even direct joint therapy. The extent of the management will vary greatly depending on the age of the horse and the work it is doing.

7. Match.

1. What is arthritis?
2. What are the most common symptoms of arthritis?
3. What is septic arthritis?
4. When does septic arthritis develop?
5. How is arthritis diagnosed?
6. How can arthritis be managed?

A. Veterinarians diagnose arthritis in horses with a physical examination, a lameness exam, and x-rays.
B. It is a slowly developing chronic disease of the joint in which the joint surface wears down, resulting in pain and subsequent lameness.
C. Non-steroidal anti-inflammatory drugs, an oral or injectable joint supplement, direct injection of the affected joints with corticosteroids, injection of stem cells into affected joints are the most common ways of arthritis management.
D. Stiffness, joint swelling, and lameness.
E. It develops when foals have compromised immune systems or systemic disease, and also if there has been a traumatic injury near a joint.
F. It is an acute form of DJD caused by a bacterial infection.

8. Complete the extract with the following words: *euthanasia, connective, hooves, fevers, progresses, risk.* Then translate.

LAMINITIS

Laminitis is an inflammation of the laminae in horse's 1) _____. The tissue is a type of 2) _____ tissue that attaches the coffin bone to the hoof wall. It is a very

serious condition that can result in lameness in horses and may even lead to its eventual 3) _____. Typically, the condition affects the front hooves, but it can affect all four. The condition 4) _____ through four stages, which include the developmental stage, acute, subacute, and chronic. Obesity, high 5) _____, and working on hard surfaces are considered to be 6) _____ factors.

9. Match.

1. Obesity	A. инструмент сдерживания развития болезни
2. a hoof	B. болезненный, причиняющий боль
3. a management tool of the disease	C. воспаление пластин копыта
4. joint swelling	D. копыто
5. painful	E. копытная кость
6. subacute	F. роговая стенка копыта
7. inflammation of the hoof laminae	G. ожирение
8. coffin bone	H. отёк сустава
9. hoof wall	I. подострый

10. Match. Then translate.

1. Benign
2. Malignant
3. Chemotherapy
4. Immunotherapy
5. Hyperthermia
6. Cryosurgery

A. surgery using the local application of intense cold to destroy unwanted tissue
B. cancerous
C. the treatment of disease by the use of chemical substances, especially the treatment of cancer by cytotoxic and other drugs
D. exceptionally high fever especially when induced artificially for therapeutic purposes
E. not harmful
F. the prevention or treatment of disease with substances that stimulate the immune response

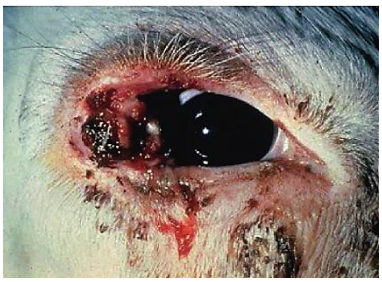
11. Read and translate the article.

NEOPLASIA, TUMORS AND CANCER

Neoplasia is generally the uncontrolled, abnormal growth of cells or tissues in the body, prior to a lump or abnormal growth developing. Once developed, the abnormal growth is called a neoplasm or tumor. Tumors can be benign or malignant.

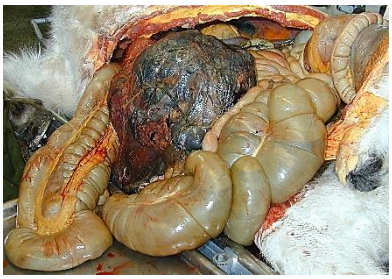
A benign tumor is a mass of cells that lacks the ability to invade neighboring tissue or spread throughout the body. Benign tumors typically grow more slowly than malignant tumors.

Malignant tumors usually grow more aggressively, they invade the tissues surrounding them and can metastasize. The actual swelling or appearance of a neoplasm is often described as a “tumor” or “mass”. The word “cancer” is often used instead of neoplasia, but only malignant neoplasms are true cancers.



Physical examination and a pet’s medical history may lead a veterinarian to suspect neoplasia. Additional tests, such as x-rays, ultrasound examination and blood-tests may be necessary to confirm the diagnosis. In some cases, taking a tissue sample (biopsy) from the neoplasm for microscopic examination may also be necessary. This examination can help determine whether the neoplasm is benign or malignant.

Common signs of neoplasia in small animals include: abnormal swellings that persist or continue to grow, sores that do not heal, weight loss, appetite loss, persistent lameness or stiffness, offensive odor, difficulty eating or swallowing, difficulty breathing, urinating, or defecation.



The various types of neoplasia require different individual treatment. This may include one, or a combination, of therapies such as surgery, chemotherapy, immunotherapy, radiation, hyperthermia or cryosurgery. Some types of neoplasia can be cured, while other types can only be managed to decrease their spread to other organs and tissues of the body. Early detection of a neoplasm and the type of neoplasm are often the greatest factors which determine the success of treatment.

12. Decide if the statements are true or false. Correct false statements.

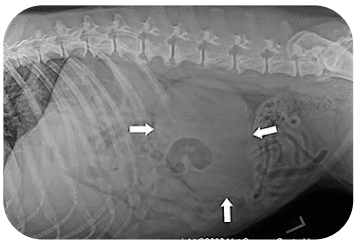
1. Neoplasia is generally normal growth of cells or tissues in the body.
2. Tumors can be harmless or cancerous.
3. Benign tumors typically grow more aggressively than malignant tumors.
4. Malignant tumors can metastasize.
5. X-rays, ultrasound examination and blood-tests may be necessary to confirm the diagnosis.
6. Physical examination can help determine whether the neoplasm is benign or malignant.
7. Surgery, chemotherapy, immunotherapy, radiation, hyperthermia or cryosurgery are common signs of neoplasia.
8. Some types of neoplasia can be cured, while other types can only be managed.

13. Translate the verbs.

1. инвазировать
2. подтверждать
3. расти, развиваться
4. определять
5. давать метастазы
6. заживать
7. подозревать
8. требовать

14. Match the photos with the common types of neoplasia in pets.

A. Skin neoplasia
B. Bone neoplasms
C. Mammary neoplasms
D. Abdomen neoplasms
E. Neoplasia of the mouth
F. Lymphoma

1. ___ 	2.___ 	3. ___ 
4. ___ 	5. ___ 	6. ___ 

15. Complete the paragraphs with the correct type of neoplasia. Then translate.

1) _____ is common in older dogs, although developing tumors are usually benign. Cats also develop skin neoplasms, most of which are malignant.

Both cats and dogs can develop 2) _____. In dogs, mammary cancer is the most frequently diagnosed cancer, accounting for 70% of all cancer cases. In dogs, 50% of all breast neoplasms are malignant, whereas in cats, more than 85% of breast neoplasms are malignant. Spaying female pets before 12 months old will greatly reduce the risk of this type of neoplasia.

3) _____ is common in dogs but less common in cats. Symptoms include tumors on the gums, bleeding, bad breath, or difficulty in eating. Because many swellings in these areas are malignant, early, aggressive treatment is essential.

4) _____ is a common form of neoplasia in dogs and cats, characterized by swelling of one or several lymph nodes in the body. In cats, the cause of lymphoma can be the contagious feline leukemia virus.

5) _____ are common. Because of their location, they can be difficult to detect and an early diagnosis is unlikely. Symptoms of abdominal neoplasia are weight loss or abdominal swelling.

6) _____ are seen most often in large-breed dogs or dogs older than 7 years; they are rarely seen in cats. The most common sites are the leg bones, near the joints. Symptoms include persistent pain, lameness, and swelling in the affected area.

16. **Page 96 FURTHER READING.** ***Hypoglycemia in pigs.***

GRAMMAR

TENSE REVIEW *Present Simple, Present Continuous, Past Simple, Past Continuous*

1. Complete with *do, does, is, are.*

1. _____ treatment depend on what heart problem the dog has?
2. _____ the animal having difficulty breathing?
3. Many diseases in animals _____ heritable.
4. _____ vets recommend supplements?
5. _____ Steve work as a veterinary physician?
6. Currently, Lily _____ looking after sick animals on the farm.
7. I think you _____ fully qualified for this job in the veterinary practice.
8. _____ Luke lecture internationally on animal welfare?
9. Laminitis _____ an inflammation of the laminae in horse's hooves.
10. _____ malignant tumours grow aggressively?

2. Put the words in brackets in the present simple or the present continuous.

1. _____ (Henry/do) his epizootiology homework now?
2. Mr. Brandon _____ (inspect) animal products for diseases.
3. Mark _____ (not/work) in general practice.
4. They _____ (combine) the knowledge of animal physiology and nutrition.
5. _____ (Charles/work) overtime this week?
6. At the moment, the pharmaceutical company _____ (conduct) a research to improve animal productivity.
7. _____ (they/always use) sedatives during dental procedures?
8. Where is Doctor Thackery? He _____ (perform) an emergency surgery.

3. Put the words in brackets in the past simple.

1. The veterinarian _____ (take) x-rays of the cat's chest and abdomen and saw a foreign body in the trachea.
2. We _____ (perform) blood tests and chest x-rays to ensure that Meanie was healthy enough to be placed under general anesthesia.
3. Unfortunately, the dog _____ (not/recover).
4. We _____ (anesthetize) Pepper and _____ (place) a bronchoscope down into her airways.
5. A physical examination _____ (not/reveal) any significant abnormalities.
6. What _____ (the ultrasound of the cat's abdomen/show)?
7. _____ (the bronchoscopy/allow) to remove the rocks from the trachea?
8. Several days after she was sent home she _____ (begin) eating on her own and the tube was removed.

4. Choose the correct alternative.

1. Yesterday, I ***came/was coming*** early and immediately ***started/was started*** disinfecting the surgical room.
2. The surgeons ***were still operating/still operated*** the retriever at 9 o'clock in the evening.
3. The receptionist ***was chatting/chatted*** on the phone, when a woman came in.
4. They ***were examining/examined*** the dog, when the electricity ***was going/went off***.
5. I ***was taking/took*** my first x-ray yesterday.
6. The dog ***was coughing/coughed***, while they ***were trying/tried*** to put a tube into his trachea.
7. I **received/was receiving** many patients last week.
8. Mr. Norfolk ***found/was finding*** many violations, while he ***inspected/was inspecting*** the food for human consumption.

5. Choose the correct answer.

Emma Milne 1) _____ best known for her appearances in the highly successful BBC 1 programme ***Vets in Practice***. She appeared in all eleven series.

She 2) _____ as a veterinary surgeon from Bristol University in 1996 and went on to work in a mixed, country practice in Somerset. Now Emma 3) _____ in York.

Vets in Practice 4) _____the coveted "Best Documentary Award" at the National Television Awards in 1999.

Over the years Emma is asked to contribute to numerous newspaper and radio interviews and is well known for her strong views on animal matters, especially animal welfare, and her willingness to voice these opinions. She also 5) _____ in numerous events and conferences.

Emma's first book, ***The Truth About Cats and Dogs*** was published in July 2007 and 6) _____ not only the realities of veterinary work but the inherent and increasing health problems with pedigree dogs and cats. In March 2012, Emma 7) _____ her second book ***Tales from the Tail End***.

Besides her veterinary work and welfare campaigns, she regularly appears as a guest reporter on TV. She is the resident vet on the Richard Bacon show on Five Live and 8) _____ regular appearances on BBC.

1.	a.am	b. are	c. is
2.	a. qualified	b. qualify	c. qualifies
3.	a. resided	b. was residing	c. resides
4.	a. win	b. is winning	c. won
5.	is taking part	b. took part	c. takes part
6.	a. highlighted	b. highlights	c. highlighting
7.	a. wrote	b. was writing	c. is writing
8.	a. maked	b. makes	c. was making

Unit Vocabulary Consolidation

Anti-inflammatory *(adjective)* _____
Arrhythmia *(noun)* _____
Assess *(verb)* _____
Benefit *(verb)* _____
Benign *(adjective)* _____
Breast *(noun)* _____
Cancer *(noun)* _____
Cardiovascular *(adjective)* _____
Coffin bone *(noun)* _____
Confirm *(verb)* _____
Congestive *(adjective)* _____
Contractility *(noun)* _____
Coughing *(noun)* _____
Cryosurgery *(noun)* _____
Defecation *(noun)* _____
Degenerative joint disease *(noun)* _____
Deliver *(verb)* _____
Detect *(verb)* _____
Detrimental *(adjective)* _____
Disturbance *(noun)* _____
Fatigue *(noun)* _____
Fluid buildup *(noun)* _____
Heal *(verb)* _____
Heart failure *(noun)* _____
Heart murmur *(noun)* _____
Heartbeat *(noun)* _____
Heartworm disease *(noun)* _____
Hoof *(noun)* _____
Hyperthermia *(noun)* _____
Insert *(verb)* _____
Laminitis *(noun)* _____
Leukemia *(noun)* _____
Lump *(noun)* _____
Malignant *(adjective)* _____
Manifestation *(noun)* _____
Myocardial disease *(noun)* _____
Offensive *(adjective)* _____
Pacemaker *(noun)* _____
Pericardial disease *(noun)* _____
Persist *(verb)* _____
Septic arthritis *(noun)* _____
Severity *(noun)* _____
Stiffness *(noun)* _____
Subsequent lameness *(noun)* _____
Supplement *(noun)* _____
Valvular disease *(noun)* _____
Vasculature *(noun)* _____
Wear down *(phrasal verb)* _____

UNIT 2

VOCABULARY *Diagnosis and Treatment*

1. Match. Then read the article and check your ideas.

1. Computed tomography
2. Fluoroscopy
3. Magnetic Resonance Imaging
4. Radiography
5. Ultrasound

A. the process of taking a photograph of the inside of a body by using x-rays.
B. an x-ray procedure that makes it possible to see internal organs in motion.
C. radiography in which a three-dimensional image of a body structure is constructed by computer from a series of plane cross-sectional images.
D. a diagnostic method of examining internal organs using high-frequency sound waves.
E. a method used to produce images of the inside of a person's body by means of a strong magnetic field.

2. Complete each paragraph with the missing words below.

DIAGNOSTIC EQUIPMENT

Many of the technologies used in human medicine are also used in the 1) _____ field, although often in slightly different ways. Veterinarians use a variety of technologies for diagnostic and therapeutic purposes to better understand and improve the 2) _____ of their animal patients. Veterinarians use many modes of imaging, from radiographs (X-rays) to computed tomography (CT) scans and magnetic resonance imaging (MRI). Each type employs different methods to create images, and each is best suited to distinct 3) _____.

(health, organs, veterinary)

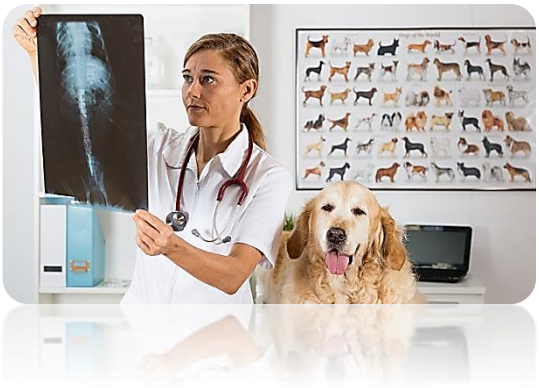
Computed tomography (CT) uses x-rays to produce multiple images of the inside of the body, and provides thin, cross-sectional "slices" for viewing. CT scans of internal organs, bone, soft tissue and blood 1) _____ provide much more detail than conventional x-rays. Radiologists use this specialized equipment to diagnose different cancers, since the image allows a veterinarian to confirm the presence of a 2) _____ and measure its size, precise location and the extent of the tumor's involvement with other nearby tissue. It is invaluable in diagnosing and treating spinal problems and injuries. Most often, veterinary radiologists use the CT examination to diagnose cancer of the lungs and nasal cavity, to diagnose abnormal blood vessels in the liver, to diagnose disorders of the abdomen such as 3) _____ stones, to diagnose disorders

of bones and joints such as elbow dysplasia, and to plan surgery.

(tumor, vessels, kidney)

Fluoroscopy is a continuous series of very low dose x-ray images that let veterinarians see images of the inside of the body in motion. For example, fluoroscopy of the chest allows us to watch the 1) _____ beat and the lungs expand. Fluoroscopy is used to diagnose diseases that involve motion, such as collapse of the 2) _____ during breathing, or disorders of swallowing. Fluoroscopy is used to diagnose problems such as strictures, motility problems of the stomach and intestines, and flow of 3) _____ through abnormal vessels.

(heart, blood, trachea)

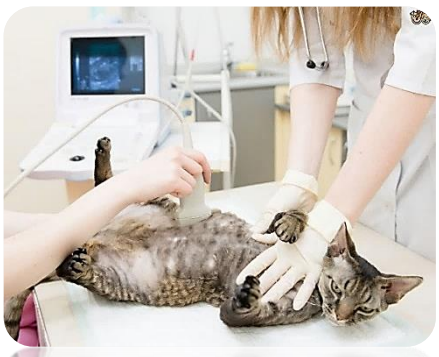


Magnetic resonance imaging (MRI) uses a powerful magnetic field, radio waves and a computer to produce detailed pictures of organs, soft tissues, and other internal body structures. The images can then be examined on a 1) _____ monitor or printed. MRI does not use ionizing radiation (x-rays), but detects the motion of protons that are normally present in the body. Detailed MR images allow veterinary radiologists to better evaluate parts of the body and certain diseases that may not be assessed adequately with other imaging methods such as x-ray, ultrasound or computed tomography. Currently, MRI is the most 2) _____ imaging test of the head, particularly in the brain, in clinical practice. MR imaging is performed to help diagnose tumors and inflammatory diseases of the brain and spinal 3) _____.

(cord, computer, sensitive)

Radiographs, or x-ray studies, use a very short burst of x-rays to create an image of the body. Radiographs are used to diagnose disease in the chest, abdomen and 1) _____ system. It also helps perform many special studies such as contrast studies of the gastrointestinal and urinary 2) _____ to diagnose obstructions. X-rays are the oldest and most frequently used form of veterinary medical imaging. An x-ray is typically the first imaging test used to help diagnose problems such as: trouble 3) _____, cough, trauma and fever.

(tract, musculoskeletal, breathing)



Ultrasound imaging, also called 1) _____ scanning or sonography, involves exposing part of the body to high-frequency sound waves to produce pictures of the inside of the body. Ultrasound exams do not use ionizing radiation (x-ray). Because ultrasound images are captured in real-time, they can show the structure and movement of the body's 2) _____ organs, as well as blood flowing through blood vessels. Abdominal ultrasound imaging is performed to evaluate kidneys, liver, gallbladder, pancreas, spleen, blood vessels of the abdomen. Ultrasound is used to help diagnose a variety of 3) _____, such as abdominal pain, pancreatitis, stones in the kidney or bladder.

(ultrasound, internal, conditions)

3. Complete the sentences with the correct technology: *CT, fluoroscopy, MRI, radiographs, ultrasound scanning.*

1. _____ involves exposing part of the body to high-frequency sound waves to produce pictures of the inside of the body.
2. _____ uses a powerful magnetic field, radio waves and a computer to produce detailed pictures.
3. _____ is used to diagnose diseases that involve motion, such as collapse of the trachea during breathing.
4. _____ helps perform many special studies such as contrast studies of the gastrointestinal and urinary tract.
5. _____ scans of internal organs, bone, soft tissue and blood vessels provide much more detail than conventional x-rays.
6. _____ is performed to help diagnose tumors and inflammatory diseases of the brain and spinal cord.

4. Read the article.

VETERINARY PHARMACOLOGY

Veterinary pharmacology is a branch of pharmacology, the study of drugs for animals, ranging from topical flea medications for cats and dogs to antibiotics which can be used to treat infections in elephants. Veterinary pharmacologists work for pharmaceutical companies, veterinary schools, zoological parks, and research organizations. People who work in this field have an advanced degree in pharmacology and veterinary science.

Veterinary pharmacologists are interested in the molecular structure of drugs, how drugs work, safe drug dosages, side effects associated with drugs, the discovery of new drugs, new applications of existing medications, and a variety of related topics. Veterinary pharmacology is much more complex than human pharmacology, because it involves the application of pharmacology to a number of species, instead of just one.

Two major markets of veterinary pharmacology are drugs for domestic pets and animals used in agriculture. Pet owners spend large volumes of money each year on their cats, dogs, hamsters, parrots, etc. Routine drugs such as flea medications are steady sellers in the veterinary pharmaceutical industry, along with drugs used in medical treatment of domestic pets.

Veterinary pharmaceuticals also play an important role in agriculture. Drugs which keep cattle, chickens, and pigs healthy are utilized all over the world, along with pharmaceuticals which are designed to improve performance, such as growth hormones. Each of these species requires a different approach; drugs which work in a cow, for example, might be dangerous to a chicken, or ineffective in a pig. Farm animals also require pharmaceutical products like helminthicides and antibiotics. Formulating safe medications for farm animals is a complex task in veterinary pharmacology.

5. Answer the questions.

1. What is veterinary pharmacology?
2. Where do veterinary pharmacologists work?
3. What are the fields of interest of veterinary pharmacologists?
4. Why is veterinary pharmacology more complex than human pharmacology?
5. What are the two major markets of veterinary pharmacology?

6. Match the halves of the sentences. Then translate.

1. Veterinary pharmacology is much more	A. the study of drugs for animals.
2. Veterinary pharmacology is	B. pharmaceutical companies, veterinary schools, research organizations, etc.
3. Veterinary pharmaceuticals	C. pharmaceutical products like helminthicides and antibiotics.
4. Veterinary pharmacologists work for	D. complex than human pharmacology.
5. Farm animals require	E. drugs for domestic pets and animals used in agriculture.
6. Two major markets of veterinary pharmacology are	F. a complex task in veterinary pharmacology.
7. Formulating safe medications for farm animals is	G. play an important role in agriculture.
8. People who work in this field	H. Have an advanced degree in pharmacology and veterinary science.

7. Match the <u>underlined</u> words from the article in exercise 4 with the Russian equivalents below.

1. дегельминтизирующие средства
2. профилактические препараты
3. подход
4. препараты от блох
5. гормоны роста
6. хомяки
7. ученая степень
8. дозировки лекарства
9. области применения существующих препаратов
10. антибиотики
11. улучшать показатели
12. побочные эффекты

8. Page 97 FURTHER READING. *Flock vaccinations.*

9. Match.

1. muscle spasm	A. мышечное напряжение
2. muscle strain	B. раны
3. muscle tightness	C. болотная лихорадка
4. muscle atrophy	D. растяжение мышц
5. mud fever	E. травма крестцово-подвздошной области
6. sacroiliac injury	F. восстановление после переломов
7. repair after fractures	G. разрыв связки
8. ligament rupture	H. мышечный спазм
9. wounds	I. атрофия мышц
10. referral	J. направление врача

10. Choose the correct alternative. Then translate the article.

ANIMAL PHYSIOTHERAPY

Animal or veterinary physiotherapy is a 1) ***complementary/hormones*** therapy which is carried out under veterinary referral. Veterinary physiotherapy is defined as the use of physical techniques for the treatment of soft tissue 2) ***injuries/pharmacology*** and movement dysfunction. Veterinary physiotherapy uses many different techniques including 3) ***mammary/manual*** therapy and the use of modern therapeutic modalities such as 4) ***electrotherapy/tomography.*** The most common areas of treatment are:

- ✓ Performance 5***) ligament/enhancement*** and treatment of musculoskeletal injuries in the ridden horse or competition dog.
- ✓ Post-operative 6) ***rehabilitation/digestion*** for animals with orthopedic or neurological conditions.
- ✓ Enhancement of 7) ***quality/quantity*** of life in patients with degenerative conditions such as arthritis – slowing 8) ***measurement/degeneration*** and treating muscle spasm.

There are some other conditions that can be helped by physiotherapy: muscle spasm, muscle strain, muscle tightness, muscle atrophy, ligament rupture, sacroiliac injury, repair after fractures, wounds.

11. Complete with the following words: *ear, reduction, treatment, benefit, recovery, tissue, photons, cells, painless, safe.* Then translate.

LASER THERAPY FOR PETS

Laser therapy is a 1) _ _ _ _ _ _ _ _ use of laser energy to generate a photochemical response in damaged or dysfunctional 2) _ _ _ _ _ _. Laser therapy can alleviate pain, reduce inflammation, and accelerate 3) _ _ _ _ _ _ _ _ from a wide range of acute and chronic conditions in animals. It enhances natural healing and is a great pain-free technique for speeding up recuperation time after surgery.

Laser therapy is a cutting-edge technique that uses high intensity light particles, called 4) _ _ _ _ _ _ _ to stimulate cells and promote healing. Beneficial effects include: improved healing time, pain 5) _ _ _ _ _ _ _ _ _, increased circulation, decreased swelling. The therapy is easy to administer. High tech laser generators that are applied over the affected body part. These light particles then stimulate the damaged 6) _ _ _ _ _. This reduces pain, whilst also encouraging tissue repair and recovery.

Laser is incredibly 7) _ _ _ _ and is ideal for anxious pets that would not necessarily tolerate acupuncture or physiotherapy.

Laser therapy is ideal for animals with: arthritis, joint pain, muscle tendon and ligament injuries, swelling, puncture wounds, post-traumatic injury, burns, fractures, 8) _ _ _ infections.

A typical laser treatment takes only 3 to 8 minutes, depending on the size of the area being treated. The majority of patients exhibit greater comfort and mobility within 12 to 24 hours after a laser 9) _ _ _ _ _ _ _ _ _. Although improvement is often seen after the first visit, most patients require several treatments for greatest 10) _ _ _ _ _ _ _.

12. Read and translate the article.

HEMODIALYSIS

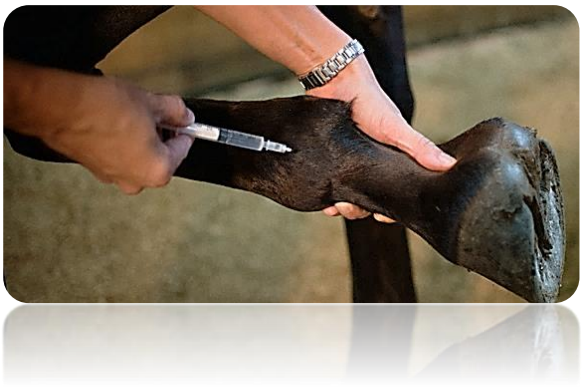
Hemodialysis is an exciting and growing specialty in 'high-tech' veterinary therapeutics. With modern technology and techniques, hemodialysis is safe, effective and indispensable for the management of life-threatening uremia in dogs and cats. There is no alternative therapy as effective as hemodialysis for animals with uremia, refractory acute renal failure, life-threatening overhydration, or acute poisoning.

Veterinarians first performed hemodialysis on companion animals, and established the first veterinary hemodialysis facilities in the USA. Still today, there are very few veterinary hemodialysis centers in the United States. These state-of-the-art hemodialysis centers provide treatment options

for animals suffering from kidney failure for whom conventional medical treatments have failed, and whose afflictions would otherwise be life-threatening.

13. Read and translate the article.

STEM CELL THERAPY



Stem cell therapy has become popular for the treatment of tendon, ligament and joint diseases in the horse. Veterinary surgeons can take fat, skin, blood or, more commonly, bone marrow and then, stem cells can be cultured. They can be placed in areas of injury, where they can integrate into local tissue and aid in repairing injury.

Current technology enables to take cells from a horse and implant the cultured tissue back into the same horse. Implantation is usually a straightforward procedure, performed under sedation and using ultrasound to guide the injection. This can be performed on an out-patient basis. Injections of stem cells into joints or other more complicated lesions may necessitate a general anesthetic, particularly if the treatment requires inspection and treatment via 'keyhole' surgery.

Veterinary surgeons usually discuss the potential benefits and risks associated with stem cell therapy, together with post-implantation care and exercise. Complications are very rare.

14. Find the English equivalents to the following in the wordsearch: ***лечение стволовыми клетками, естественное заживление, выздоровление, иглоукалывание, почечная недостаточность, сухожилие, костный мозг, воздействие седативным средством, очаг повреждения, хирургия минимального вмешательства.*** **Use the words from exercise 10, exercise 11, exercise 12.**

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

GRAMMAR

Present Perfect Simple

Affirmative

I/we/you/they	**have ('ve)**	finish**ed.** **done** (past participle).
He/she/it	**has ('s)**	

Negative

I/we/you/they	**have not (haven't)**	finish**ed.** **done** (past participle).
He/she/it	**has not (hasn't)**	

Questions and short answers

Have	I/we/you/they	finish**ed?** **done?**	**Yes,** I/we/you/they **have.** **No,** I/we/you/they **haven't.**
Has	he/she/it		**Yes,** he/she/it **has.** **No,** he/she/it **hasn't.**

1. Write the past participle of these verbs.

1. meet
2. have
3. see
4. buy
5. sell
6. pay
7. do
8. find
9. come
10. put
11. take
12. write
13. begin
14. break
15. set
16. read
17. fall
18. rise
19. say
20. understand
21. know
22. become
23. bring
25. leave
26. learn
27. keep
28. think

2. Use the prompts to write sentences in the present perfect simple form.

1. The teacher/arrive.
_____.
2. The students/leave.
_____.
3. The exams/finish.
_____.
4. The horse/break the limb.
_____.
5. I/send you the result of the blood-test.
_____.
6. She/see the X-ray picture before.
_____.
7. Mr. Jenkins/take part in the neurosurgical conference.
_____.
8. They/announce the results of ultrasound examination.
_____.
9. Kate/find a mistake in the course project.
_____.
10. We/read many articles about neoplasia.
_____.

3. Write the negative form of the sentences in exercise 2.

1._____.
2. _____.
3._____.
4. _____.
5._____.
6._____.
7._____.
8._____.
9._____.
10._____.

4. Use the sentences in exercise 2 to make questions and short answers.

1._____?
Yes, _____.
2. _____?
Yes, _____.
3._____?
No, _____.
4. _____?
Yes, _____.
5._____?
No, _____.
6._____?
No, _____.

7._____?
Yes, _____.
8._____?
No, _____.
9._____?
Yes, _____.
10._____?
No, _____.

5. Match the questions with the answers.

1. Where is my stethoscope?
2. Why are you looking so pleased?
3. How is the Animal Physiology going?
4. Why are you buying a new microscope?
5. Is it sunny?
6. Why are you looking so fed up?
7. Where is Miss Presley?

a. No. It's started to rain.
b. I've passed all my exams!
c. Because someone has broken my old one.
d. I've had a really bad day.
e. Not very well. It's got much more difficult this semester.
f. Haven't you heard? She has moved abroad.
g. I don't know. I haven't seen it.

6. Put the verbs in brackets in the correct form of present perfect simple.

1. They _____ (not buy) any x-ray equipment since October.
2. She _____ already _____ (receive) five patients.
3. They _____ never _____ (see) such an advanced veterinary technology before.
4. Mr. Stuart _____ just _____ (perform) hemodialysis on a cat with uremia.
5. _____ you_____ (use) computed tomography scans before?
6. _____ your friends ever _____ (be) to England?
7. How long _____ she_____ (work) as a vet technician?
8. We _____ already _____ (send) them the results of fluoroscopy.
9. Growth hormones _____ (not improve) the performance.
10. I _____ (know) Dr. Collins for five years.
11. The pharmaceutical company _____ (become) a bankrupt.
12. The lecturer _____ (arrive).
13. Joe _____ (write) a report about the potential benefits of stem cell therapy.
14. We _____ (not determine) the cause of kidney failure yet.

7. Complete the dialogue with the following verbs in the correct form of present perfect simple: *to happen, to leave, to check, to be, to discover, to work, to do, to see.*

In the laboratory

A: Have you 1) _____ yet?
B: No, I've 2) _____ here since 8 o'clock in the morning.
A: Have you 3) _____ the results of the experiment?
B: Yes, I've 4) _____ that.
A: We've 5) _____ on this project for three weeks. Unfortunately, we haven't 6) _____ anything interesting yet.
B: No, nothing has 7) _____ since last Tuesday.
A: Yes, I know I've 8) _____ the report.
B: So, I'm going to do the experiment again.
A: I hope, we'll get better results next week.

8. Use the prompts to make a present perfect simple question about scientific achievements. Then answer the questions.

1. scientists/discover/a cure for cancer?
_____?
2. people/learn/to read animal's thoughts?
_____?
3. doctors/manage/to implant animal hearts in human bodies?
_____?
4. animals/ever travel/to space?
_____?
5. animals/ever transmit/infectious diseases to people?
_____?
6. scientists/ever clone/animals?
_____?

Unit Vocabulary Consolidation

Acupuncture *(noun)* _____
Alleviate *(adjective)* _____
Allow *(verb)* _____
Burst *(noun)* _____
Chest *(noun)* _____
Collapse *(noun)* _____
Complex *(adjective)* _____
Computed tomography *(noun)* _____
Conventional *(adjective)* _____
Cross-sectional *(adjective)* _____
Dosage *(noun)* _____
Enhancement *(noun)* _____
Evaluate *(verb)* _____
Fluoroscopy *(noun)* _____
Fracture *(noun)* _____
Growth hormone *(noun)* _____
Helminthicide *(noun)* _____
Hemodialysis *(noun)* _____
High-frequency *(noun)* _____
Indispensable *(adjective)* _____
Invaluable *(adjective)* _____
Involvement *(noun)* _____
Lesion *(noun)* _____
Life-threatening *(adjective)* _____
Ligament rupture *(noun)* _____
Magnetic resonance imaging *(noun)* _____
Measure *(verb)* _____
Motility *(noun)* _____
Motion *(noun)* _____
Muscle atrophy *(noun)* _____
Muscle strain *(noun)* _____
Muscle tendon *(noun)* _____
Muscle tightness *(noun)* _____
Obstruction *(noun)* _____
Photochemical response *(noun)* _____
Poisoning *(noun)* _____
Precise *(adjective)* _____
Radio wave *(noun)* _____
Recuperation *(noun)* _____
Renal failure *(noun)* _____
Repair *(noun)* _____
Routine drug *(noun)* _____
Sacroiliac injury *(noun)* _____
Sonography *(noun)* _____
Stricture *(noun)* _____
Swallowing *(noun)* _____
Wound *(noun)* _____

UNIT 3

VOCABULARY ***Surgical Interference***

1. Read the article. Match the words and phrases below with their underlined English equivalents from the article. Then translate the article.

1. полости тела
2. желудочно-кишечный
3. межпозвоночная грыжа
4. тазобедренное сочленение
5. стерилизация
6. удаление незначительных новообразований
7. дыхательный
8. современная анестезия
9. замена сустава
10. малоинвазивные процедуры
11. дефект передней крестовидной связки
12. трансплантация кожи

VETERINARY SURGERY

Veterinary surgery is surgery performed on animals by veterinarians. While all veterinarians are qualified to perform some surgical work, veterinary surgeons are specially trained and certified to perform advanced surgical procedures on a variety of animals. The procedures fall into three broad categories: orthopedics (bones, joints, muscles), soft tissue surgery (skin, body cavities, cardiovascular system, gastrointestinal/urogenital/respiratory tracts), and neurosurgery.

Advanced surgical procedures such as joint replacement (total hip, knee and elbow replacement), fracture repair, stabilization of cruciate ligament deficiency, oncologic (cancer) surgery, herniated disc treatment, complicated gastrointestinal or urogenital procedures, kidney transplant, skin graft, complicated wound management, and minimally invasive procedures (arthroscopy, laparoscopy) are performed only by veterinary surgeons. Most general practice veterinarians perform routine surgery: neuters (spay and castration) and minor mass excision.

The goal of veterinary surgery may be quite different in pets and in farm animals. Nowadays, more and more complex operations are performed with sophisticated anesthesia techniques.

2. Complete the sentences.

1. Veterinary surgery is surgery performed on _____ by _____.
2. Veterinary surgeons are specially trained and _____ to perform advanced surgical _____.
3. The procedures fall into three broad categories: _____, soft tissue surgery and _____.
4. Joint _____, stabilization of cruciate ligament _____, _____ surgery, complicated gastrointestinal or urogenital procedures are advanced surgical procedures.
5. Most general _____ veterinarians perform _____ surgery.
6. Nowadays, more and more complex operations are performed with _____ _____ techniques.

3. Match. Then translate.

1. Local anesthesia	A. is the induction of a state of unconsciousness with the absence of pain sensation over the entire body.
2. General anesthesia	B. is the act of calming by administration of a sedative.
3. Sedation	C. is an airway catheter inserted in the trachea during anesthesia.
4. Induction	D. is an application of an anesthetic drug to a specific area of the body.
5. An endotracheal tube	E. is the process or act of causing to occur.

4. Choose the correct answer.

VETERINARY ANESTHESIA

Anesthesia in animals has many 1) _____ to human anesthesia, but some differences as well. Local anesthesia is primarily used for 2) _____ closure and removal of small tumors. Lidocaine, mepivacaine, and bupivacaine are the most commonly used local 3) _____ in veterinary medicine. Sedation without general anesthesia is used for more involved procedures. 4) _____ which are commonly used include acepromazine, hydromorphine, midazolam, diazepam, xylazine, and medetomidine. Xylazine and medetomidine are especially useful because they can be 5) _____, xylazine by yohimbine and medetomidine by atipamezole. Xylazine is approved for use in dogs, cats, horses, and deer, while medetomidine is only approved for dogs. Most surgeries in 6) _____ can be performed with local anesthesia.

General anesthesia is commonly used in animals for major surgery. Animals are often premedicated intravenously or intramuscularly with a sedative, analgesic, and anticholinergic

agent. The next step is induction, usually with an 7) _____ drug. Dogs and cats commonly receive thiopental, ketamine with diazepam, tiletamine with zolazepam, and propofol. Alfaxalone is a steroid anesthetic used in many practices. Horses commonly receive thiopental. Following induction, the animal is intubated with an endotracheal 8) _____ and maintained on a gas anesthetic. The most common gas anesthetics in use in veterinary medicine are isoflurane, enflurane, and halothane, although desflurane and sevoflurane are becoming more popular due to rapid induction and recovery.

1. a. intramuscularly	b. similarities	c. recovery
2. a. wound	b. intubated	c. induction
3. a. receive	b. ruminants	c. anesthetics
4. a. sedatives	b. surgery	c. maintained
5. a. analgesic	b. reversed	c. induce
6. a. sedation	b. anesthesia	c. ruminants
7. a. intravenous	b. common	c. medicine
8. a. tract	b. tumour	c. tube

5. Match the headings with the paragraphs. Then translate the article.

A. After Surgery
B. Aseptic conditions in the surgical room
C. The veterinary assistant responsibilities
D. Assisting the surgeon

SURGICAL PREPARATION & PROCEDURES

1. _____ The veterinary assistant has important responsibilities during surgery preparation. The assistant's job entails helping the veterinarian to prepare the surgery room, the tools and instruments, the animals, and the surgeon. The veterinary assistant needs to be sure an aseptic environment is available to provide the best conditions for the welfare of the patient.
2. _____ Aseptic conditions in the surgical room require proper preparation. The assistant begins readying the room by removing all dust from tables, cabinets, heaters, and floors. The assistant should use a disinfectant to clean all surfaces. Anesthetic equipment, surgical supplies, ties for the patient, and all necessary surgical equipment should be readily accessible. Sterile packs should be in place, but left unopened prior to scrubbing. Lastly, the assistant must clean and disinfect the surgery table. The assistant should have the scrub soap, sterile brushes, shoe covers, caps, and masks readily accessible.
3. _____ After the surgeon has scrubbed, the assistant opens the sterile wrap around the surgical gown. The assistant secures the tie strings on the surgeon's gown and sterile packs. The assistant must avoid touching and contaminating sterile surfaces and should be no closer than 2 feet from exposed sterile instruments and accessories. The gowned and gloved surgeon must arrange the instrument table. Any person entering a room prepared for surgery, must wear clean clothes and shoes that are free of dust and dirt. The face, head, and hair should be covered with a cap and mask.
4. _____ After completion of the surgery, the assistant should clean and sterilize all instruments, accessories, and supplies for reuse. Autoclave gowns, and wash the caps and masks if necessary. When all equipment has been cleaned and placed in storage, thoroughly scrub and disinfect the room.

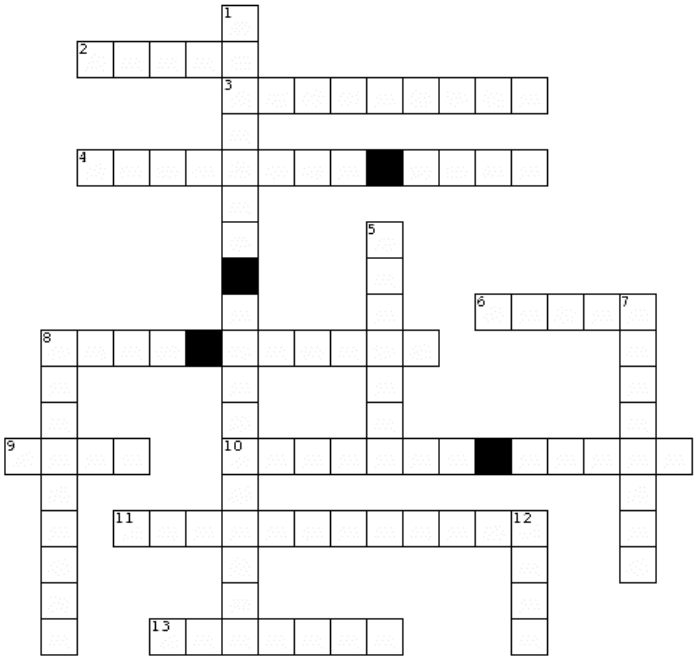
6. Complete the sentences. Then translate.

1. The assistant's job entails helping the veterinarian to prepare the surgery _____, the _____ and instruments, the animals, and the _____.
2. The veterinary assistant needs to be sure an _____ environment is available to provide the best conditions for the _____ of the patient.
3. The assistant should use a _____ to clean all surfaces in the surgical room.
4. Anesthetic _____, supplies, _____ for the patient, and all necessary surgical equipment should be readily _____.
5. Sterile _____ should be in place.
6. Lastly, the assistant must clean and disinfect the surgery _____.
7. The assistant must avoid touching and _____ sterile surfaces.
8. The _____ and _____ surgeon must arrange the instrument table.
9. The _____, _____, and hair should be covered with a _____ and mask.
10. After _____ of the surgery, the assistant should clean and sterilize all instruments, accessories, and supplies for _____.

7. **Complete the crossword with the English equivalents for the words below. Use the article in exercise 5 to help you.**

Across:
2. повторное использование
3. стерилизовать в автоклаве
4. хирургический халат
6. наборы (хирургические)
8. бахилы
9. пыль
10. хирургический стол
11. дезинфицирующее средство
13. стерильный

Down:
1. легкодоступный
5. хранение
7. принадлежности (хирургические)
8. обработка рук перед операцией
12. перевязочный материал

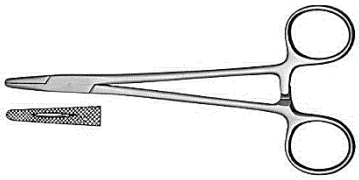
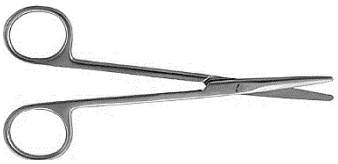


8. Match.

SURGICAL INSTRUMENTS

1. Artery forceps	A. ручной скальпель
2. Scalpel handle	B. препаровальный пинцет
3. Dissecting forceps	C. кровоостанавливающий пинцет
4. Surgical scissors	D. двусторонняя кюретка
5. Nasal speculum	E. расширитель для носовой полости
6. Double ended curette	F. хирургические ножницы
7. Retractor	G. костные кусачки
8. Needle holder	H. ранорасширитель
9. Bone cutting forceps	I. иглодержатель
10. Towel clip	J. зажим для операционного белья
11. Tissue forceps	K. стоматологический зонд
12. Dental probe	L. щипцы для мягких тканей
13. Osteotome	M. пародонтологический скалер
14. Dental elevator	N. зубной элеватор
15. Periodontal scaler	O. остеотом (инструмент для разрезания кости)
16. Dental forceps	P. шприц
17. Wire twister	Q. щипцы для удаления зубов
18. Syringe	R. инструмент для стягивания отломков кости

9. Write the correct surgical instrument under each picture.

		
1. S_____	2. D_____	3. O_____
		
4.N_____	5. R_____	6. A_____

10. Choose where words best fit the gaps. Then translate the sentences.

1. ***Surgical scissors/ Bone cutting forceps***

a. _____ are a type of forceps that has long handles, single or double joints, and heavy blades for cutting bone.

b. _____ are used for cutting, dissecting tissues, to cut bandages and sutures.

2. ***Scalpel handle/ Needle holder***
   a. A _____ is used to hold and pass a suturing needle through tissue.
   b. A _____ is a surgical knife with a short thin blade.
3. ***Syringe/Towel clip***
   a. A _____ is a device made of a hollow tube and a needle that is used to force fluids into or take fluids out of the body.
   b. A _____ is a surgical instrument that's used to secure towels and surgical draping during a procedure.
4. ***Osteotome/Dental forceps***
   a. _____ are designed for the extraction of a particular tooth.
   b. An_____ is a surgical instrument for cutting bone, typically resembling a chisel.
5. ***Periodontal scaler/Dental probe***

a. A _____ is a dental instrument for removal of plaque, bacterial endotoxins, and calculus from teeth.

b. The primary purpose of a _____ is to measure pocket depths around the tooth.

6. ***Nasal speculum/Retractor***

a. A _____ is an instrument for holding open the edges of a wound.

b. A _____ is an instrument used to widen the opening of a nostril so the inside can be more easily seen.

11. Decide if the statements are true or false. Then read the article and check your ideas.

1. To spay a cat means to remove the ovaries of a female cat.
2. To castrate is to remove the uterus of a male animal.
3. Neutering is usually performed to prevent breeding.
4. Recently breeders and veterinary organizations debated against ear-cropping and tail docking.

COMMON VETERINARY SURGERIES

STERILIZATION SURGERY

A cat spay is an elective procedure. It is performed on a non-emergency basis, and doesn't involve immediate life-threatening conditions. Elective surgical procedures are opposed to emergency surgical procedures.

A cat spay is one of the most common elective surgical procedures in animals. Neutering in animals means spaying or castration. To spay a cat (medical term: ovariectomy or ovariohysterectomy) means to remove the ovaries and often the fallopian tubes and uterus of a female animal. In a cat, this is accomplished either by a ventral abdominal incision, or by a flank incision. During ovariectomy ligatures are placed on the blood vessels above and below the ovary and the organ is removed. In ovariohysterectomy, the ligaments of the uterus and ovaries are broken down and the blood vessels are ligated and both organs are removed.

To castrate (medical term: orchiectomy) is to remove the testicles of a male animal. Different techniques are used depending on the type of animal: ligation of the spermatic cord with suture material, placing a rubber band around the cord to restrict blood flow to the testes, or crushing the cord with a specialized instrument.

Neutering is usually performed to prevent breeding, prevent unwanted behavior, or decrease risk of future medical problems. Neutering is also performed as an emergency procedure to treat certain reproductive diseases, like pyometra and testicular torsion, and it is used to treat ovarian, uterine, and testicular cancer. It is also recommended to prevent malignant transformation of the testicles.

Laser surgery offers a number of benefits, including reduced risk of infection, less post-operative pain and swelling, reduced bleeding and improved visibility of the surgical field.

Other common elective surgical procedures are declawing in cats (onychectomy), ear-cropping in dogs, tail docking in dogs, horses, and dairy cattle, and livestock dehorning in cattle, sheep, and goats. These procedures have been controversial and recently debated among breeders, veterinary organizations, and animal welfare scientists.

12. Answer the questions.

1. What does spaying mean?
2. What does castration mean?
3. What is the difference between ovariectomy and ovariohysterectomy?
4. Why is neutering usually performed?
5. What does laser surgery offer?
6. What other common elective surgical procedures are mentioned in the article?

13. Match the <u>underlined</u> words and phrases from the article with their Russian equivalents below.

1. шовный материал
2. удаление когтей
3. экстренные хирургические операции
4. латексное кольцо
5. купирование ушей
6. передний разрез брюшной стенки
7. купирование хвоста
8. яичники
9. плановые хирургические операции
10. семенной канатик
11. гнойный эндометрит
12. лигатуры
13. перекрут семенника (яичка)
14. удаление рогов
15. состояния, угрожающие жизни
16. семенники (яички)

14. Read and entitle the articles. Then translate the articles.

A. Wound repair
B. Foreign body removal

1. _____

A variety of non-edible objects are commonly swallowed by dogs, cats, and cattle. These foreign bodies can cause obstruction of the gastrointestinal tract causing severe vomiting and resulting electrolyte imbalances. The stomach or intestine can be surgically opened to remove the foreign body. Necrotic intestine can be removed and repaired with intestinal anastomosis. Foreign bodies can also be removed by endoscopy, which requires general anesthesia, but does not require surgery and therefore, significantly decreases recovery time. However, endoscopic foreign body retrieval is anatomically limited to objects lodged in the esophagus, the stomach or the colon. The condition in cattle is known as hardware disease.

1. _____

Bite wounds from other animals are a common occurrence. Wounds from objects that the animal may step on or run into are also common. Usually these wounds are simple lacerations that can be easily cleaned and sutured, sometimes using a local anesthetic. Bite wounds can cause separation of the skin from the underlying tissue and avulsion of underlying muscles. Deep puncture wounds are especially prone to infection. Deeper wounds are assessed under anesthesia and explored, lavaged, and debrided. Small puncture wounds may be left open, bandaged, and allowed to heal without surgery. A third alternative is delayed primary closure, which involves bandaging and reevaluation and surgery in three to five days.

15. Page 98 FURTHER READING. ***What is board-certified veterinary surgeon in the USA?***

GRAMMAR

Present Perfect Continuous

Affirmative

I/we/you/they	**have ('ve)**	**been**	do**ing.**
He/she/it	**has ('s)**		

Negative

I/we/you/they	**have not (haven't)**	**been**	do**ing.**
He/she/it	**has not (hasn't)**		

Questions and short answers

Have	I/we/you/they	**been** do**ing?**	**Yes,** I/we/you/they **have.** **No,** I/we/you/they **haven't.**
Has	he/she/it		**Yes,** he/she/it **has.** **No,** he/she/it **hasn't.**

1. Use the prompts to write present perfect continuous sentences.

1. James/write/reports/since this morning.
_____.
2. She/work/ in a vet clinic/for ten years
_____.
3. They/conduct/an experiment/for a month.
_____.
4. The surgeons/perform a surgery/since 12 o'clock.
_____.
5. They/ discuss the potential benefits and risks/for half an hour.
_____.

6. Veterinarians/perform hemodialysis on companion animals/for five years.
_____.
7. Veterinary physiotherapy/use different techniques/since the 20th century.
_____.
8. He/work for a pharmaceutical company/ since April.
_____.

2. Use the prompts to write present perfect continuous questions. Then write short answers.

1. you/prepare the surgical supplies
_____? Yes, _____.
2. she/autoclave the surgical gowns
_____? Yes, _____.
3. Mr. Blackwood/check the results of laser therapy
_____? No, _____.
4. the students/revise for the Virology test
_____? Yes, _____.
5. they/try new hemodialysis equipment
_____? Yes, _____.
6. the farmers/use growth hormones to improve performance
_____? No, _____.
7. the swelling/reduce due to the stem cell therapy
_____? Yes, _____.
8. the cat/suffer from kidney failure
_____? No, _____.

3. Complete the sentences using the verbs in brackets in the present perfect continuous form.

1. I'm sorry to keep you waiting! I hope you (not wait) _____ long.
2. There you are! We (look for) _____ you all morning.
3. I feel really tired. I (work) _____ a lot lately.
4. Anna has passed all exams successfully. She (study) _____ really hard.
5. The pharmaceutical company needs new resources. It (face) _____ a lot of problems lately.
6. I haven't seen you for ages. What _____ you _____ (do)?
7. She (work) _____ on this project since February.
8. We (use) _____ this ultrasound scan for ages and it still works properly.
9. You look exhausted! _____ you _____ (wok) overtime again?
10. I (assist) _____ the surgeon all week.
11. How is Diego? _____ he _____ (prepare) for the "keyhole" surgery conference?
12. The treatment (not enhance) _____ the natural healing.

Unit Vocabulary Consolidation

Artery forceps *(noun)* _____
Bandage *(noun)* _____
Bite *(noun)* _____
Bone cutting forceps (noun) _____
Calculus *(noun)* _____
Castration *(noun)* _____
Cruciate ligament deficiency *(noun)* _____
Debride *(verb)* _____
Declawing *(noun)* _____
Dehorning *(noun)* _____
Dental elevator *(noun)* _____
Dental forceps *(noun)* _____
Dental probe *(noun)* _____
Dissecting forceps *(noun)* _____
Double ended curette *(noun)* _____
Ear-cropping *(noun)* _____
Endotracheal tube *(noun)* _____
Extraction *(noun)* _____
Hardware disease *(noun)* _____
Herniated disc *(noun)* _____
Incision *(noun)* _____
Induction *(noun)* _____
Laceration *(noun)* _____
Lavage *(verb)* _____
Ligature *(noun)* _____
Nasal speculum *(noun)* _____
Necrotic intestine *(noun)* _____
Needle holder *(noun)* _____
Non-edible *(adjective)* _____
Osteotome *(noun)* _____
Periodontal scaler *(noun)* _____
Pyometra *(noun)* _____
Retractor *(noun)* _____
Retrieval *(noun)* _____
Scalpel handle *(noun)* _____
Scrubbing *(noun)* _____
Spay *(noun)* _____
Spermatic cord *(noun)* _____
Surgical gown*(noun)* _____
Surgical scissors *(noun)* _____
Suture *(noun)* _____
Syringe *(noun)* _____
Tail docking *(noun)* _____
Testicular torsion *(noun)* _____
Tissue forceps *(noun)* _____
Towel clip *(noun)* _____
Vomiting *(noun)* _____
Wire twister *(noun)* _____

UNIT 4

VOCABULARY *Animal Reproduction and Breeding*

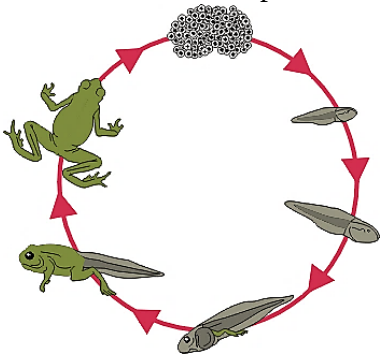
1. Match.

1. sexual reproduction	A. самооплодотворение
2. self-fertilization	B. перекрёстное оплодотворение
3. cross fertilization	C. половое размножение
4. external fertilization	D. внутреннее оплодотворение
5. internal fertilization	E. поведение при спаривании
6. mating behavior	F. зародыш
7. embryo	G. оплодотворённая яйцеклетка
8. zygote	H. оплодотворение вне организма

2. Read the article.

HOW DO ANIMALS REPRODUCE

During sexual reproduction in animals, a haploid sperm unites with a haploid egg cell to form a diploid zygote. The zygote divides and differentiates into an embryo. The embryo grows and matures. After birth or hatching, the animal develops into a mature adult capable of reproduction. Some invertebrates reproduce by self-fertilization, in which an animal's sperm fertilizes its own eggs. Self-fertilization is common in tapeworms and other internal parasites, which lack the opportunity to find a mate.

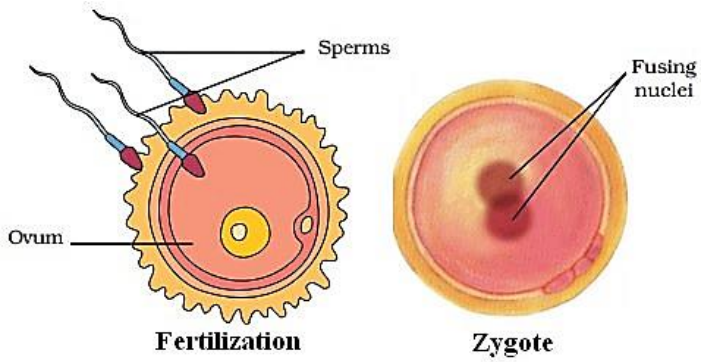


Animals use two ways for bringing sperm and eggs together. One is external fertilization, whereby animals shed eggs and sperm into the surrounding water. Most aquatic invertebrates, most fish, and some amphibians use external fertilization.

The other type of sexual reproduction is internal fertilization, whereby the male introduces sperm inside the female reproductive tract where the eggs are fertilized. Internal fertilization is an adaption for life on land. Sperms are provided with a fluid that provides an aquatic medium for the sperm to swim when inside the male's body. Mating behavior and reproductive readiness are coordinated and controlled by hormones so that sperm and egg are brought together at the appropriate time.

After internal fertilization, most reptiles and all birds lay eggs that are surrounded by a tough membrane or a shell. Their eggs have four membranes, the amnion, the allantois, the yolk sac and the chorion. The amnion contains the fluid surrounding the embryo; the allantois stores the embryo's urinary wastes and contains blood vessels that bring the embryo oxygen and take away carbon dioxide. The yolk sac holds stored food, and the chorion surrounds the embryo and other membranes.

Most mammals employ internal fertilization. The fertilized eggs of a mammal implant in the uterus which develops into the placenta, where the growth and differentiation of the embryo occur. Embryonic nutrition and respiration occur by diffusion from the maternal bloodstream through the placenta. When development is complete, the birth process takes place.



3. Answer the questions.

1. What is sexual reproduction in animals?
2. What is self-fertilization?
3. What are the two ways for bringing sperm and eggs together?
4. What is the difference between external fertilization and internal fertilization?
5. What does a reptile's or bird's egg consist of?
6. How does internal fertilization occur in most mammals?

4. Complete the sentences. Then translate.

1. During sexual _____ in animals, a haploid _____ unites with a haploid egg cell to form a diploid _____.
2. The zygote divides and differentiates into an _____.
3. In self-fertilization, an animal's sperm _____ its own _____.
4. In external fertilization, animals _____ eggs and sperm into the _____ water.
5. In internal fertilization, the _____ introduces sperm inside the female _____ tract where the eggs are _____.
6. Mating _____ and reproductive _____ are coordinated and controlled by _____.
7. most reptile's and all bird's eggs have four _____, the amnion, the allantois, the yolk _____ and the chorion.
8. The fertilized eggs of a _____ implant in the _____ which develops into the _____, where the growth and differentiation of the embryo occur.

5. Complete the extract with the following words: *genes, colonize, offspring, single-celled, copy.* Then translate.

Asexual reproduction is a type of reproduction by which 1) _____ arise from a single organism, and inherit the 2) _____ of that parent only; it does not involve the fusion of gametes, and almost never changes the number of chromosomes. Asexual reproduction is the primary form of reproduction for 3) _____ organisms such as bacteria. Many plants and fungi reproduce asexually as well. Asexual reproduction also can allow animals to 4) _____ and take over an environment quickly and efficiently. Because asexual reproduction results in an exact 5) _____ of the parent, the best genes for the environment will successfully takeover and thrive.

6. Translate the words and phrases below.

1. linear unbiased prediction
2. estimated breeding value
3. purebred
4. studbook
6. traits
7. genetic variation
8. phenotype
9. heritability

7. Read and translate the article.

ANIMAL BREEDING

Animal breeding is controlled propagation of domestic animals in order to improve desirable qualities. Animal breeding uses best linear unbiased prediction and estimated breeding value of livestock. It also involves using knowledge from several branches of science. These include genetics, statistics, reproductive physiology, computer science, and molecular genetics.

In animal breeding, a population is a group of interbreeding individuals. Typically, certain animals within a breed are designated as purebred. The essential difference between purebred and non-purebred animals is that the genealogy of purebred animals has been carefully recorded, usually in a studbook.

Selective breeding utilizes the natural variations in traits that exist among members of any population. Breeding progress requires understanding the two sources of variation: genetics and environment. For some traits, there is an interaction of genetics and the environment. Differences in the animals' environment, such as amount of feed, care, and even the weather, may have an impact on their growth, reproduction, and productivity. Such variations in performance because of the environment are not transmitted to the next generation.

Genetic variation is necessary in order to make progress in breeding successive generations. Each gene, which is the basic unit of heredity, occupies a specific location, or locus, on a chromosome. Traits that can be observed directly, such as size, colour, shape, etc. make up an organism's phenotype.

Heritability is the proportion of the additive genetic variation to the total variation. Heritability is important because without genetic variation there can be no genetic change in the population. Alternatively, if heritability is high, genetic change can be quite rapid, and simple means of selection are all that is needed.

8. Answer the questions.

1. What is animal breeding?
2. What is called a population in animal breeding?
3. What is the difference between purebred and non-purebred animals?
4. What two sources of variation does breeding require?
5. What is heritability?

9. Choose where the words best fit the gaps. Then translate the sentences.

1. *chromosome/trait*
a. A _____ is a discrete block of DNA and is one of the basic structures of the genome.
b. A _____ is a distinguishing phenotypic characteristic, typically belonging to an individual.
2. *DNA/phenotype*
a. A _____ is what you observe or measure on the animal for a certain trait. It can depend both on the genetic background of the animal and external circumstances such as level of nutrition.
b. _____ is Deoxyribonucleic Acid, which is a macromolecule in the form of a double-stranded helix that carries the genetic information in all cells in higher organisms.
3. *animal breeding/gene*
a. _____ involves the selective breeding of domestic animals with the intention to improve desirable qualities in the next generation.
b. A _____ is the hereditary unit, containing genetic information.

10. Complete the chart. Then translate the words.

NOUN	VERB
Improvement	1)
2)	To predict
Knowledge	3)
4)	To populate
Interaction	5)
Growth	6)
7)	To occupy
8)	To variate
9)	To inherit
Selection	10)

11. Complete the sentences with the words from exercise 10.

1. Animal breeding relates to intentional s_____ by humans based on animal performance in a certain environment for predefined and heritable traits.
2. The parents with a higher than average estimated breeding value will i_____ the breeding goal traits in the next generation.
3. To be able to p_____ the additive genetic effects, we need to develop another model that describes the transmission of the genetic potential from both parents to their offspring.
4. The major challenge for food production in agriculture is the on-going g_____ of the human population.
5. Generally not all v_____ in observed phenotypes is a result of differences in genetic makeup between animals.

12. Match. Then read the article and check your ideas.

A. Crossbreeding
B. Interbreeding
C. Progeny testing
D. Hybrid vigour

1. the tendency of a cross-bred individual to show qualities superior to those of both parents.
2. producing an organism by the mating of individuals of different breeds, varieties, or species.
3. causing animals of two different species to produce young animals that are a mixture of the two species.
4. an evaluation of the genotype of an animal in terms of its offspring.

PROGENY TESTING AND BREEDING SYSTEMS

Progeny testing is used extensively in the beef and dairy cattle industry to aid in evaluating and selecting stock to be bred. Progeny testing is most useful when a high level of accuracy is needed for selecting a sire to be used extensively in artificial insemination. Progeny testing programs consist of choosing the best sires and dams in the population.

Crossbreeding involves the mating of animals from two breeds. Normally, breeds are chosen that have complementary traits that will enhance the offsprings' economic value.

The other consideration in crossbreeding is heterosis, or hybrid vigour, which is displayed when the offspring performance exceeds the average performance of the parent breeds. This is a common phenomenon in which increased size, growth rate, and fertility are displayed by crossbred offspring, especially when the breeds are more genetically dissimilar. Such increases generally do not increase in successive generations of crossbred stock, so purebred lines must be retained for crossbreeding and for continual improvement in the parent breeds. In general, there is more heterosis for traits with low heritability. In particular, heterosis is thought to be associated with the collective action of many genes having small effects individually but large effects cumulatively. Because of hybrid vigour, a high proportion of commercial pork and beef come from crossbred animals.

Inbreeding is often described as "narrowing the genetic base" because the mating of related animals results in offspring that have more genes in common. Inbreeding is used to concentrate desirable traits. Mild inbreeding has been used in some breeds of dogs and has been extensively used in laboratory mice and rats.

Inbreeding is generally detrimental in domestic animals. Increased inbreeding is accompanied by reduced fertility, slower growth rates, greater susceptibility to disease, and higher mortality rates. As a result, producers try to avoid mating related animals.

13. Continue the sentences. Then translate.

1. Progeny testing is used _____
_____.
2. Progeny testing programs _____
_____.
3. Crossbreeding involves _____
_____.
4. Heterosis is thought to be _____
_____.
5. Inbreeding is used _____
_____.
6. Mild inbreeding has been used _____
_____.
7. Increased inbreeding is accompanied _____
_____.

14. Read the article. Match the headings with the paragraphs.

A. Embryo transfer
B. Cloning
C. Artificial insemination (AI)

REPRODUCTIVE TECHNIQUES

Reproduction techniques are becoming more and more important and necessary for modern animal breeding. Reproduction techniques are used to make safe and efficient breeding possible. Reproductive techniques allow the dissemination of genes of interest and increased the reproductive capacities of animals. These technologies can bring a lot of advantages, but can also evoke strong emotions from the society. Over the years different techniques have been invented, developed and exploited for the breeding sector.

1. In _____ semen is collected from an adult male and injected into the uteri of a fertile female. Collected semen is often stored or transported in frozen form, which makes this technique suitable for global use or storage. AI makes it possible to rapidly produce a large number of offspring from a genetically excellent male. In addition, disease spreading is prevented with the use of AI.

2. _____ is the transfer of an embryo from a superior donor female and implanted in a surrogate mother. In this technique disease transmission is even more minimized, compared to AI. Equivalent to the AI semen, the embryos can be frozen, so they can be widely distributed or stored for future use. Semen, however, cannot be used to preserve endangered breeds. Embryo transfer can be combined with super ovulation. This method stimulates female animals to produce many more ova and thus embryos, than they would naturally do. This is economically very valuable for the breeder, as more embryos can be taken away from the female.

3. _____ is another method of multiplying improved animals, currently not used for animal production. Potentially cloning can be used to produce genetic copies of individuals and for dissemination of genetic progress but it may also be used to introduce a new or endangered breed into a country without risk of disease transmission by transport of animals. Today cloning in farm animal breeding is done mainly for research purposes and not for production of milk, meat or eggs.

15. According to the article in exercise 14 which technique:

can be used to produce genetic copies of individuals 1. _____

can produce a large number of offspring from a genetically excellent male 2. _____

stimulates female animals to produce many more ova and thus embryos 3. _____

is done mainly for research purposes 4. _____

can prevent disease spreading 5. _____ 6. _____ 7. _____

16. Read the article.

REPRODUCTIVE DISEASES

Reproductive diseases can have significant economic impacts on livestock businesses. They can have severe consequences on production systems and have the capacity to go unnoticed in herds for long periods of time. Reproductive losses can be caused by infectious agents such as bacteria, virus, and parasites or can be caused by other factors such as stress, or nutritional deficiencies. The most common infectious reproductive diseases are Vibriosis, Leptospirosis, and Trichomoniasis.

Vibriosis is a common venereal disease spread by mating infected bulls to susceptible cows or vice versa. Vibriosis is most likely to occur in heifers, older bulls, by introducing new breeding animals into a herd, and when moving infected sires or dams between herds. Signs of vibriosis in cattle include: low calving rates, early-term abortion or embryonic loss, extended breeding season. Vibriosis can be controlled by regular vaccination of bulls.

Leptospirosis is a contagious bacterial disease affecting humans and animals, and occurs in cattle, sheep and goats. It occurs mainly in humid climates and is considered a workplace hazard for those who work with susceptible animals. Leptospirosis is spread through the urine of infected animals. Clinical signs may develop quickly and can include: red-coloured urine, decreased activity, abortion and still births, fever and death in young animals. Prevention strategies include vaccination.

Trichomoniasis is a venereal disease caused by a parasite, causing embryonic loss and abortions in cows, and sometimes uterine infection and vaginal discharge. Bulls maintain the infection in their genital tract and transmit the disease during mating. Similarly, infected females can infect bulls. Clinical signs may include: early term abortion and low calving rates. Prevention strategies include: culling infected bulls, reducing the age of bulls used and controlling mating.

17. Match the underlined words and phrases from the article in exercise 16 with their Russian equivalents.

1. низкие показатели отелов
2. эмбриональная потеря
3. выбраковка
4. производитель женского рода
5. вагинальные выделения
6. выкидыш на ранней стадии
7. последствия
8. производитель мужского рода
9. дефицит питательных веществ
10. период спаривания
11. тёлки
12. спаривание

18. **Page 99 FURTHER READING.** ***Normal birth in the cow.***

GRAMMAR

Future Simple

Will

I/We/You/They/He/She/It	**will** **won't (will not)**	work.

Will	I/we/you/they/he/she/it	work?	**Yes,** I (he, they, it…) **will**. **No,** I (he, they, it…) **won't.**

1. Use the following verbs with *will* or *won't* to complete these dialogues: *have, take, phone, finish, be, be, pass, make.*

1. - Are you coming to the Veterinary Surgery conference on Sunday?
   - I'm not sure. I _____ _____ you on Saturday.
2. - Hurry up. We _____ _____ late.
   - No, we won't. We _____ _____ a taxi.
3. - George is going to have a party on Friday.
   - Why?
   - It's his birthday. He _____ _____ 21 on Friday.
4. - She _____ _____ an English test tomorrow.
   - Why not?
   - She _____ _____ many mistakes. She always makes many mistakes in tests.
5. - _____ Steve _____ the Animal Anatomy project next week?
   - No, he won't finish. He _____ _____ time.

2. Put the best phrase below in each gap. Start your sentences with I'll*: phone for a taxi, give you the name of a language school, ask him to call back, carry some of them, open a window, go with you, give you some money, make you a sandwich.*

1. A: I want to take these Animal Physiology textbooks home, but they are very heavy
   B: _____.
2. A: I feel sick, it's hot in this room.
   B: _____.
3. A: I want to buy a new software program, but I don't have any money.
   B: _____.
4. A: I'm hungry. I haven't eaten since breakfast time.
   B: _____.
5. A: I want to improve my level of English.
   B: _____.
6. A: It's 9 o'clock. I'll be late for a surgery.
   B: _____.
7. A: I want to speak to my scientific guide. It's very urgent.
   B: _____.
8. A: I need to go to the University library, but I don't know the way.
   B: _____.

Unit Vocabulary Consolidation

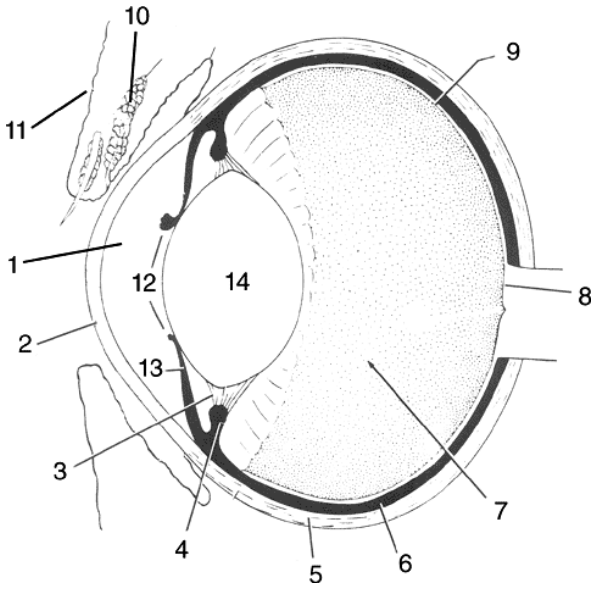
Additive *(adjective)* _____
Artificial insemination *(noun)* _____
Average *(adjective)* _____
Birth process *(noun)* _____
Breeding *(noun)* _____
Calving *(noun)* _____
Complementary *(adjective)* _____
Culling *(noun)* _____
Cumulatively *(adverb)* _____
Dam *(noun)* _____
Detrimental *(adjective)* _____
Diploid *(adjective)* _____
Dissemination *(noun)* _____
Dissimilar *(adjective)* _____
Economic value *(noun)* _____
Embryo *(noun)* _____
Employ *(verb)* _____
Endangered *(adjective)* _____
Estimated breeding value *(noun)* _____
Exceed *(verb)* _____
Fertility *(noun)* _____
Haploid *(adjective)* _____
Heifer *(noun)* _____
Hybrid vigor *(noun)* _____
Impact *(verb)* _____
Interbreeding *(noun)* _____
Leptospirosis *(noun)* _____
Mate *(noun)* _____
Mating behavior _____
Mature *(adjective)* _____
Offspring *(noun)* _____
Ova *(noun)* _____
Phenotype *(noun)* _____
Prediction *(noun)* _____
Progeny testing *(noun)* _____
Propagation *(noun)* _____
Purebred *(adjective)* _____
Rapid *(adjective)* _____
Selective breeding *(noun)* _____
Self-fertilization *(noun)* _____
Sire *(noun)* _____
Still birth *(noun)* _____
Stock *(noun)* _____
Studbook *(noun)* _____
Surrogate *(adjective)* _____
Trait *(noun)* _____
Trichomoniasis *(noun)* _____
Unit of heredity *(noun)* _____
Utilize *(verb)* _____
Vaginal discharge *(noun)* _____
Variation *(noun)* _____
Vibriosis *(noun)* _____

UNIT 5

VOCABULARY ***Animal Ophthalmology***

1. Translate.

1. Anterior chamber
2. Cornea
3. Suspensory ligament
4. Ciliary body
5. Sclera
6. Choroid
7. Vitreous chamber
8. Optic disc
9. Retina
10. Lacrimal gland
11. Eyelid
12. Pupil
13. Iris
14. Lens



1. Read and translate the article.

BASIC ANATOMY

The eye is protected by upper and lower lids, as well as a third eyelid, called the nictitating membrane. Glands which produce tears are located under the lids. The front portion of the eye itself is covered with a thin, clear covering called the cornea. The remainder of the eye is covered with dense white tissue, the sclera. The margin of the cornea and the sclera is called the limbus. The episclera is the outside surface of the sclera. The conjunctiva is the tissue which reflects from the inside of the eyelids onto the globe. Glands which produce tears are also located in the conjunctiva.

The iris is the colored portion of the eye; the black open space in the iris is the pupil. Behind the pupil is the lens. The lens is attached to the ciliary body. The back of the eye is covered with a layer of tissue called the retina. The inside of the globe is filled with a clear fluid called aqueous humor. This fluid is produced by the ciliary body and nourishes the eye while helping to maintain its shape. This fluid is continually produced and drained from the eye. Drainage occurs at the iridocorneal angle, also called the drainage or filtration angle.

The eye is a complex structure that processes images for transfer to the brain. It is composed of several interrelated structures. A problem that affects any portion of the eye can result in loss of vision. A problem that affects one portion of the eye may also affect adjacent structures. Prompt examination and treatment can prevent severe, progressive disease.

3. Match. Then translate.

1. Nictitating membrane 2. Cornea 3. Sclera	A. The third eyelid. B. A layer of dense connective tissue that supports the eye. It is the white portion of the eye that connects to the cornea. C. The transparent portion of the outer layer of the eye, which allows light to enter the eye.

4. Conjunctiva 5. Globe 6. Iris	D. The colored, circular portion of the eye located behind the cornea. E. The eyeball. F. The mucous membrane lining the back of the eyelids and the front of the eye, except for the cornea.
7. Lens 8. Pupil 9. Ciliary body	G. The part of the vascular layer of the eye (uvea) located between the iris and the choroid. H. The circular opening in the center of the iris through which light passes into the eye. I. A transparent structure suspended in the front portion of the eye.
10. Retina 11. Aqueous humor 12. Uvea	J. The innermost coat of the eye, formed of cells sensitive to light. K. The clear, watery fluid which fills the eye. L. The portion of the eye which contains many blood vessels.

4. Read the article.

AN EYE DOCTOR

Contrary to popular belief, not all animals have the same vision acuities. Some animal species like dogs are color blind - while others like birds and bees have exceptional vision - and can see many different colors that the human eye can't distinguish. It's the job of a veterinary ophthalmologist to provide optical care for a wide variety of animal species, in private practices, research facilities and public zoos.

Veterinary ophthalmologists are veterinarians with advanced training in ocular medicine that allows them to diagnose and treat conditions of the eye including cataracts, corneal ulcers, conjunctivitis, uveitis, and glaucoma. They also provide treatment for traumatic eye injuries.

Routine duties for an ophthalmologist include performing diagnostic tests, pre-surgical exams, and surgical procedures, compiling detailed case reports, overseeing veterinary technicians or other support staff and providing specialty consultations on cases referred to them by general practitioners.

Ophthalmology is one of the specialties in which veterinarians can achieve board certification. Veterinary ophthalmologists may choose to specialize in working with one particular species or a category of interest such as large animal, small animal, equine, bovine or exotics.

While most veterinary ophthalmologists choose to work in private practice, some are involved in academia or other roles.

5. Answer the questions.

1. Do all animals have the same vision acuities?
2. What is the job of a veterinary ophthalmologist?
3. Where can veterinary ophthalmologists work?
4. What conditions of the eye do they diagnose and treat?
5. What are the routine duties for an ophthalmologist?
6. Can veterinary ophthalmologists specialize in working with one particular species or a category of interest such as large animal?

6. Translate. Use the article in exercise 4.

1. острота зрения
2. исключительное зрение
3. не различающий цветов
4. язва роговицы
5. воспаление сосудистой оболочки глазного яблока
6. врач общей практики
7. травма глаза
8. профессиональная сертификация

7. Translate.

1. anterior uvea
2. posterior uvea
3. intraocular pressure
4. corneal ulceration
5. septicemia
6. malignant catarrhal fever
7. corneal edema
8. corneal ulceration
9. lens luxation
10. aversion to light

8. Read the article.

UVEITIS IN CATTLE

The uvea is a very vascular structure that is critical for the maintenance of a healthy eye. It is comprised of 3 connected portions - the iris, the ciliary body, and the choroid. The anterior uvea is made up of the iris and the ciliary body. The posterior uvea, located towards the back of the eye, is comprised of the choroid. The iris controls the amount of light that enters the eye. The ciliary body controls the focus of the lens, produces aqueous humor, and helps regulate intraocular pressure. The anterior uvea acts as a blood-aqueous barrier and prevents unwanted particles from the bloodstream from entering the aqueous humor. The choroid provides nourishment to the retina.

Because the uvea is highly vascular, it is very reactive to changes in the body and is easily inflamed. Inflammation of the uvea is called uveitis. It may occur with several disease conditions seen in the eye. The cause may be external to the eye and include trauma. In addition, uveitis may follow corneal injuries and corneal ulceration. Uveitis in cattle can be caused by infectious agents such as tuberculosis, neonatal septicemia, and malignant catarrhal fever (MCF) These infections can cause disease not only in the eye, but throughout the body.

Signs of uveitis may include pain, redness of the conjunctiva, corneal edema, red blood cells or white cells in the anterior chamber, epiphora, spasm of the eyelids, and aversion to light.

Diagnosis is based upon complete physical and ocular examination. A thorough eye examination includes measurement of the intraocular pressure. The pressure is typically decreased with uveitis. Additional testing may include blood testing to search for the underlying cause of the disease.

Treatment is aimed at reducing the inflammation of the uvea with anti-inflammatory agents including corticosteroids and non-steroidal anti-inflammatories can be applied topically. Treatment may be altered depending on the cause of the uveitis. Treated animals should be re-examined within one week following the initial treatment and re-evaluated every few weeks. If uveitis is left untreated, glaucoma, lens luxation, and blindness can result. Successful treatment can involve several months of continual medication and follow-up examinations.

9. Decide if the statements are true or false. Correct false statements.

1. The uvea is the colored, circular portion of the eye located behind the cornea.
2. The anterior uvea is made up of the pupil and the sclera.
3. The choroid provides nourishment to the retina.
4. Because the uvea is highly vascular, it is easily inflamed.
5. Signs of uveitis may include vomiting and diarrhea.
6. Diagnosis is based upon complete physical and oral examination.
7. An eye examination includes measurement of the intraocular pressure.
8. Treatment is aimed at reducing the inflammation with the help of surgery.
9. If uveitis is left untreated, glaucoma, lens luxation, and blindness can result.
10. Successful treatment can involve several months of continual medication and follow-up examinations.

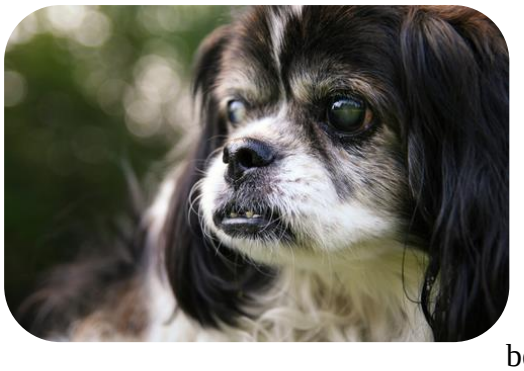
10. Choose the correct alternative.

1. The uvea is a very ***inflammation/vascular*** structure that is critical for the maintenance of a healthy eye.
2. The ***posterior/anterior*** uvea, located towards the back of the eye, is comprised of the choroid.
3. The anterior uvea prevents unwanted ***blindness/particles*** from entering the aqueous humor.
4. The cause of uveitis may be ***external/internal*** to the eye and include trauma.
5. Additional testing may include blood testing to search for the ***reducing/underlying*** cause of the disease.
6. Treatment is aimed at reducing the ***examination/inflammation*** of the uvea.
7. If uveitis is left ***untreated/malignant***, glaucoma, lens luxation, and blindness can result.
8. The pressure is typically ***decreased/increased*** with uveitis

12. Page 100 FURTHER READING. ***How do animals see the world?***

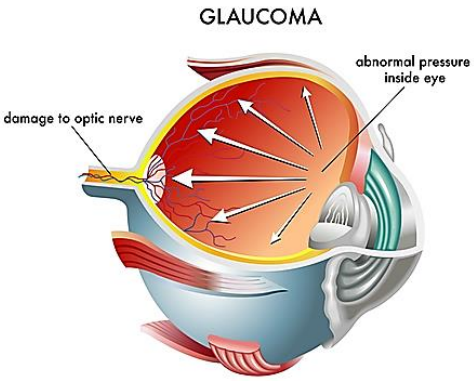
13. Read and translate the article.

GLAUCOMA IN DOGS



Glaucoma is defined as “an increase in pressure in the eye, with a loss of vision.” The disease is quite painful in most cases, especially when the eye pressure is very elevated. The signs of glaucoma include redness, cloudy eye, tearing, squinting, loss of vision, an enlarged eyeball, unusual aggressiveness, lethargy, and loss of appetite. The normal physiology of the fluid in the eye calls for the fluid to be made in one structure behind the pupil, travel through the pupil, and exit out the space between the cornea and the iris. When the fluid cannot properly drain from the eye, the pressure in the eye is increased. Some patients have primary glaucoma where there is no concurrent disease but some secondary causes of glaucoma include inflammation, trauma, and tumors. All of these factors can obstruct the drainage of fluid from the eye. Glaucoma.is a disease that is managed with medical therapy or surgery.

Glaucoma is an ophthalmic emergency and must be treated immediately. If the pressure remains elevated for even a few hours, permanent vision loss occurs. The disease is difficult to treat but several options are available depending on whether the patient still has vision, the species of the patient, financial considerations, etc. Some of the options include medical management with pills and eye drops, shunt and laser treatment to reduce the fluid production and improve outflow, and removal of the blind and painful eye with a cosmetic prosthesis.



14. Answer the questions.

1. How is glaucoma defined?
2. What are the signs of glaucoma?
3. What happens, when the fluid cannot properly drain from the eye?
4. When can permanent vision loss occur?
5. What treatment of glaucoma is available?
6. What does treatment depend on?

15. Complete the sentences.

1. Glaucoma is _____, especially when the eye _____ is very elevated.
2. The normal physiology of the _____ in the eye calls for the fluid to be made in one structure behind the _____, travel through the pupil, and exit out the space between the _____ and the _____.
3. Surgery includes _____ of the blind and painful eye with a cosmetic _____.

GRAMMAR

Future

Be going to

Affirmative

I You/We/They He/She/It is	**am ('m)** **are ('re) going to** **is ('s)**	work.

Negative

I You/We/They He/She/It	**am not ('m not)** **are not (aren't) going to** **is not (isn't)**	work.

Questions

Am **Are** **Is**	I you/we/they **going to** he/she/it	work?

Short answers

Yes,	I we/you/they he/she/it	**am.** **are.** **is.**
No,	I'**m not** we/you/they he/she/it	**aren't.** **isn't.**

1. Mark has decided what to do in his life. Complete the sentences, using short forms of *be going to* and the verbs in brackets.

1. I _____ (study) Ophthalmology at university.
2. I _____ (travel) all over the world as a member of voluntary organization to help homeless animals.
3. I _____ (not work) in an office.

4. I _____ (achieve) board certification.
5. I _____ (work) in private practice or be involved in academia.
6. My friend and I _____ (not miss) lectures and seminars.
7. My friend _____ (not provide) optical care for exotic animals.
8. We _____ (pass) the final exams successfully.

2. Write positive sentences with short forms of *be going to* and the words in brackets.

1. (I/see/Professor Simpson/tomorrow)
_____.
2. The hospital/buy/new ophthalmologic equipment/next week)
_____.
3. (They/work hard/this term)
_____.
4. (He/send me a letter/tonight)
_____.
5. (Students/take/an Eye Anatomy test/next Monday)
_____.
6. (The company/hire a new support team / in 2020)
_____.

3. Write negative sentences with short forms of *be going to* and the words in brackets.

1. (We/not/be involved in research facilities/next September)
_____.
2. (Mr. Perkinson/not/provide optical care for a wide variety of animal species /next year)
_____.
3. (Billy/not/perform diagnostic tests/tomorrow)
_____.
4. (She/not/provide any specialty consultations/today)
_____.
5. (My colleague and I/not/prepare a case report for the procedure)
_____.
6. (Miss Collins/not/remove the painful eye with a cosmetic prosthesis)
_____.

4. Write questions and short answers with *be going to* and the words in brackets.

1. (laser treatment/reduce the fluid production and improve outflow)
_____? Yes, _____.
2. (she/measure the intraocular pressure)
_____? No, _____.
3. (the treatment/reduce the inflammation of the uvea)
_____? No, _____.
4. (he/work as a veterinary assistant/this summer)
_____? Yes, _____.
5. (Jack/set up his own veterinary practice/this year)
_____? Yes, _____.
6. (you/take a blood testing to search for the cause of the disease)
_____? No, _____.

Unit Vocabulary Consolidation

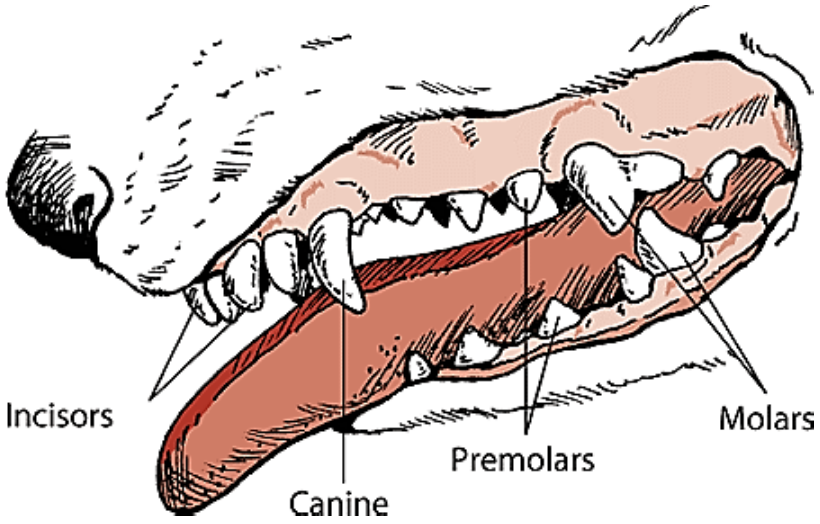
Acuity *(noun)* _____
Alter *(verb)* _____
Anterior chamber *(noun)* _____
Aqueous humor *(noun)* _____
Aversion *(noun)* _____
Blindness *(noun)* _____
Choroid *(noun)* _____
Ciliary body*(noun)* _____
Color blind *(adjective)* _____
Concurrent *(adjective)* _____
Conjunctiva *(noun)* _____
Conjunctivitis *(noun)* _____
Cornea *(noun)* _____
Corneal edema *(noun)* _____
Corneal ulcer *(noun)* _____
Corneal ulceration *(noun)* _____
Distinguish *(verb)* _____
Epiphora *(noun)* _____
Eyelid *(noun)* _____
Eyelid *(noun)* _____
Filtration angle *(noun)* _____
Glaucoma *(noun)* _____
Globe *(noun)* _____
Iridocorneal angle *(noun)* _____
Iris *(noun)* _____
Lacrimal gland *(noun)* _____
Lens *(noun)* _____
Lens luxation *(noun)* _____
Malignant catarrhal fever *(noun)*_____
Neonatal septicemia *(noun)* _____
Nictitating membrane *(noun)*_____
Nourish *(verb)* _____
Obstruct *(verb)* _____
Ocular *(noun)* _____
Optic disc *(noun)* _____
Posterior uvea *(noun)* _____
Prosthesis *(noun)* _____
Pupil *(noun)* _____
Removal *(noun)* _____
Retina *(noun)* _____
Sclera *(noun)* _____
Shunt *(noun)* _____
Squinting *(noun)* _____
Suspensory ligament *(noun)* _____
Tearing *(noun)* _____
Uveitis *(noun)* _____
Vision *(noun)* _____
Vitreous chamber *(noun)* _____

UNIT 6

VOCABULARY *The World of Animal Dentistry*

1. Match. Then translate.

A. Incisors
B. Molars
C. Premolars
D. Canines



1. _____ are small, single-rooted teeth at the front of the mouth that commonly become mobile when affected by periodontal disease. They are used for cutting, scooping, picking up objects and grooming.
2. _____ are teeth often greatly enlarged in carnivores used for holding prey, display, slashing and tearing when fighting and act as a cradle for the tongue.
3. _____ are used for holding, carrying and breaking food into small pieces. They are situated between the canine and the molar teeth
4. _____ are used for grinding food into small pieces with flat occlusal tables. They are at the back of a mammal's mouth.

2. Complete the article with the words from the box. Read the article.

cavity	anesthesia	fractures	human	dentists
horses	complications	swellings		

VETERINARY DENTISTRY

Veterinary dentistry is the field of dentistry applied to the care of animals. It is the art and science of prevention, diagnosis, and treatment of conditions, diseases, and disorders of the oral 1) _____, the maxillo-facial region, and its associated structures.

Veterinary 2) _____ offer services in the fields of endodontics, oral and maxillofacial radiology, oral and maxillofacial surgery, oral medicine, orthodontics, periodontics, and prosthodontics. Similar to 3) _____ dentists, they treat conditions such as jaw 4) _____, malocclusions, oral cancer, periodontal disease, and stomatitis and other conditions unique to veterinary medicine.

Some animals have specialist dental workers, such as equine dental technicians who conduct routine work on 5) _____.

Most pet owners are not aware that their pet has an oral problem so an examination of the oral cavity should be a part of every physical examination. Oral examination in a conscious animal can only give limited information and a definitive oral examination can only be performed under general 6) _____.

It is important to examine the whole animal, even when the primary complaint is the mouth. Some dental diseases may be the result of a systemic problem and some may result in systemic 7) _____. In all cases, dental procedures require a general anesthetic so it is important to establish the cardiovascular and respiratory status and physiological values of the patient to avoid risks or complications.

It is important to recognize symptoms that may have a link to dental diseases such as a nasal discharge or external facial 8) _____. In some cases, dental patients may even show neurological symptoms.

The main signs of oral disease include:

- ✓ halitosis
- ✓ broken or discolored teeth
- ✓ changes in eating behavior
- ✓ rubbing or pawing at the face
- ✓ ptyalism
- ✓ bleeding from the mouth
- ✓ inability or unwillingness to open or close the mouth
- ✓ change in temperament
- ✓ morbidity
- ✓ weight loss

3. Translate the article.

4. Read the interview. Match the questions with the answers.

AN INTERVIEW WITH DR. SAM SMILEY

A. What do you enjoy most about the opportunity to work as a vet dentist?
B. Name an animal that you'd like to work on, but haven't yet.
C. Which animal has been your favorite patient?
D. How did you get the opportunity to work on animals at the Columbus Zoo?
E. Name an animal that has been the most difficult to work on.

Dentistry is a door to many unexpected opportunities. This was certainly the case for Dr. Sam Smiley from Ohio. Thirteen years into his career, Dr. Smiley received a fateful call from the Columbus Zoo. A 350-pound western gorilla was not eating properly and was in obvious distress. Dr. Smiley was asked to perform a dental exam during the gorilla's routine physical. So began his career as a volunteer dentist for the Columbus Zoo. Since then, Dr. Smiley has had the special opportunity to work on gorillas, tigers and even polar bears.

1. _____ Well, about 15 or 20 years ago, Mike Berry, one of the new veterinarians at the zoo came into my office to have his teeth cleaned. He told me that one of the gorillas had been in a fight with a younger gorilla and had broken a tooth. He asked me if a broken tooth would keep a gorilla from eating. I told him if it's infected, it could. So that's how it started. I went in and took an x-ray. Sure enough, the tooth was infected, so we did a root canal on him.

2. _____ My favorite patient was a baby gorilla named Moanna. She was so little when I saw her for the first time. When they're that young, you can look inside of their mouths without anesthesia. And as she got older, she remembered me – she knew who I was, which is pretty cool.

3. _____

The most difficult animal was the polar bear because she was too heavy to move. We worked on all of the other animals on a table in the emergency room. We could raise and lower the table so that we could work at a comfortable height. We had to do that polar bear's root canal on a cold, concrete floor laying down. It was really uncomfortable. Yeah, that was a hard one.

4. _____

I'd love to have the chance to work on an elephant - the tusk of an elephant. That would be awesome.

5. _____ How many times do you get to do something really different from what you do every day? How many times in your life are you going to be able to touch a tiger? I was able to touch the paws and appreciate how big it really was. I was able to pick up a gorilla's hand and hold it. I have had some amazing experiences. I really do feel very fortunate.

5. Read the article.

COMMON EQUINE DENTAL PROBLEMS

Horses have a variety of problems with their teeth. Some are inherent or genetic, and others result from the general wearing down of the horse's teeth, accidents, or disease.

Problem teeth can be broken down into the following nine categories:

1. ***Absent Teeth****:* Missing teeth are fairly common in horses. They are usually caused by failure of normal development of a tooth bud. If the missing tooth doesn't create a problem with chewing, no treatment is necessary.

2. ***Canine Teeth***: Canine teeth are large and tusk-like in form. They are commonly found in male horses and may need to be rasped down. A canine tooth that fails to erupt may cause a cyst in the gum which should be evaluated by an equine dentist or veterinarian if it causes sensitivity in the gum.

3. ***Dental Caps:*** Dental caps are deciduous or temporary teeth that remain attached to the permanent teeth after they have erupted. The caps can be extremely sharp and may cut the cheek or tongue. Dental caps should be removed once the adult teeth have emerged from the gum line.
4. ***Hooks:*** Long sharp points may develop on the first upper cheek teeth known as the second premolars and the last lower cheek teeth, the third molars. This can cause a malocclusion problem and the long sharp points may lacerate the gums and make eating painful. Small hooks can be filed off, and large hooks should be cut off.
5. ***Impacted Teeth:*** When a horse has a foreshortened upper or lower jaw, insufficient room exists for the teeth to erupt normally. When the teeth cannot come through, they become impacted. If the impacted teeth become infected or create chewing problems, they should be extracted.
6. ***Retained Incisors:*** Retained incisors are similar to dental caps except that the retained incisors are in front of the permanent incisors. These incisors should be extracted to insure a correct bite.
7. ***Split or Broken Teeth:*** A fractured or cracked tooth may not cause any problems especially if the split doesn't extend below the gum line. If damage to the broken or split tooth involves the root or surrounding bone, the tooth should be removed. The main problem with a split or broken tooth is that the opposing tooth will not be ground down during the eating process resulting in increased length that may interfere with chewing. In this case, the opposing tooth should be floated or rasped frequently to prevent mouth injury.
8. ***Supernumerary Teeth:*** Supernumerary teeth are excess teeth that develop due to the splitting of a tooth bud. These excess teeth create dental crowding that push other teeth out of alignment and may cause gum infection and tooth decay. If the extra teeth injure the gums or cheek, they can be filed or trimmed. In some cases, supernumerary teeth should be removed to keep the regular teeth properly aligned.
9. ***Wolf Teeth***: Wolf teeth, often present in the upper jaw, are vestiges of the first premolars. Delay in eruption and displacement by the second premolars may cause abnormal alignment. If sharp points develop they may lacerate the cheeks and tongue. When this occurs, wolf teeth should be extracted.

6. Complete the sentences with the correct teeth problem from the article in exercise 5. Then translate the sentences.

1. _____ are usually caused by failure of normal development of a tooth bud.
2. _____ are vestiges of the first premolars.
3. _____ are commonly found in male horses and may need to be rasped down to prevent interference with the bridle or bit.
4. _____ are excess teeth that develop due to the splitting of a tooth bud.
5. _____ should be removed once the adult teeth have emerged from the gum line.
6. The main problem with _____ is that the opposing tooth will not be ground down during the eating process resulting in increased length that may interfere with chewing.
7. _____ can cause a malocclusion problem.
8. If the _____ become infected or create chewing problems, they should be extracted.
9. _____ should be extracted to insure a correct bite.

7. Match the <u>underlined</u> words from the article in exercise 5 with their definitions.

1. _____ to tear or make deep cuts in
2. _____ the primordial structures from which a tooth is formed; the enamel organ, the dental papilla, and the dental sac enclosing them
3. _____ the position of the margin of the gum in relation to teeth in the dental arch
4. _____ a closed, bladderlike sac formed in animal tissues, containing fluid or semifluid matter
5. _____ irregular contact of opposing teeth in the upper and lower jaws
6. _____ another name for molar and premolars
7. _____ dental caries of the outer surface of a tooth as a result of bacterial action
8. _____ an occlusal record or relationship between the upper and lower teeth or jaws

8. Read the article and choose the correct alternative. Then translate.

PERIODONTAL DISEASE IN SMALL ANIMALS

Periodontal disease is the most common clinical condition occurring in adult dogs and cats, and is entirely 1) ***preventable/multiple.*** By three years of age, most dogs and cats have some evidence of periodontal disease. Unfortunately, apart from bad breath, there are few signs of the disease process evident to the owner, and professional dental cleaning and periodontal therapy often comes too late to prevent extensive disease or to save teeth. As a result, periodontal disease is usually under-treated, and may cause multiple problems in the oral 2) ***gum/cavity*** and may be associated with damage to internal organs in some patients as they age.

Periodontal disease begins when bacteria in the mouth form a substance called 3) ***plaque/tissue*** that sticks to the surface of the teeth. Subsequently, minerals in the saliva harden the plaque into dental calculus or tartar, which is firmly attached to the teeth. Tartar above the gum line is obvious to many owners, but it is not the cause of disease itself.

The real problem develops as plaque and calculus spread under the 4) ***gum line/tartar.*** Bacteria under the gum line secrete 5) ***calculus/toxins***, which contribute to the tissue damage if untreated. These bacteria also affect the animal's immune system. The initial changes cause white blood cells and inflammatory chemical signals to move into the periodontal space. The function of the white blood cells is to destroy the bacterial 6) ***excessive/invaders***, but chemicals released by the overwhelmed white blood cells cause damage to the supporting tissues of the tooth. Instead of helping the problem, the patient's own protective system actually worsens the disease when there is severe build-up of plaque and tartar.

Periodontal disease includes gingivitis and periodontitis. Effects within the oral cavity include damage to or loss of gum tissue and bone around the teeth, development of a hole from the oral cavity into the nasal passages causing nasal 7) ***evidence/discharge***, fractures of the jaw following weakening of the jaw bone, and bone infection. Studies in dogs have shown that periodontal disease is associated with microscopic changes in the heart, liver, and kidneys.

Treatment of periodontal disease is multi-faceted. If a pet has tartar or large amounts of plaque, professional dental cleaning is required, which includes a thorough oral examination, scaling and 8) ***polishing/nasal.*** Dental radiographs are required to correctly diagnose and assist in treatment of patients with extensive disease.

9. Page 101 FURTHER READING. *Conscious oral examination.*

10. Read the facts.

10 FUN FACTS ABOUT ANIMAL TEETH!

The animal kingdom is a fascinating place full of wonders and mystique! From caterpillars reforming their bodies within cocoons, to monkeys that dive for fish, animals are truly fantastic creatures. As interesting as animals are, their teeth are even more intriguing. Below are some of our favorite facts about animal teeth!

1. Sharks lose a lot of teeth. Sharks' teeth are positioned in rows within their mouths, and as the rows move forward, new teeth push older ones out. They usually lose at least one tooth per week! At that rate, a human would be toothless in 32 weeks!
2. Elephant tusks are actually a set of teeth that never stop growing! Some think that they are elongated canine teeth, but they're actually extra-long incisors.
3. Giraffes and humans have the same number of teeth – 32. However, giraffes have no upper front teeth, and most of their teeth are actually molars in the back of their mouths.
4. Frogs have teeth, but toads do not. However, both amphibians swallow their food whole!
5. Rabbits, squirrels and other rodents have teeth that never stop growing, that is why they chew on tough foods like nuts, leaves and bark. It helps wear down their teeth and keep them from growing too long.
6. Mosquitos have 47 teeth! They are so small that they cannot be seen without magnification.
7. A lot of herbivorous animals like cows and sheep don't have incisors. These animals use their lips to cut their food, and then process it normally.
8. A horse's teeth are massive and weigh more than its brain.
9. Snails have over 25,000 microscopic teeth on their tongues!
10. You can uncover a dolphin's age by counting the rings in its teeth, the same way as you can determine the age of a tree!

11. Answer the questions.

1. How can you determine a dolphin's age?
2. Whose teeth never stop growing?
3. Which animals lose at least one tooth per week?
4. Which animals have the same number of teeth as humans?
5. Whose teeth can't you see without magnification?
6. Why do toads swallow their food whole?
7. Whose teeth weigh more than the brain?
8. Which animals have teeth on their tongues?
9. Which animals use their lips to cut the food?
10. Why do squirrels eat nuts?

GRAMMAR

Can, Could

Affirmative

I You He/She/It We They	**can** **could**	measure. improve.

Negative

I You He/She/It We They	**can (can't)** **could not (couldn't)**	measure. improve.

Questions and short answers

Can **Could**	I you he/she/it we they	measure? improve?	**Yes**, I/you/he/she/it/we/they **can.** **No,** I/you/he/she/it/we/they **can't.**

1. Put the words in order.

1. speak/languages/she/can/four.
_____.
2. scientists/tell the age/can/of a dolphin by the rings on their teeth?
_____ _____ ?
3. up to 2-3,000 teeth during their lifetime/can/grow/crocodiles.
_____ .
4. be/prevented/can/periodontal disease.
_____.
5. provide/can/professional dental cleaning/you?
_____.
6. he/set up/can't/his own veterinary practice.
_____.
7. take/a routine physical /you/can?
_____?

9. be/can't/the surgical table/lowered.
_____.
10. a veterinarian/board certification/can/achieve.
_____.
11. can/periodontal therapy/save animal's teeth.
_____.
12. show/dental patients/can/neurological symptoms?
_____?

2. Complete with *can, can't, could, couldn't.*

1. Only after physical examination, the technicians _____ draw blood samples for pre-anesthetic blood work.
2. I _____ remember the name of the disease. Do you know it?
3. Dr. Blunt _____ do the surgery, because the dog was vomiting.
4. The patient _____ recover soon. Tooth extraction is a simple procedure.
5. We _____ finish the course project, because we are busy with writing reports.
6. Kathrin _____ take part in a conference, because she was ill.
7. Last week the ultrasound equipment didn't work, so they _____ make any diagnoses.
8. It was difficult for an inexperienced vet to extract the tooth, but he _____ do it!
9. You _____ start the surgical procedure before the surgical room is prepared.
10. She didn't type the article, because she _____ install a new software program.
11. The Dodo _____ fly, so it was easy to catch it.
12. Veterinary medicine _____ be widely used in agriculture.

3. Answer the questions. Use short answers.

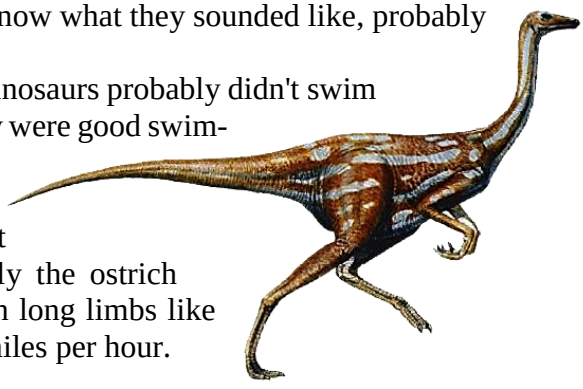
1. Can computed tomography diagnose abnormal blood vessels? Yes, _____.
2. Can you show me the tissue sample from the neoplasm? No, _____.
3. Could vets in the 19th century take x-rays? Yes, _____.
4. Can a healthy molar cause a cyst in the gum? No, _____.

4. Complete the article with *could* or *couldn't* and one of the following verbs: *communicate, run, blow, cross, survive.*

Do you think dinosaurs could survive today? - I don't think dinosaurs 1) _____ in our world. The air is different and the plants are unfamiliar.

Do we have any evidence that dinosaurs communicated with each other? - Dinosaurs 2) _____ with each other, but we don't know what they sounded like, probably they 3) _____ loud.

Could dinosaurs swim in deep water? - Dinosaurs probably didn't swim in deep water since they all lived on land. But they were good swimmers and 4) _____ rivers when they needed to.



What was the speed of the fastest dinosaur? - The fastest dinosaurs were probably the ostrich mimic ornithomimids - toothless meat-eater with long limbs like ostriches. They 5) _____ at least 25 miles per hour.

Unit Vocabulary Consolidation

Alignment *(noun)* _____
Bite *(noun)* _____
Bridle *(noun)* _____
Canine *(noun)* _____
Cheek teeth *(plural noun)* _____
Chewing *(noun)* _____
Complication *(noun)* _____
Cracked *(adjective)* _____
Cut off *(phrasal verb)* _____
Cyst *(noun)* _____
Dental cap *(noun)* _____
Displacement *(noun)* _____
Distress *(noun)* _____
Endodontics *(noun)* _____
Erupt *(verb)* _____
Extract *(verb)* _____
File off *(phrasal verb)* _____
Gingivitis *(noun)* _____
Gum line *(noun)* _____
Halitosis *(noun)* _____
Incisor *(noun)* _____
Invader *(noun)* _____
Lacerate *(verb)* _____
Malocclusion *(noun)* _____
Maxillo-facial *(adjective)* _____
Molar *(noun)* _____
Morbidity *(noun)* _____
Multi-faceted *(adjective)* _____
Nasal passage *(noun)* _____
Periodontitis *(noun)* _____
Plaque *(noun)* _____
Polishing *(noun)* _____
Premolar *(noun)* _____
Preventable *(adjective)* _____
Prosthodontics *(noun)* _____
Ptyalism *(noun)* _____
Require *(verb)* _____
Root *(noun)* _____
Routine physical *(noun)* _____
Scaling *(noun)* _____
Stomatitis *(noun)* _____
Supernumerary tooth *(noun)* _____
Surrounding *(adjective)* _____
Tartar *(noun)* _____
Tongue *(noun)* _____
Tooth bud *(noun)* _____
Tusk-like *(adjective)* _____
Worsen *(verb)* _____

UNIT 7

VOCABULARY *Food and Shelter*

1. Match.

1. fodder	A. сено
2. forage	B. бобовое растение
3. hay	C. солома
4. straw	D. сухой растительный корм
5. silage	E. сорго
6. grain	F. зерно
7. legume	G. жидкий корм
8. maize	H. кормовая гранула
9.wheat	I. корм для скота
10. oat	J. пшеница
11. barley	K. овес
12. slop	L. ячмень
13. pellet	M. силос
14.sorghum	N. кукуруза, маис

2. Read and choose the best title for the article.

A. Animal hygiene
B. Animal nutrition
C. Animal health

Animal nutrition focuses on the dietary needs of domestic animals, primarily those in agriculture and food production.

There are seven major classes of nutrients: carbohydrate, fat, fiber, minerals, protein, vitamins, and water. Other micronutrients include antioxidants. Most foods contain a mix of some or all of the nutrient classes. Poor health can be caused by a lack of required nutrients or, in extreme cases, too much of a required nutrient. For example, large amounts of salt or water can cause illness or even death.

Animal feed is food given to domestic animals in the course of animal husbandry. There are two basic types, fodder and forage.

Fodder includes hay, straw, silage, compressed and pelleted feeds, oils and mixed rations, and sprouted grains and legumes. Feed grains are the most important source of animal feed globally. The amount of grain used to produce the same unit of meat varies substantially. Cows and sheep need 8kg of grain for every 1kg of meat they produce, pigs need about 4kg, poultry needs 1.6kg of feed to produce 1kg of chicken. The two most important feed grains are maize and soybean. Other feed grains include wheat, oats, barley, and rice.

Traditional sources of animal feed include household food scraps and the byproducts of food processing industries such as milling and brewing. Material remaining from milling oil crops like peanuts, soy, and corn are important sources of fodder. Scraps fed to pigs are called slop, and those fed to chicken are called chicken scratch.

Compound feed is fodder that is blended from various raw materials and additives. These blends are formulated according to the specific requirements of the target animal. They are manufactured by feed compounders as meal type, pellets or crumbles. The main ingredients used in commercially prepared feed are the feed grains, which include corn, soybeans, sorghum,

oats, and barley. Compound feed may also include premixes, which may also be sold separately. Premixes are composed of microingredients such as vitamins, minerals, chemical preservatives, antibiotics, fermentation products, and other essential ingredients.

Forage is plant material (mainly plant leaves and stems) eaten by grazing livestock. Historically, the term forage has meant only plants eaten by the animals directly as pasture, crop residue, or immature cereal crops, but it is also used to include similar plants cut for fodder and carried to the animals, especially as hay or silage.

3. Answer the questions.

1. What are the major classes of nutrients?
2. What is animal feed?
3. What does fodder include?
4. What are the most important feed grains?
5. What is compound feed?
6. What are premixes composed of?
7. What is forage?

4. Complete the sentences. Then translate them.

1. There are seven major classes of nutrients: _____, fat, _____, minerals, _____, vitamins, and _____.
2. Other micronutrients include _____.
3. Poor _____ can be caused by a _____ of required nutrients or, in extreme cases, too much of a _____ nutrient.
4. Animal feed is food given to domestic animals in the course of animal _____.
5. Fodder includes hay, _____, silage, compressed and pelleted feeds, _____ and mixed rations, and sprouted _____ and legumes.
6. Feed grains are maize, _____, wheat, oats, _____, and rice.
7. Traditional sources of animal feed include household food _____ and the _____ of food processing industries.
8. Forage is _____ material eaten by _____ livestock.

5. Match. Then translate.

1.	Vitamins	A. are substances or chemicals added to food and feed to prevent decomposition by microbial growth.
2.	Preservatives	B. is a substance that is added in small amounts to something in order to improve its performance or quality, preserve its usefulness, or make it more effective.
3.	Cereal	C. is an organic substance, as vitamin E or beta carotene, capable of counteracting the damaging effects of oxidation in animal tissues.
4.	Pasture	D. is feeding or grazing of animals.
5.	Additive	E. is grass whose starchy grains are used as food or feed: wheat; rice; rye; oats; maize; buckwheat; millet.
6.	Antioxidant	F. are organic components in food and feed that are needed in very small amounts for growth and for maintaining good health.

6. Complete the article with the missing parts of the sentences. Then read the article.

A. that provides sufficient amounts of nutrients to meet the animal's daily basic energy needs.
B. lucerne, white clover and bean straw.
C. are different from that of calves and heifers.
D. as concentrates cannot replace the basal diet.
E. require adequate amounts of minerals.
F. is largely affected by what it is fed on and how feeding is done.

FEEDING DAIRY COWS

No dairy cow can remain productive without proper management, especially feeding. The amount and quality of milk produced by the animal 1) _____.

The feed requirements for lactating cows 2) _____. The amount of feed provided to the cows depends on the amount of milk it produces, its weight, temperature and levels of activity. The cow needs balanced feeds that provide energy. The feed must be digestible so that the nutrients can be absorbed in the body and should not contain toxic substances.

A mature cow weighs an average of 400kg and requires 10-15kg of fodder a day. A dairy cow needs a basal diet 3) _____. This diet is commonly obtained from pasture grasses, fodder or silage.

The expected daily consumption of energy feeds depends on the quality of the feeds, the size of the animal, level of milk production, quantity of supplements given and dry matter content of the feed material. Supplementary feeds such 4) _____.

Protein is the second most important component of the diet. It builds the cow's body and helps in milk production. Lack of protein in the animal diet results in poor growth, reduced milk production, loss of weight and late maturity. Good protein sources include legumes like 5) _____.

A cow should also be provided with mineral licks - the minerals which provide calcium, phosphorus and other important minerals that support milk production and other body functions. Pregnant cows especially 6) _____.

A farmer must also have a reliable water source. Water should be available at all times so the animal can take as much as it needs. On average, dairy cows need more than 60 liters of water a day. This helps the animal increase milk production and maintain its body condition.

7. Translate the article.

8. Match. Then translate.

1. obesity	A. inflammation of the pancreas
2. pancreatitis	B. any disorder that affects the heart
3. bladder stones	C. an abnormal accumulation of body fat
4. heart disease	D. a condition that involves unusually frequent and liquid bowel movements
5. diarrhea	E. crystalline masses that form from the minerals and proteins, which naturally occur in urine

9. Read the article.

5 COMMON DOG ILLNESSES THAT ARE IMPACTED BY NUTRITION

A high quality, well-balanced diet is fundamental to the dog's health, but do you know why? Here are just a few canine health problems seen in dogs that are directly affected by their diet.

1. ***Obesity***

Obesity is an epidemic for dogs, affecting over 50% globally. Even worse, dogs affected by obesity are more prone to arthritis, diabetes, high blood pressure, and cancer. Decreased life expectancy is also linked to obesity in pets, and unfortunately, among all pets that veterinarians ultimately classified as obese, over 90% of dog owners initially thought their pet was in the normal weight range.

Special attention should be paid to the calorie and fat levels of the dog's food. Finding a proper dog diet that limits calories and fats can help trim down an overweight or obese dog and, ultimately, help the dog live a healthier lifestyle.

2. ***Pancreatitis***

Pancreatitis develops when the pancreas becomes inflamed, causing the flow of digestive enzymes to be released into the abdominal area. If this occurs, the digestive enzymes will begin to break down fat and proteins in the other organs, as well as in the pancreas. In dogs, dietary fat is known to be associated with the development of pancreatitis and can stimulate the secretion of a hormone that induces the pancreas to secrete its digestive hormones. If the dog is suffering from pancreatitis, bland dog diet that is low in fat and easily digestible is recommended.

3. ***Bladder stones***

All bladder stones are not created equal. They can be composed of different types of minerals and other substances. For example, calcium oxalate bladder stones are primarily composed of calcium while struvite is primarily composed of magnesium and phosphates. Bladder stones may start out small, but over time can grow in number or size, causing issues such as urinary accidents, discolored urine, and urination straining. Veterinarians can identify the type of bladder stone and recommend food to dissolve the stone, or surgery to remove it if it is a

type that cannot be dissolved with food, like calcium oxalates. They can also recommend a special diet that can help deter the formation of bladder stones.

4. ***Heart disease***

Dogs often suffer from heart disease, especially if their diet isn't properly balanced. One key factor to heart disease in dogs is their sodium intake. Increased sodium in the diet causes increased levels of sodium circulating in the blood. These elevated levels of sodium cause water retention in the blood vessels and elevated blood pressure. As blood pressure increases the diseased heart must continue to enlarge to overcome the increased pressure in order to pump blood from the ventricles. The dog may benefit from a healthy diet that is lower in sodium.

5. ***Diarrhea***

Dogs frequently suffer from bouts of diarrhea, but there are two main types of diarrhea: small bowel and large bowel diarrhea. Dogs with small bowel diarrhea typically produce large amounts of soft stool but do so just a few times a day. When abnormalities are centered in the colon, affected dogs will usually strain to produce small amounts of watery stool frequently throughout the day. This is large bowel diarrhea. For large bowel diarrhea, a high fiber diet has been shown to be beneficial. Ideally, both soluble fiber and insoluble fiber should be included. For small bowel diarrhea, a bland, low fat, easily digested diet is advisable.

10. Answer the questions.

1. What problems can obesity cause?
2. What is recommended when the dog is suffering from pancreatitis?
3. How can bladder stones be treated?
4. How does heart disease occur?
5. What are the two types of diarrhea in dogs?

11. Choose the correct alternative.

1. Dogs ***infected/affected*** by obesity are more prone to arthritis, diabetes, high blood pressure, and cancer.
2. Decreased life ***expectancy/emergency*** is linked to obesity in pets.
3. Pancreatitis develops when the ***pancreas/bladder*** becomes inflamed, causing the flow of ***digested/digestive*** enzymes to be released into the abdominal area.
4. If the dog is suffering from pancreatitis, ***secretion/bland*** dog diet that is low in fat and easily digestible is recommended.
5. Bladder stones can cause urinary ***accidents/advisable,*** discolored urine, and urination ***ventricles/straining.***
6. Veterinarians can identify the type of bladder stone and recommend food to ***dissolve/pressure*** the stone, or surgery to ***pump/remove*** it.
7. Calcium ***enzyme/oxalate*** bladder stones are primarily composed of calcium while ***sodium/struvite*** is primarily composed of magnesium and phosphates.
8. One key factor to heart disease in dogs is their ***hormone/sodium*** intake.
9. As ***blood/bowel*** pressure increases the diseased heart must continue to enlarge to overcome the increased pressure in order to pump blood from the ***ventricles/fiber.***
10. Dogs with small ***bowel/blood*** diarrhea typically produce large amounts of soft ***urination/stool*** but do so just a few times a day.
11. When abnormalities are centered in the ***pancreas/colon***, affected dogs will usually strain to produce small amounts of ***watery/insoluble*** stool frequently throughout the day.

12. Match the headings with the paragraphs. Read the article.

A. Keeping dry
B. Ventilation
C. Keeping warm
D. Hygiene
E. The importance of temperature
F. Keeping cool

BASIC REQUIREMENTS FOR PIG HOUSING

1. _____ The temperature range required to achieve the best pig productivity is called the thermoneutral zone. Critical temperatures vary according to the pigs' total weight and specific conditions in the piggery. The thermoneutral zone is bounded at its upper limit by the evaporative critical temperature (ECT) and at its lower limit by the lower critical temperature (LCT). Beyond the ECT, pigs will pant to cool their bodies through evaporation from the lungs. So, the ECT can be considered the point at which spray or drip cooling is required. The upper critical temperature (UCT) is the highest tolerable temperature beyond which serious problems are likely. It is generally 6-8°C above the ECT.
2. _____ If the temperature of the pig's immediate surroundings falls below the LCT, the pig must use some of its energy to maintain its body heat. Older pigs can tolerate lower temperatures for short periods without obvious ill health, but the efficiency of food conversion will suffer. The most favorable temperature for newborn piglets is between 27 and 35°C. If the microclimate remains below 16°C, piglet losses can occur quickly. At temperatures below 2°C, fatal chilling will occur within minutes unless warmth is provided.
3. _____ A dry concrete floor can easily be warmed. Concrete does retain heat quite well, but increases the harmful effects of low temperatures when damp. Considerable heat passes from the pig into damp concrete floors even though the air temperature may be reasonable. For very young pigs, dry straw or untreated wood shavings provide excellent insulation against cold conditions.
4. _____ If the temperature of the pig's immediate surroundings rises above the UCT, the pig will become severely distressed. The UCT declines as the pig's age increases. Young pigs suffer most from the cold, while older and larger animals succumb first to rising temperatures. Temperatures over 27°C are generally considered undesirable for growers, finishers and breeders.
5. _____ Independent of environmental conditions, a minimum amount of fresh air must be introduced into a building to remove water vapour, carbon dioxide, ammonia, airborne dust, bacteria and odours. Cold ventilating air must be directed so it creates air circulation within the shed without flowing directly on to the pigs.
6. _____ Many diseases can affect the health of pigs. Some are caused by micro-organisms. In unhygienic sheds, these organisms can infect pigs via dung or airborne dust particles. Clean, dry conditions reduce germ populations and their effect on the health and performance of pigs. Pig sheds that have effluent channels, where manure is submerged in water within the channels, can reduce dust, odour and airborne bacteria levels.

13. Translate the article.

14. Page 102 FURTHER READING. *Poultry farming.*

GRAMMAR

Must, Have to, Should

Must

Affirmative	**Negative**
I You He/She/It **must** measure. We They	I You He/She/It **must not (mustn't)** measure. We They

Questions	**Short answers**
I you **Must** he/she/it measure? we they	**Yes**, I/you/he/she/it/we/they **must.** **No**, I/you/he/she/it/we/they **mustn't.**

Have to

Affirmative	**Negative**
I/We/You/They **have to** measure. He/She/It **has to** improve.	I/We/You/They **do not (don't) have to** measure. He/She/It **does not (doesn't) have to** improve.

Questions	**Short answers**
Do I/we/you/they **have to** measure? **Doe**s he/she/it **have to** improve?	**Yes**, I/you/he/she/it/we/they **do.** **No**, I/you/he/she/it/we/they **don't.**

Should

Affirmative	**Negative**
I You He/She/It **should** measure. We They	I You He/She/It **should not (shouldn't)** measure. We They

Questions			**Short answers**
Should	I you he/she/it we they	measure?	**Yes**, I/you/he/she/it/we/they **should.** **No**, I/you/he/she/it/we/they **shouldn't.**

Must =Have to – obligation, it is necessary to do something
Should – advice
Mustn't – prohibition
Don't have to - it is not necessary to do something

1. Use the prompts and the correct form of *to have* to write sentences.

1.farmes/focus on/dietary needs of domestic animals.
2. we/not add/any preservatives.
3. they/start receiving patients /before 9.00?
4. Dr. Coates/not remove/bladder stones.
5. Brian/keep/the floors clean?
6. they/provide/a minimum amount of fresh/in the building?
7. Mr. Fleming/not include/premixes in the feed.
8. you/check/temperature/every hour?

2. Complete the gaps with *mustn't* or *don't have to*.

1. You _____ do that! It's dangerous!
2. Shall I help you with the project? No, you _____ do it. I did it yesterday.
3. She _____ be late for the conference, otherwise she won't be allowed to participate.
4. Peter _____ phone Mr. Lewis. I have already phoned him.
5. The company _____ buy new diagnostic equipment. The old one is still in good condition.
6. You _____ do anything without your tutor's permission.

3. Complete the gaps with *should* or *shouldn't.*

1. If an aggressive horse threatens people, it _____ be kept out of a pasture where there are people.
2. You _____ tether pigs unless your vet has told you to do so.
3. Cattle on dry-lot _____ be checked more frequently than those on pasture, simply because cattle on a dry-lot are more prone to illness than those on pasture.
4.You _____ use too much force restricting pigs' freedom.
5. You _____ protect pigs kept indoors from bad weather and predators.
6. Meat-breed chicks _____ have a dry, clean, draft-free location large enough to accommodate their fast-growing bodies.
7. Slick bedding _____ be used, as the chicks can't get proper footing on the slick surface, causing their legs to splay out.
8. You _____ check the coat of sheep frequently for any external parasites such as mites or lice.

Unit Vocabulary Consolidation

Additive *(noun)* _____
Airborne dust *(noun)* _____
Barley *(noun)* _____
Bowel *(noun)* _____
Calcium oxalate *(noun)* _____
Digestible *(adjective)* _____
Dissolve *(verb)* _____
Essential *(adjective)* _____
Evaporative critical temperature *(noun)* _____
Fodder *(noun)* _____
Forage *(noun)* _____
Germ *(noun)* _____
Grain *(noun)* _____
Grazing *(noun)* _____
Hay *(noun)* _____
Induce *(verb)* _____
Insoluble *(adjective)* _____
Legume *(noun)* _____
Lower critical temperature *(noun)* _____
Maize *(noun)* _____
Manure *(noun)* _____
Oat *(noun)* _____
Obesity *(noun)* _____
Obtain *(verb)* _____
Overweight *(adjective)* _____
Oxidation *(noun)* _____
Pasture *(noun)* _____
Pelleted *(adjective)* _____
Piggery *(noun)* _____
Piglet *(noun)* _____
Poultry *(noun)* _____
Premix *(noun)* _____
Preservative *(noun)* _____
Residue *(noun)* _____
Shed *(noun)* _____
Silage *(noun)* _____
Slop *(noun)* _____
Sodium *(noun)* _____
Soybean *(noun)* _____
Sprouted *(adjective)* _____
Straw *(noun)* _____
Struvite *(noun)* _____
Succumb *(verb)* _____
Supplement *(noun)* _____
Unhygienic *(adjective)* _____
Upper critical temperature *(noun)* _____
Ventricle *(noun)* _____
Wheat *(noun)* _____

UNIT 8

VOCABULARY *Animal Psychology and Behavior*

1. Decide if the statements are true or false.

1. Comparative psychology is the scientific study of behavior and mental processes of animals.
2. Research in comparative psychology is always conducted in wildlife.
3. Comparative psychologists study similarities and differences among humans and animals' behavior.
4. Ivan Pavlov studied the behavior of monkeys.
5. Animal cognition describes mental processes of humans and the study of those processes.

2. Read the article and check your ideas in exercise 1.

COMPARATIVE PSYCHOLOGY

Comparative psychology refers to the scientific study of behavior and mental processes of nonhuman animals, especially as these relate to the adaptation, evolution, and development of behavior, which can lead to a deeper and broader understanding of human psychology. Research in this area addresses many different issues, uses many different methods, and explores the behavior of many different species, from insects to primates.

Comparative psychology is sometimes assumed to emphasize cross-species comparisons, including those between humans and animals. However, some researchers caution that direct comparison with human psychology should not be the sole focus of comparative psychology, and that intense focus on a single organism to understand its behavior is also valuable. Research in comparative psychology is usually studied under controlled laboratory experiments in order to discover general principles of behavior.

Comparative psychologists study many issues, and typical questions involve the similarities and differences among how humans and animals behave in their environments and day-to-day lives. The field examines such things as individual behavior, interaction with the environment, reproduction, grooming and hygiene, how different life forms learn, forms of motivation, and mental capacities. Researchers who study animal cognition are interested in understanding mental processes that control complex behavior, parallels with the studies of cognitive psychologists working with humans.

A wide variety of species have been studied by comparative psychologists. Ivan Pavlov's early work used dogs; Edward Thorndike began his studies with cats; and B. F. Skinner introduced the use of pigeons in his work. Comparative psychologists quickly shifted to the more economical rat, which remained the almost invariable subject for the first half of the 20th century and continues to be used today. There has always been interest in studying various primate species; important contributions to social and developmental psychology were made by Harry F. Harlow's studies of maternal deprivation in rhesus monkeys.

3. Answer the questions.

1. What is comparative psychology?
2. What do comparative psychologists study?

4. Choose the correct answer.

1. Comparative psychology is the study of _____ and mental processes of animals.
a. environment b. comparison c. behavior
2. Comparative psychology is sometimes assumed to emphasize _____ comparisons.
a. cross-species b. day-to-day lives c. cognition
3. Research in comparative psychology is usually studied under _____ laboratory experiments.
a. controlled b. caution c. complex
4. Researchers who study animal _____ are interested in understanding mental processes that control complex behavior.
a. research b. pigeon c. cognition
5. Some researchers caution that direct _____ with human psychology should not be the sole focus of comparative psychology.
a. deprivation b. comparison c. invariable
6. Ivan Pavlov's early work used _____.
a. cats b. bears c. dogs
7. Edward Thorndike began his studies with _____.
a. insects b. cats c. primates
8. B. F. Skinner introduced the use of _____ in his work.
a. pigeons b. bacteria c. humans

5. Complete. Use the article in exercise 2.

NOUN	VERB
1)	To relate
2)	To adapt
Development	3)
Involvement	4)
5)	To explore
Comparison	6)
7)	To behave
8)	To evolve
Interaction	9)
10)	To motivate
11)	To reproduce
Difference	12)

6. Read the article.

WHAT IS AN ANIMAL PSYCHOLOGIST?

Although most people are aware of the popular career paths working with animals, such as veterinarians, groomers, and trainers, there are many more careers available that are perfect for those who are fond of animals. One of the most thriving careers is in the area of animal psychology, which is a branch of the broader psychology field that involves the study of animal behavior in order to determine evolutionary relationship between species. Much of the work in this field is an offshoot of such well-known theorists as Charles Darwin and Ivan Pavlov. Studying the similarities and differences between animal species helps to provide insight into human psychology. Concepts observed include heredity, adaptation, evolution and mating behavior. Animal psychologists can specialize in many different types of animals, including fish, bids, household pets, livestock, equine, or large wild animals.

In a research field, animal psychologists apply the principles and theories surrounding animal behavior to study how animals interact with one another, the environment, and human beings. They may conduct research studies on their methods of communication, learning, group interaction, psychology, and instinctual responses to a stimulus. Within academia, animal psychologists often give lectures, supervise laboratory research activities, and conduct or publish their own studies to further knowledge in animal science. If relevant to their studies, animal psychologists need to travel to conduct naturalistic observations of the animal species in the wild.

When animal psychologists work in animal practices, they use their expertise in mental life and behavior of animals in order to diagnose animal disorders. Animal psychologists are often responsible for solving animal disorders, health problems, living situations, and potential stresses. The animal psychologist will observe the animal, investigate whether the behavior is normal, implement a plan to resolve the problem, and conduct behavioral modifications or training.

7. Complete the sentences.

1. Animal psychology is a branch of the broader psychology field that involves the study of animal _____ in order to determine evolutionary _____ between species.
2. Studying the _____ and _____ between animal species helps to provide insight into human psychology.
3. Concepts of animal psychology include _____, adaptation, _____ and _____ behavior.

4. Animal psychologists may conduct _____ studies on the methods of communication, learning, group _____, psychology, and instinctual responses to a _____.
5. Animal psychologists often give _____, supervise laboratory research activities, and conduct or _____ their own studies.
6. Animal psychologists may travel to conduct _____ observations of the animal species in the _____.
7. Animal psychologists use their _____ in mental life and behavior of animals in order to diagnose animal _____.

8. Match the headings with the paragraphs. Read and the article.

A. Animal Trainer
B. Animal Scientist
C. Veterinary Behaviorist

MORE CAREER OPTIONS

1. _____ They analyze human-animal and animal-animal interactions patterns to properly diagnose animal disorders. Pet disorders may range from anxiety to aggressive behavior. In order to provide proper treatments, veterinary behaviorists work with pet owners to better understand the nature of the animals' problems and then prescribe medication or behavior therapy.

2. _____ They work with dogs, horses and aquatic mammals, among other animals. These professionals use varying techniques to train animals to follow commands, which may be used by pet owners in everyday interaction or animal trainers during performances. Animal trainers may also assist medical professionals to provide veterinary care for animals.

3. _____ Animal scientists, also known as zoological researchers, study animals in controlled areas like zoos and laboratories, as well as in their natural habitats. In addition to conducting biological and chemical research on animals, these professionals may also monitor animal characteristics, relationships and developmental processes. Duties may range from collecting animal tissues to understanding the effects of environmental changes on populations.

9. Complete the sentences with the correct job title: *an animal trainer, an animal scientist, a veterinary behaviorist.*

1. _____ works with pet owners to better understand the nature of the animals' problems.
2. _____ studies animals in controlled areas like zoos and laboratories, as well as in their natural habitats.
3. _____ uses varying techniques to train animals to follow commands.
4. _____ assists medical professionals to provide veterinary care for animals.
5. _____ monitors animal characteristics, relationships and developmental processes.
6. _____ analyzes human-animal and animal-animal interactions patterns to properly diagnose animal disorders.

10. Page 103 FURTHER READING. *Police dog.*

11. Read the article. Match the words below with their underlined English equivalents in the article.

1. замкнувшийся в себе
2. приматолог
3. выдергивать
4. одержимо
5. нападение
6. синдром посттравматического стресса
7. пребывание в неволе
8. чрезмерно
9. психическое заболевание
10. заниматься членовредительством

MANY ANIMALS CAN BECOME MENTALLY ILL

Flint was hit hard when his mother Flo passed away. He became withdrawn and stared into space. He also stopped eating and became weak. After a few days, Flint rested close to where his mother had lain, and died. Flint was a chimpanzee living in Gombe National Park in Tanzania. His story was described by primatologist Jane Goodall in her 2010 book *Through a Window*. She contends that he was suffering from depression.

Many animals seem to suffer from mental illness. Whether they are pets, or animals kept in ill-managed zoos and circuses, they can become excessively sad, anxious, or even traumatized.

We have tended to think of psychological illnesses as a uniquely human trait. But that may be wrong. There is growing evidence that many animals can suffer from mental health disorders similar to those seen in humans. Many of us have seen or heard of pets that become sad after the loss of a companion. Sometimes, their loss is too deep to recover from, and they may even die – as Flint did.

Scientists found signs of depression and post-traumatic stress disorder (PTSD) in chimpanzees. But animal mental illness can take many forms. Some animals are also known to self-harm, for instance, pulling out their own hair or obsessively pluck their feathers, and some dogs obsessively lick their tails or paws. It seems that animal mental illness can be triggered by many of the same factors that unleash mental illness in humans. That includes the loss of family or companions, loss of freedom, stress, trauma and abuse. This is most easily seen in animals that are held in captivity.

All mental disorders, from depression to schizophrenia, involve abnormal behaviors. Those behaviors are influenced by genes. So, the idea is to identify genes that can cause abnormal behaviors in humans and other animals. By tracing the origins of these genes, we can trace the origins of mental disorders. Mutations in genes can give rise to many psychological disorders. There is a long way to go, but genetic studies suggest that all animals with brains have the capacity to experience some form of mental illness.

12. Choose the correct answer.

1. Flint was hit hard when
a. his mother Flo died.
b. his mother Flo escaped.
2. We have tended to think of psychological illnesses
a. as contagious diseases.
b. as only human diseases.
3. There is growing evidence that many animals can suffer
a. from mental health disorders.
b. from behaviors influenced by the environment.
4. Scientists found signs of depression and post-traumatic stress disorder
a. in invertebrates
b. in chimpanzees.
5. Abnormal psychological disorders
a. are influenced by other animals.
b. are influenced by gene mutations.

13. Match the halves of the sentences.

1. Flint became withdrawn and stared into space,	A. from depression.
2. Flint was suffering	B. as a uniquely human trait.
3. Many animals can become	C. and post-traumatic stress disorder in chimpanzees.
4. We have tended to think of psychological illnesses	D. excessively sad, anxious, or even traumatized.
5. Scientists found signs of depression	E. can give rise to many psychological disorders.
6. All mental disorders, from depression to schizophrenia	F. when his mother passed away.
7. Some animals are also known to self-harm,	G. for instance, pulling out their own hair.
8. Mutations in genes	H. are influenced by genes.

14. Read and translate the article.

DEFINITION OF OCD

Obsessive compulsive disorder is a potentially dangerous medical condition when a dog does normal canine things in an abnormally repetitive, frenzied destructive way – sometimes to the point of self-mutilation. This condition probably has a strong hereditary component. The repetitive behaviors in dogs are normal in small doses. They become problematic when the dog does them ritualistically and destructively. Some of the behaviors done by dogs with OCD are barking, tail-chasing, imaginary fly-biting, spinning, digging, scratching, licking, chewing, pacing, fence-running and flank-sucking. Dogs with OCD often have a history of abuse, neglect or exposure to extremely stressful situations. Some have been confined in small areas for a long time without physical or mental stimulation. Moves, trips to the veterinarian, introduction of a new human or animal family member, loss of a family member and other stressful events can all contribute to OCD.

GRAMMAR

Must, May, Might, Can, Could

We use *must* and *can't* to express certainty or a logical deduction based on present evidence.

We use *may, might, could* to say something is possible in the present or future.

We use *may not, might not* to express a negative possibility.

We use *can* to say if we think something is possible because
- of someone's ability;
- it is permitted.

1. Underline the correct form.

1. That *must/may* be Jack's tablet computer but I'm not sure.
2. She *can/could* be Italian because of her accent.
3. There is still no answer so they *must/can't* be out.
4. The information *can/might* be correct, but I'm going to check on the Internet.
5. I *can't/might* go to the meeting, I haven't decided yet.
6. This *must/could* be the right answer, I'm certain.
7. It *can/might* be difficult to get a job without good education.
8. He's been working on the project 12 hour a day for a month. He *could/must* be exhausted.
9. She *can't/can* be from Germany. She doesn't speak German.
10. You *may/must* be right, but I'm not sure.

2. Complete the sentences with the appropriate modal verbs.

1. She speaks with a London accent, so she _____ be from England.
2. It _____ be an abnormal behavior, but I'm not sure.
3. That _____ be John. He's always late!
4. He _____ pass the exams, he is really hardworking.
5. Silver _____ diagnose the case correctly, he isn't experienced in mental illnesses at all.
6. He _____ be an animal behaviorist, I remember he studied comparative and experimental psychology.
7. I _____ identify a word he said.
8. _____ you identify post-traumatic stress disorder in chimpanzees.?
9. _____ I come in?
10. You _____ leave earlier if you finish all the exercises.
11. _____ you describe mental processes that control complex behavior?
12. She _____ get a promotion, she doesn't work very well.
13. _____ I use your computer?
14. She _____ be Mr. Rodriguez assistant, she's on vacation.
15. I _____ go to the conference, I don't know yet.
16. You _____ be serious, nobody uses this approach anymore!

Unit Vocabulary Consolidation

Abuse *(noun)* _____
Post-traumatic stress disorder *(noun)*_____
Anxiety *(noun)* _____
Barking *(noun)* _____
Behavior *(noun)* _____
Behaviorist *(noun)* _____
Captivity *(noun)* _____
Caution *(verb)* _____
Chewing *(noun)* _____
Cognitive *(adjective)* _____
Comparative psychology *(noun)* _____
Contend *(verb)* _____
Contribute *(verb)* _____
Contribution *(noun)* _____
Deprivation *(noun)* _____
Destructive *(adjective)* _____
Digging *(noun)* _____
Emphasize *(verb)* _____
Engage *(verb)* _____
Evidence *(noun)* _____
Excessively *(adverb)* _____
Exposure *(noun)* _____
Instinctual *(adjective)* _____
Invariable *(adjective)* _____
Investigate *(verb)* _____
Licking *(noun)* _____
Mating *(adjective)* _____
Mental *(adjective)* _____
Natural habitat *(noun)* _____
Neglect *(verb)* _____
Observation *(noun)* _____
Obsessive compulsive disorder *(noun)*_____
Obsessively *(adverb)* _____
Pigeon *(noun)* _____
Repetitive *(adjective)* _____
Resolve *(verb)* _____
Ritualistically *(adverb)* _____
Schizophrenia *(noun)* _____
Scratching *(noun)* _____
Self-harm *(verb)* _____
Self-mutilation *(noun)* _____
Similarity *(noun)* _____
Spinning *(noun)* _____
Stimulus *(noun)* _____
Suggest *(verb)* _____
Supervise *(verb)* _____
Tail-chasing *(noun)* _____
Withdrawn *(adjective)* _____

UNIT 9

VOCABULARY *Ecology and Conservation*

1. Choose the correct definition.

1. abiotic	a. living b. non-living
2. biodiversity	a. the number of plants and animals that exist b. the gases around the Earth
3. biomass	a. the total mass of living things in a particular area b. a substance that is used to provide heat or power
4. habitat	a. fuel made from vegetable oils or animal fat b. the natural environment in which an animal lives
5. natural capital	a. the upper layer of earth in which plants grow b. the world's stock of natural resources
6.environment	a. the surroundings or conditions in which an animal lives b. all the inhabitants of a particular place

2. Read the article.

ECOLOGY AND BIODIVERSITY

Ecology is the scientific analysis and study of interactions among organisms and their environment. It is an interdisciplinary field that includes biology, geography, and Earth science. Ecology includes the study of interactions that organisms have with each other, other organisms, and with abiotic components of their environment. Topics of interest to ecologists include the diversity, distribution, biomass, and population of particular organisms, as well as cooperation and competition between organisms, both within and among ecosystems. Ecosystems are composed of dynamically interacting parts including organisms, the communities they make up, and the non-living components of their environment.

Biodiversity describes the diversity of life from genes to ecosystems and spans every level of biological organization. The term has several interpretations, and there are many ways to index, measure, characterize, and represent its complex organization. Biodiversity includes species diversity, ecosystem diversity, and genetic diversity and scientists are interested in the way this diversity affects complex ecological processes operating at and among these respective levels. Preventing species extinctions is one way to preserve biodiversity and that goal depends

on techniques that preserve genetic diversity, habitat and the ability for species to migrate. Conservation priorities and management techniques require different approaches and considerations to address the full ecological scope of biodiversity. Natural capital that supports populations is critical for maintaining ecosystem healthy. An understanding of biodiversity has practical applications for species and ecosystem-level conservation planners as they make management recommendations to consulting firms, governments, and industry.

3. Answer the questions.

1. What is ecology?
2. What studies does ecology include?
3. What are ecologists interested in?
4. What does biodiversity describe?
5. What does biodiversity include?

4. Choose where the words best fit the gaps. Then translate the sentences.

1. ***abiotic/approach***
a. The scientific _____ to natural resource dynamics involves the characterization of how the environment influences the abundance and availability of a given resource.
b. Water is obviously a crucial and highly variable _____ factor for every living organism.
2. ***environment/populations***
a. The depositional _____ that preserved this fauna has been subject to widely different interpretations.
b. Such drugs are routinely employed by farm animal _____.
3. ***ecosystems/extinctions***
a. The result will be a series of mass _____ and a dramatic fall in the planet's biodiversity, as well as its ability to support humankind.
b. However, common species play pivotal roles in _____, providing habitats and food for our fauna.
4. ***genetic/habitats***
a. Pollution had also been a major problem, devastating the natural _____ of many animals and damaging the planet beyond repair.
b. Dogs having or producing pups which have _____ eye abnormalities should not be bred.
5. ***biodiversity/conservation***
a. _____ is the number, variety, and genetic variation of different organisms found within a specified geographic region.
b. Now most people think that ecological awareness and environmental _____ depends on what we know scientifically about the natural world.
6. ***preserve/support***
a. Indeed, environmentally desirable goods sometimes clash one with another - measures to _____ one rare species might endanger another.
b. After all, a river that can hold huge carp and catfish should, in theory, have enough food to _____ some big fish.

5. Page 104 FURTHER READING. ***Impact of habitat loss on species.***

6. What does WWF stand for? Choose the correct answer.

A. West Web Fund
B. World Wide Federation
C. World Wildlife Fund

7. Read and translate the article.

PROTECTING SPECIES

The world's leading conservation organization WWF works in 100 countries and is supported by more than one million members in the United States and close to five million globally. WWF's unique way of working combines global reach with a foundation in science, involves action at every level from local to global, and ensures the delivery of innovative solutions that meet the needs of both people and nature.

From elephants to polar bears, WWF fights to secure a future for animals on the planet we all share. WWF helped bring back the Amur tiger and Africa's black rhinos from the edge of extinction. They are giving isolated, dwindling populations of black footed ferrets and river dolphins a second chance.

WWF continues to keep habitats and landscapes thriving. They envision, create, test and deliver solutions for a crowded planet. We work with partners at all levels, from community leaders to governments and multinational bodies. But their work is far from done, and WWF constantly strives to protect the species we all care about.

After a century of decline, the number of tiger population is on the rise. At least 3,890 tigers remain in the wild, but much more work is needed to protect this species that's still vulnerable to extinction. Tigers may be one of the most revered animals, but they are also vulnerable to extinction. WWF believes people can save wild tigers.

Polar bears spend the majority their lives on frozen Arctic sea ice. The loss of sea ice habitat due to climate change is now the greatest threat to their survival. WWF aims to sustainably preserve the rich biodiversity of polar bear habitats. They work with partners and local communities to establish a management plan for the "Last Ice Area" in Canada and Greenland - a region, scientists believe, will be preserved as sea ice longer than anywhere else. The plan conserves habitat for all Arctic ice dependent species and protects the cultural heritage and economic needs of local people.

Orangutans have experienced sharp population declines. A century ago there were more than 230,000 orangutans in the wild. Today, the Bornean orangutan is estimated to number about 41,000 and the Sumatran about 7,500, and their habitats are fast disappearing. WWF has worked on orangutan conservation since the 1970s. their efforts include conserving orangutan habitat, stopping poachers, promoting sustainable forestry and agriculture, and halting the orangutan pet trade.

Nearly all species of marine turtle are classified as endangered. Human activities - hunting, poaching, habitat destruction and accidental capture in fishing gear - have tipped the scales against the survival of these ancient mariners. WWF is committed to stop the decline of marine turtles and work for the recovery of the species. Their work to secure a future for this species includes eliminating marine turtle bycatch from fisheries, reducing the unsustainable harvest and illegal trade in marine turtles, and stemming the loss of critical marine turtle habitats.

8. Translate. Use the article in exercise 7.

1. чёрный африканский носорог
2. черноногий хорёк
3. речной дельфин
4. браконьер
5. находящийся под угрозой исчезновения
6. рыбопромысловое оборудование
7. морская черепаха
8. рыболовство
9. культурное наследие
10. обширная география
11. на грани вымирания
12. разнообразие форм жизни
13. в природных условиях
14. экологически рациональное лесопользование

9. Choose the correct definition to the term *Ecosystem*. Then read the article below to check your idea.

A. any system or network of interconnecting and interacting parts, as in a business;
B. all the living things in an area and the way they affect each other and the environment;
C. the branch of biology dealing with the relations and interactions between organisms and their environment, including other organisms.

ECOSYSTEM HEALTH

The traditional view that veterinary medicine deals with animal health, public health, and biomedical science, can be reasonably extended to include ecosystem health or put collectively as "one health." Ecosystem health is a metaphor used to describe the condition of the ecosystem. Ecosystem condition can vary as a result of fire, flooding, drought, extinctions, invasive species, climate change, mining, overexploitation in fishing, farming or logging, chemical spills, and a host of other reasons. The emergence and importance of ecosystem health must occur in the context of better understanding of ecosystem processes.

The exponential growth and development of human society and the consequent enormous increase in connectedness among the earth's ecosystems are degrading and compromising natural processes upon which life depends. It has been averred that biological security is the most important societal issue for the 21st century.

The determinants of health and disease must be understood in the context of nested ecosystems that are connected with growing intensity by social, economic, biological, and physical links. Consequently, dealing with ecosystem connectedness is of paramount importance in the development of science, technology, ethics, and civil organizations needed for ecosystem health.

Developing a cultural and educational base for this task is a crucial challenge for society and for veterinary profession. More attention must be given to ecology. Concerning veterinary medicine, this can be done by developing ecological medicine as an important element in the ecosystem approach.

Ecosystem health is a coherent field of responsibility for veterinary medicine like animal health and public health.

10. Choose the correct alternative.

1. The traditional view of veterinary medicine can be reasonably extended to include ecosystem ***health/emerge.***
2. Ecosystem condition can vary as a result of fire, flooding, drought, extinctions, ***collective/invasive*** species, ***climate/global*** change, etc.
3. The ***application/exponential*** growth and development of human society influence natural processes upon which life depends.
4. It has been averred that biological ***disease/security*** is the most important societal issue for the 21st century.
5. The ***context/determinants*** of health and disease must be understood in the context of ***nested/paramount*** ecosystems.
6. Dealing with ecosystem ***connectedness/consequently*** is of paramount importance in the development of science, technology, ethics, and civil organizations.
7. Developing a cultural and educational base is a ***connectedness/crucial*** challenge for society and for veterinary profession.
8. Ecosystem health is a ***coherent/human*** field of responsibility for veterinary medicine like animal health and public health.

11. Choose the correct answer. Read the article.

IS CONSERVATION MEDICINE FOR YOU?



It's undeniable. Plants and animals around the world are 1) _____ threatened with extinction, and habitats are being altered at an alarming rate. As species diversity declines, we see an increase in the incidence of disease, 2) _____, and reduced food resources. People realize that human health and the health of the planet are inextricably linked. There is only "one health."

Many veterinarians are turning their attention to the 3) _____ of biodiversity, and veterinary medicine is emerging as a core conservation discipline - one that can help us reach a global 4) _____ to the biodiversity crisis.

The three-week program, taught by Dr. Robin W. Radcliffe at Cornell's College of Veterinary Medicine, consistently ranked the number one veterinary school in the United States,

will introduce you to conservation practices, veterinary medicine, and biological principles as they 5) _____ to the health of our planet.

Through lectures, labs, workshops, field trips, films, and guest speakers, you'll 6) _____ many ways that veterinarians are combating the problem of decline in species populations worldwide. You'll 7) _____ a wide range of topics, such as 8) _____ medicine, biological principles, wildlife management, and how to build partnerships. You'll study animals from the bat, bird, and bee to the rhinoceros and giraffe and learn laboratory procedures, immobilization skills, field study techniques, and microscopy.

As you build a broad 9) _____ in applied sciences, you'll have a chance to learn about college majors and careers in conservation medicine. You'll be challenged to think of your role in the health of the planet and how you can use the skills of veterinary medicine to make lasting 10) _____ to the conservation of wildlife, plants, and people.

1.	a. increase	b. increasingly	c. increasing
2.	a. pollution	b. polluted	c. pollute
3.	a. protect	b. protective	c. protection
4.	a. solution	b. solve	c. solving
5.	a. relative	b. relation	c. relate
6.	a. discovery	b. discover	c. discovered
7.	a. exploration	b. explore	c. explored
8.	a. conserve	b. conservative	c. conservation
9.	a. background	b. ground	c. back
10.	a. contribute	b. contributions	c. contributive

12. Read and translate the article.

ON THE EDGE OF EXTINCTION

Snow leopard is a carnivore that inhabits the mountainous regions of central Asia and the Indian subcontinent. The snow leopard population is estimated to be only a few thousand animals, and the species is thus considered endangered. Though it's called a leopard - the snow leopard is actually more closely related to the tiger, at least per genetic analysis. Probably fewer than 6,500 remain in the wild, though due to the remote mountainous terrain preferred by the species, and its elusive nature, data is hard to come by. The largest populations are in China and Mongolia, with significant populations in India and Kyrgyzstan as well. Its natural prey includes blue sheep and ibex, but in some areas, it is heavily dependent on domestic animals. The farmers who depend upon the animals shoot the "problem" leopards. Poaching still constitutes a major threat to the species, as does overhunting of its natural prey species.

Asian elephants can be found in through southern and southeastern Asian, from India to Thailand to southern China. These elephants are extremely intelligent and are of the only mammals known to recognize itself in a mirror. They are also very social, forming groups of six to eight elephants which is led by an older female called a matriarch.

The largest threats to the Asian elephant are poaching and habitat loss. Their tusks are worth a lot of money on the black market, so large-tusked males are in constant danger of being poached. Elephants are also captured alive for domestic use, such as tourist attractions. Also, as the rainforest they call home are cut down, the closer these elephants must become to humans. They will start feeding on farmers' crops, which puts them at risk of being killed.

GRAMMAR

Passives

I	**am (not)** **am (not) being** **was (not)** **was (not) being** **have (not) been** **will (not) be** **am (not) going to be** **can, may, should, must (not) be**	visit**ed.** **told** (past participle).
He/She/It	**is (not)** **is (not) being** **was (not)** **was (not) being** **has (not) been** **will (not)** **is (not) going to be** **can, may, should, must (not) be**	visit**ed.** **told** (past participle).
We/You/They	**are (not)** **are (not) being** **were (not)** **were (not) being** **have (not) been** **will (not)** **are (not) going to be** **can, may, should, must (not) be**	visit**ed.** **told** (past participle).

1. Complete the sentences with *is* or *are*.

1. Siberian Tiger _____ hunted for its skin, there are only 200 species left.
2. Giant Otters _____ hunted for their skin. They have disappeared in Uruguay and only a few left in Argentina.
3. Nile Crocodile _____ hunted for its skin.
4. Sea Turtle _____ chased by collectors and offered in luxury restaurants.
5. Mountain Gorilla _____ wanted by zoos and private collectors. There are only 600 species left in the humid African mountains.
6. Scarlet Macaw _____ imported in large quantities to the USA.
7. Giant Pandas _____ used by Zoos and wanted for their skin.
8. The African wild dog _____ classified as endangered by the International Union for Conservation of Nature.

2**. Rewrite the sentences using the present and future passive**.

1. More than one million people in the United States support WWF.
WWF _____ by more than one million people.
2. People have captured elephants for domestic use since ancient times.
Elephants _____.
3. They speak English and French in Canada.
English and French _____.
4. Experts estimate the rapid loss of species to be between 1,000 and 10,000 times higher than the natural extinction rate.
The rapid loss of species _____.
5. They will plan the management of natural environment.
The management of natural environment _____.
6. Companies are cutting down tropical forests.
Tropical forests _____.
7. Climatic heating or cooling or changes in sea levels may cause animal extinction.
Animal extinction _____ by climatic heating or cooling or changes in sea levels.
8. WWF has already saved 50 orangutans.
50 orangutans _____.
9. He is conducting a survey about koala's natural habitats.
A survey about koala's natural habitats _____.
10. They aren't going to discuss the ecosystem health today.
The ecosystem health _____.
11. We will protect cultural heritage and economic needs of people.
Cultural heritage and economic needs of people _____.
12. The government should create and deliver solutions to save endangered animals.
Solutions to save endangered animals _____ by the government.

2. Rewrite the sentences using the past passive. Use *by* if necessary.

1. Physicist Wilhelm Conrad Rontgen discovered x-rays in 1895.
X-rays_____.
2. They were conducting a series of important experiments.
A series of important experiments _____.
3. Charles Darwin studied variation in plants and animals during a five-year voyage around the world in the 19th century.
Variation in plants and animals _____.
5. People raised sheep, goats, cattle, pigs and geese from earliest times.
Sheep, goats, cattle, pigs and geese _____.
6. He had to disinfect the operative site two hours ago.
The operative site _____.
7. He reported the case immediately to the local veterinary station.
The case _____.
8. They didn't apply laser treatment.
Laser treatment _____.
9. Scientists were considering new medications.
New medications _____.
10. Dr. Farrell didn't identify any murmur in the cat's heart.
No murmur _____.

Unit Vocabulary Consolidation

Ability *(noun)* _____
Abundance *(noun)* _____
Approach *(noun)* _____
Biodiversity *(noun)* _____
Capture *(noun)* _____
Coherent *(adjective)* _____
Competition *(noun)* _____
Connectedness *(noun)* _____
Consequent *(adjective)* _____
Conservation *(noun)* _____
Consideration *(noun)* _____
Continue *(verb)* _____
Decline *(noun)* _____
Destruction *(noun)* _____
Determinant *(noun)* _____
Distribution *(noun)* _____
Diversity *(noun)* _____
Drought *(noun)* _____
Eliminate *(verb)* _____
Elusive *(adjective)* _____
Endanger *(verb)* _____
Ensure *(verb)* _____
Estimate *(verb)* _____
Extinction *(noun)* _____
Ferret *(noun)* _____
Fishery *(noun)* _____
Flooding *(noun)* _____
Forestry *(noun)* _____
Habitat *(noun)* _____
Heritage *(noun)* _____
Humankind *(noun)* _____
Landscape *(noun)* _____
Logging *(noun)* _____
Majority *(noun)* _____
Measure *(adjective)* _____
Natural capital *(noun)* _____
Overexploitation *(noun)* _____
Pivotal *(adjective)* _____
Poacher *(noun)* _____
Preserve *(verb)* _____
Priority *(noun)* _____
Recognize *(verb)* _____
Repair *(noun)* _____
Respective *(adjective)* _____
Rhino *(noun)* _____
Security *(noun)* _____
Survival *(noun)* _____
Sustainably *(adverb)* _____
Threat *(noun)* _____
Turtle *(noun)* _____
Tusk *(noun)* _____
Workshop *(noun)* _____

UNIT 10

VOCABULARY *Veterinary Practices and Veterinary Ethics*

1. Translate the following verbs.

1. to maintain
2. to keep up with
3. to share
4. to obtain
5. to assure
6. to establish
7. to consist of
8. to replenish
9. to prepare
10. to turn on
11. to lay out
12. to set up

2. Read the article.

A VETERINARY CLINIC ORGANIZATION

Maintaining a high-quality veterinary practice requires keeping up with the latest innovations in veterinary medicine and technology while sharing open and caring communication with pet owners. Vets and veterinary technicians must inform, educate and obtain owner compliance to medical protocol to assure the best outcome for their animal patients. To become a profitable, service-oriented business, veterinary clinics need to offer the highest possible level of care in an organized, cost-effective manner.

Maintain the outpatient area – that is the reception area, examination rooms, laboratory, pharmacy and public restrooms – in a clean, quiet, organized and odor-free condition. Ensure that exam rooms are cleaned after every patient and fully-stocked with the syringes, vaccines, bandaging materials and stethoscopes needed during veterinary checkups.

Establish a routine so that vet technicians and kennel workers clean the inpatient areas which consist of treatment areas, patient wards, the isolation ward, exercise yards, bathing and grooming areas. Organize all towels, newspapers and bedding in closets adjacent to both the kennel and wards and set a schedule for washing linens. Replenish the treatment areas daily with necessary bandage materials, blood-collection tubes, needles and syringes, and cleaning supplies.

Prepare the surgical area – the operating room, radiology, and recovery rooms - for patients prior to the clinic opening. Turn on the oxygen, set up anesthesia machines, start the X-ray developer, lay out surgical packs and check all emergency medicines before the first scheduled procedure.

Create a working traffic flow so that client care is efficient, professional and personalized. Each appointment needs an assigned time limit depending on the procedure involved; this should be established during the initial phone booking. Make certain the front-desk personnel pull the patient files before each appointment, they call the client and patient by name, and the client gets the bill in a timely manner after leaving the exam room.

3. Answer the questions.

1. How can you maintain a high-quality veterinary practice?
2. What does the outpatient area consist of?
3. What does the inpatient area consist of?
4. What does the surgical area consist of?
5. How is the surgical area prepared for work?
6. What are the duties of the front-desk personnel?

4. Match the <u>underlined</u> words and phrases from the article in exercise 2 with their Russian equivalents below.

1. с наименьшими затратами
2. своевременно
3. осмотры, обследования
4. инфекционная палата
5. полностью укомплектованный
6. регистратура
7. собачья конура
8. прибыльный
9. дворы для выгула
10. взятие крови

5. Complete the sentences with the following words: *bandage, checkups, syringe, isolation ward, kennels, operating room.*

1. The results of their follow-up medical _____ in January and March are satisfactory.
2. Any animal showing symptoms was quickly moved to an _____ for further testing.
3. The dogs were kept in the _____, the cats were kept in rooms attached to the main building.
4. The procedure was performed in the _____ under general anesthesia.
5. Apply an antibiotic ointment and cover the wound with an adhesive _____.
6. A blood sample may be taken either by using a needle and a _____.

6. Match the headings with the paragraphs. Then read the article.

A. Beef Cattle Services
B. Small Ruminant Services
C. Equine Services
D. Dairy Cattle Services
E. Embryo Transfer Services

LARGE ANIMAL VETERINARY SERVICES

Farm Veterinary Services Inc. has provided large animal services to clients in Virginia for over thirty years. Dr. Tony Hutchins and Dr. Chris Sumner are the current owners and large animal veterinarians. Each vet doctor has a fully equipped ambulatory vehicle to care for routine and emergency services on the farm, barn or ranch. The clinic also has state of the art laboratory services as well as fixed X-ray and ultrasound for small ruminant, foal, and calf care.

1. _____ Veterinarians serve dairy clients with monthly or bi-weekly herd health visits which include reproductive management, calf vaccinations, and other preventive and problem-solving applications. Using diagnostic ultrasound for herd checks is one area where they have improved their services. Milk quality services include milking time evaluations of milking procedures and equipment, and record analysis to determine trends.

2. _____ Reproductive checks, fetal sexing using ultrasound, calf programs are all part of beef cattle programs. Breeding soundness exams on bulls are also available. Synchronization and artificial insemination (AI) of groups of cows is also an important part of reproductive programs. Veterinarians are always available for calving and other beef cattle emergencies.

3. _____ Farm Veterinary Services Inc. offers complete on-farm embryo transfer (ET) services. The team is Certified by the American Embryo Transfer Association. They offer on farm collection, transfer and freezing of both beef and dairy embryos. Dr. Hutchins has performed and perfected ET techniques for almost thirty years and has the most experience of any ET practitioner in the area.

4. _____ Equine practice consists of care for pleasure horses, as well as performance and show animals. They offer diagnostic lab services, radiology and ultrasound on farm, and preventive programs for horse clients. AI breeding, stallion collection and breeding soundness exams, early pregnancy diagnosis and synchronization of mares are all part of their equine services. Lameness exams, vaccination, and wellness exams are also performed by Farm Veterinary Services Inc. specialists.

5. _____ They see many sheep, goat, llama, and alpaca patients in their veterinary practice. Dr. Sumner has expertise in all aspects of sheep and performs ultrasound diagnosis of pregnancy for sheep, goat and camelid clients.

7. Choose the correct definition.

1. a barn	a.	a large farm building used for storing grain, hay, or straw or for housing livestock.
	b.	an institution providing medical and surgical treatment.
2. an alpaca	a.	a long-haired domestic South American mammal related to the llama, valued for its wool.
	b.	a young horse or related animal.
3. a stallion	a.	a hardy domestic ruminant animal that has backward curving horns.
	b.	an uncastrated adult male horse.

4.	a calf	a. a cow, bull, or ox fattened for its meat. b. a young bovine animal, especially a domestic cow or bull in its first year.
5.	calving	a. to give birth to a calf. b. an unborn or unhatched offspring in the process of development.
6.	a vehicle	a. the provision of what is necessary for the health. b. a machine that is used to carry people or goods from one place to another.

8. Read the article and choose the correct alternative.

VETERINARY ETHICS

Veterinary ethics is a system of moral principles that apply 1) ***values/valuable*** and judgements to the practice of veterinary medicine. As a scholarly 2) ***disciplinary/discipline***, veterinary ethics encompasses its practical application in clinical settings as well as work on its history, philosophy, theology, and sociology. Veterinary ethics 3) ***combines/combination*** veterinary professional ethics and the subject of animal ethics. It can be interpreted as a critical reflection on the 4) ***provision/provide*** of veterinary services in support of the profession's responsibilities to animal kind and mankind.

Veterinarians are members of a scholarly profession who have earned academic degrees from comprehensive universities or similar 5) ***educational/educate*** institutions. Veterinarians practice veterinary medicine in a variety of situations and circumstances. Exemplary professional conduct upholds the dignity of the veterinary profession. All veterinarians are expected to adhere to a 6) ***progression/progressive*** code of ethical conduct known as the Principles of Veterinary Medical Ethics (PVME). The PVME comprises the following Principles:

A veterinarian shall be influenced only by the welfare of the patient, the needs of the client, the 7) ***safety/safe*** of the public, and the need to uphold the public trust vested in the veterinary profession, and shall avoid conflicts of interest or the appearance thereof.

A veterinarian shall provide competent veterinary medical 8) ***careful/care*** under the terms of a veterinarian-client-patient relationship, with compassion and respect for animal welfare and human health.

A veterinarian shall uphold the standards of professionalism, be honest in all professional interactions, and report veterinarians who are 9) ***deficiency/deficient*** in character or competence to the appropriate entities.

A veterinarian shall respect the law and also 10) ***recognize/recognition*** a responsibility to seek changes to laws and regulations which are contrary to the best interests of the patient and public health.

A veterinarian shall 11) ***respectful/respect*** the rights of clients, colleagues, and other health professionals, and shall safeguard medical information.

A veterinarian shall continue to study, apply, and advance scientific knowledge, maintain a commitment to veterinary medical education, make relevant information available to clients, colleagues, the public, and obtain consultation or referral when indicated.

A veterinarian shall recognize a responsibility to participate in activities 12) ***contributing/contribution*** to the improvement of the community and the betterment of public health.

9. Translate the article.

10. Page 105 FURTHER READING. ***Animal welfare: what is it?***

GRAMMAR

Consolidation Grammar Test

1. Choose the correct answer.

1. The lecturer gave _____ some details about the exam.
a. them b. your c. our
2. _____ is fond of Biology.
a. Her b. Hers c. She
3. This textbook belongs to me. This is _____ textbook.
a. myself b. mine c. my
4. Microbiology is _____ useful subject.
a. an b. a c. –
5. He finishes work late in _____ evening.
a. an b. a c. the
6. These _____ are going to take part in the conference.
a. people b. person c. persons
7. They sent some _____ to fix the problem.
a. man b. men c. mans
8. My sister _____ a nurse in a vet clinic.
a. am b. is c. are
9. I _____ Spanish. I'm Greek.
a. am b. am not c. not
10. _____ his sister at University now?
a. Are b. Am c. Is
11. You _____ at VSAU.
a. studies b. is study c. study
6. Peter _____ numerous medical procedures.
a. perform b. is perform c. performs
7. _____ she watch scientific programs on TV?
a. Does b. Do c. Is
8. The lessons _____ start at 8.00 on Wednesday.
a. doesn't b. don't c. aren't
9. She has a report about brain tumours in cats, but she _____ know how to title it.
a. don't b. do c. doesn't
10. I am busy today. I _____ for a test.
a. prepare b. am prepare c. am preparing
11. At the moment they _____ the effects of treatment.
a. are studying b. study c. are study
12. _____ down trees in the Amazon rainforests?
a. Is they cutting b. Are they cutting c. Are they cut
13. The veterinarian examined the pet and _____ blood to do some tests.
a. take b. takes c. took
14. One of the blood tests _____ abnormal.
a. were b. was c. be
15. In 1933 James Herriot _____ Glasgow Veterinary College.
a. enter b. enters c. entered
16. _____ you go to the animal clinic yesterday?
a. Did b. Do c. Was

17. The doctor _____ make a diagnosis.
a. not b. wasn't c. didn't
18. She _____ a scientific article all morning.
a. were writing b. was writing c. write
19. My colleagues _____ cats and dogs against rabies.
a. were vaccinate b. was vaccinating c. were vaccinating
20. I _____ a documentary on TV when the electricity went off.
a. was watching b. watched c. is watching
21. They _____ for the Parasitology test.
a. not preparing b. not prepare c weren't preparing
22. _____ the disease spreading rapidly?
a. were b. was c. did
23. The horse _____ the limb.
a. have broken b. has broke c. has broken
24. She _____ the X-ray picture before.
a. hasn't seen b. haven't seen c. not see
25. They _____ the results of ultrasound examination yet.
a. has announced b. hasn't announced c. haven't announced
26. I feel really tired. I _____ a lot lately.
a. have been work b. have be working c. have been working
27. I _____ the surgeon all week.
a. has been assisting b. assisted c. have been assisting
28. She _____ the issue of ecosystem health next week.
a. will discuss b. will be discuss c. will discussing
29. Will you come tomorrow? No, I _____.
a. will b. won't c. don't
30. I _____ study Ophthalmology at university.
a. going to b. am going c. am going to
31. _____ achieve board certification?
a. Is she going to b. She is going to c. Is she going
32. They _____ work in private practice.
a. aren't will b. aren't going to c. aren't
33. I _____ remember the name of the disease. Do you know it?
a. can't b. shouldn't c. mustn't
34. Dr. Blunt _____ do the surgery, because the dog was vomiting.
a. may b. could c. couldn't
35. You _____ do that! It's dangerous!
a. have to b. must c. mustn't
36. Peter _____ phone Mr. Lewis. I have already phoned him.
a. should b. doesn't have to c. has to
37. If an aggressive horse threatens people, it _____ be kept out of a pasture where there are people.
a. doesn't have to b. should c. shouldn't
38. You _____ be right, but I'm not sure.
a. may b. must c. have to
39. WWF _____ by more than one million people.
a. is support b. supported c. is supported
40. The cow's horn _____.
a. has been broken b. broke c. has been broke

Unit Vocabulary Consolidation

Adhere *(verb)* _____
Adhesive *(adjective)* _____
Advance *(verb)* _____
Appointment *(noun)* _____
Assure *(verb)* _____
Barn *(noun)* _____
Betterment *(noun)* _____
Bill *(noun)* _____
Calving *(noun)* _____
Circumstance *(noun)* _____
Commitment *(noun)* _____
Community *(noun)* _____
Compliance *(noun)* _____
Comprise *(verb)* _____
Cost-effective *(adjective)* _____
Current *(adjective)* _____
Deficiency *(noun)* _____
Encompass *(verb)* _____
Entity *(noun)* _____
Ethics *(noun)* _____
Evaluation *(noun)* _____
Exercise yard *(noun)* _____
Improvement *(noun)* _____
Initial *(adjective)* _____
Inpatient area *(noun)* _____
Isolation ward *(noun)* _____
Keep up with *(phrasal verb)* _____
Mankind *(noun)* _____
Medical protocol _____
Ointment *(noun)* _____
Outpatient area *(noun)* _____
Participate *(verb)* _____
Patient ward *(noun)* _____
Practitioner *(noun)* _____
Profitable *(adjective)* _____
Recognize *(verb)* _____
Recovery room *(noun)* _____
Referral *(noun)* _____
Regulation *(noun)* _____
Replenish *(verb)* _____
Respect *(verb)* _____
Safeguard *(verb)* _____
Schedule *(noun)* _____
Soundness *(noun)* _____
Value *(noun)* _____
Vehicle *(noun)* _____
Veterinary checkup *(noun)* _____

FURTHER READING

ARTICLE 1

1. Match the paragraphs with the titles. Read the article.

Clinical signs
Causes
Treatment and prevention
Mode of transmission

HYPOGLYCEMIA IN PIGS

1. _____ The prime cause of Hypoglycemia is an inadequate intake of milk. This may be due to failure of the sow to provide sufficient milk or failure of the piglet to suck. The presentation of the sow's udder may also be important as may be competition between piglets. The newborn piglet normally possesses carbohydrate reserves in the form of hepatic glycogen stores and blood glucose levels of 80-100 mg/100 ml. Gluconeogenesis is not efficient until 7 days of age and glycogen reserves become depleted if the milk supply is inadequate. The original glycogen stores may already be depleted by delay in parturition. There is no brown fat so the piglet cannot use fat to generate heat. Low environmental temperatures lead to increased utilization of glycogen reserves in the liver and skeletal muscles and to the more rapid development of clinical signs. Low birth weight increases heat loss.

2. _____ This condition is not transmissible. Some of the predisposing causes such as mastitis in the sow or infectious disease in the piglet are transmissible.

3. _____ Piglets aged less than 7 days are affected and, at blood glucose levels of 50 mg/100 ml, may show uncertain gait, and later support themselves by placing their noses on the ground and straddling their hind limbs. More severely affected pigs eventually fall on their sides and develop convulsions. These consist of 'galloping' of the forelegs, champing and frothing of the jaws and are accompanied by slowing of the heart rate, a decline in rectal temperature, shivering, and dullness. Animals enter a coma and die. Death normally occurs 24-36 hours after the commencement of the signs.

4. _____ Affected animals can be given intraperitoneal injections of 5% glucose solution every 4-6 hours. If the sow is unable to feed them, an artificial sow milk replacer should be given by stomach tube initially or they should be fostered onto another sow. Provision of dry bedding and additional heating will also improve their chances of survival. Piglet disease should be treated promptly or prevented by vaccination to reduce piglet failure.

2. Translate the article.

ARTICLE 2

1. Read the article.

FLOCK VACCINATIONS

Vaccinations are an important part of a flock health management program. They provide inexpensive "insurance" against diseases that can commonly affect sheep and lambs.

Clostridial Diseases

On most farms, the only universally-recommended vaccine for sheep and lambs is the CD-T toxoid. The CD-T toxoid provides three-way protection against enterotoxemia caused by Clostridium perfringens types C and D and tetanus.

Type C

Enterotoxemia type C affects lambs mostly during their first few weeks of life, causing a bloody infection in the small intestine. Type C enterotoxemia is often related to indigestion and is predisposed by a change in feed. The only way to protect lambs from type C enterotoxemia is to vaccinate their dams during late pregnancy.

Type D

Type D enterotoxemia usually affects lambs that are over one month of age. It is usually the largest, fastest growing lamb(s) in the flock that are affected. Type D overeating disease is usually precipitated by a sudden change in feed that causes the bacteria, already present in the lamb's gut, to proliferate, resulting in a toxic, usually fatal reaction. Type D is most commonly observed in lambs that are consuming high concentrate diets.

Passive immunity

To confer passive immunity to lambs through the colostrum, ewes should be vaccinated with the CD-T toxoid approximately 4 weeks prior to lambing. Ewes lambing for the first time should be vaccinated twice in late pregnancy. Maternal antibodies will protect lambs for six to eight weeks.

Lambs

Lambs should receive their first CD-T vaccination when they are approximately 6 to 8 weeks old. If pastured animals are later brought into confinement or dry lot for concentrate feeding, a third vaccination should be given.

Feeder lambs

Purchased feeder lambs should be vaccinated for type D enterotoxemia at the time of purchase and 2 to 4 weeks later.

Tetanus

Lambs whose dams were not vaccinated against tetanus should be given the tetanus anti-toxin at the time of docking and castrating, especially if elastrator bands are used. An antitoxin provides immediate short-term immunity. If a tetanus toxoid product is administered at the time of docking or castrating, it will not provide adequate immunity, as toxoids take 10 days to 2 weeks to provide immunity and require a booster for complete immunity.

Rams and pet sheep should be vaccinated annually with the CD-T toxoid.

2. Translate the article.

ARTICLE 3

1. Read the article.

WHAT IS A BOARD-CERTIFIED VETERINARY SURGEON IN THE USA?

A large animal veterinary surgeon is a specialist in veterinary surgery who, after graduation from veterinary school, has completed advanced training in order to become board certified. This training consists of 1-year internship followed by a 3-year residency that meets the criteria established by the American College of Veterinary Surgeons (ACVS). During the residency, there are specific requirements in terms of caseload and exposure to a variety of surgical procedures. Additionally, residents must perform clinical research that is published in scientific journals. Once these requirements have been fulfilled, the resident must pass a rigorous examination following the standards set forth by the ACVS.

Veterinary surgery specialists are referred to as "Diplomates of the American College of Veterinary Surgeons" or "board-certified veterinary surgeons". These designations should not be confused with the term "veterinary surgeon" used in some countries, for example the United Kingdom, to refer to any licensed veterinarian that has graduated from veterinary school. The ACVS is the only recognized surgical specialty organization by the American Veterinary Medical Association.

Large animal surgery has two major components: equine surgery and farm animal surgery. Large animal surgery residents may focus their training in either equine surgery or large animal general surgery.

Some routine procedures, like castrations, can generally be performed by primary care veterinarians. Referral to a board-certified surgeon is recommended for any advanced procedures like arthroscopy, laparoscopy, respiratory tract surgery, abdominal surgery; for procedures requiring specialized equipment such as laser surgery, fracture fixation, minimally invasive surgery; procedures requiring intensive monitoring or carrying more risk to the life of the patient, for example colic surgery, complex lacerations, joint infections, etc.; and for complex lameness examinations - complicated cases, cases that require advanced diagnostic imaging techniques or when a surgical treatment might be indicated.

Specialists in large animal surgery can be found both in private practice and veterinary teaching hospitals.

2. Translate the article.

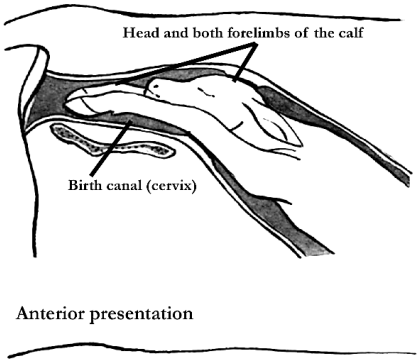
3. Answer the questions.

1. What is a large animal veterinary surgeon?
2. What kind of training do you need to complete to become board certified?
3. What two major components does large animal surgery include?
4. What advanced surgical procedures do board-certified surgeons perform?
5. Where can specialists in large animal surgery work?

ARTICLE 4

1. Read the article.

NORMAL BIRTH IN THE COW



Anterior presentation

Veterinary obstetrics is a branch of veterinary medicine that deals with medical and surgical care together with manipulations of the female animals in breeding, gestation, labor, puerperium and care of the neonates.

Calving is a continuous event but for explanation it is divided into 3 stages.

Stage 1

This stage, lasting 2-6 hours, begins with initial labor and ends when the cervix is fully dilated and the calf has entered the birth canal. The end of stage 1 is marked by the observation of the water sac. The cow may show signs of discomfort by kicking at her belly, and becoming restless due to contractions. She may separate herself from the rest of the cows and urinate frequently. These signs are especially evident in heifers.

Stage 2

In this stage, that lasts 1-2 hours for cows and 2-4 hours for heifers, the cervix is fully dilated, the cow may lie down, contractions will increase and abdominal pushing is obvious. This stage ends with delivery of the calf. The calf must enter the birth canal in a certain position in order to have a normal delivery. The terms presentation, position, and posture are used to describe how the calf is positioned in the birth canal.

Presentation refers to whether the calf is coming forward with both front legs and head extended into the birth canal, backwards with both hind legs extended into the birth canal, or transverse with either all four legs in the birth canal or the back of the calf entering the birth canal. Both forward and backward presentations are considered normal with forward being the most common. A transverse presentation is never normal.

Position refers to how the calf is positioned in relation to the cow. If the calf's back is up towards the cows back (spine) it is considered right-side up (dorsal). This is the only position that is considered normal. If the calf's back is down on the bottom of the pelvis it is upside down (ventral). The calf may also be on either of its sides; right-side down or left-side down.

Posture refers to where the calf's limbs and head are in relation to its body. The limbs and head should be extended into the birth canal. The water sac that is surrounding the calf's head should break during delivery of the head. If it does not break the calf could suffocate.

Stage 3

After the birth of the calf, the placenta should be delivered within 6 hours.

2. Decide if the statements are true or false. Correct false statements.

1. Veterinary obstetrics is a branch of veterinary medicine that deals with pharmacology.
2. Normal calving is divided into 4 stages.
3. The first stage begins with initial labor and ends when the cervix is fully dilated.
4. The second stage lasts 2-4 hours for cows and 1-2 hours for heifers.
5. The terms presentation, position, and posture are used to describe how the calf is positioned in the birth canal.
6. Position refers to how the calf is positioned in relation to the cervix.
7. Posture refers to where the calf's limbs and head are in relation to its body.
8. After the birth of the calf, the placenta should be delivered within 24 hours.

ARTICLE 5

1. Read the article.

HOW DO ANIMALS SEE THE WORLD?

Dog vision

Whereas human eyes contain three types of colour-detecting cells, called cones, dogs have just two. Their cone cells are specialised for picking up yellow and blue-to-ultraviolet light. Each cone type contains a pigment sensitive to particular wavelengths of light. The range of colours an animal sees depends on the combination of colour-sensitive pigments in their eye and the processing by the brain. With fewer cone types, dogs can't distinguish between as many colours as we can.

Gecko vision

Humans don't see colours very well, or even at all, in low light. This is because our cone cells function best in relatively bright light. Other cells in our eyes, called rod cells, help us see in dim light. But because rod cells only have a single light-sensitive pigment, at night we see in shades of grey. Geckos, on the other hand, have excellent colour vision at night - a useful advantage for a nocturnal hunter. Their eyes have evolved to be up to 350 times more sensitive to colour at night than ours.

Giant clam vision

Adult giant clams are completely stationary, having attached themselves to rocks or coral. They observe the world through several hundred tiny pinhole eyes along the edge of their soft bodies. Pinhole eyes are the shape of a deep cup and have a narrow opening, but no lens. They are just one of an enormous variety of eyes owned by molluscs - animals such as slugs, snails, oysters and octopuses - which demonstrate different steps in eye evolution.

Although giant clams are sensitive to three different colours of light, they are unable to combine the information - instead, they see colourful but undefined images. However, their eyes are able to detect nearby movement, so that the clams can take action either by squirting a jet of water to startle a potential predator or by closing their shell.

Jumping spider vision

Excellent vision from eight pairs of eyes helps these spiders hunt. When they spot potential prey, they pounce. Their biggest pair of eyes face forward and give the spider high-resolution vision. The other, smaller eyes are used for peripheral vision and detecting motion. Jumping spiders can see a broader spectrum of colours than we can. They even have pigments sensitive to ultraviolet light, so they are able to see more details in the flower's petals than we can.

2.Answer the questions.

1. What does the range of colours an animal sees depend on?
2. Which animals have excellent colour vision at night?
3. Which animals observe the world through several hundred tiny pinhole eyes?
4. Which animals can see a broader spectrum of colours than people?

3. Translate the article.

ARTICLE 6

1. Read the article.

CONSCIOUS ORAL EXAMINATION

Oral examination of a conscious animal is limited to visual inspection and some digital palpation only. The aim of the conscious oral examination is to obtain a tentative diagnosis and help formulate a treatment plan.

It is important to have good lighting when examining the mouth (both in the conscious and anaesthetised patient). Gentle technique is essential as some animals may have dental pain or discomfort. Examination involves assessing not only the oral cavity proper, but also palpation of:

- ✓ the face
- ✓ muscles of mastication
- ✓ temporomandibular joint
- ✓ salivary glands
- ✓ lymph nodes
- ✓ eyes

Asymmetry of the head may be seen in congenital abnormalities, inflammatory diseases, neoplasia, dislocations, fractures, muscle wastage and nerve damage. Jaw movement should always be assessed to ensure that the mouth can open and close fully. The temporomandibular joints should be palpated during jaw movement to check for any crepitation or popping movements.

The mouth is first examined by gently holding the jaws closed and retracting the lips to look at the soft tissues and buccal aspects of the teeth. Check the lip for clefts, lacerations, inflammation, ulcerations, or swellings before lifting the lip to examine the soft tissues and teeth. Apart from colour and texture of the mucous membranes, look for evidence of a potential bleeding problem. It is useful to count the teeth to ensure that a tooth is not absent without reason. It is also necessary to compare left and right sides of the mouth – animals in pain may be chewing on one side only, resulting in less plaque and calculus on the side of the mouth that is being used.

With the lips gently retracted and the mouth closed, this is the optimal time to evaluate occlusion. 6-point checklist for dental occlusion:

- ✓ head symmetry
- ✓ incisor relationship
- ✓ canine occlusion
- ✓ premolar alignment
- ✓ distal premolar/molar occlusion
- ✓ individual teeth positioning

Finally, the animal is encouraged to open its mouth. One method, useful for both dogs and cats, is to approach the animal from the side, one hand is placed over the muzzle and the lips are gently pressed into the oral cavity, while tilting the head slightly upwards. A finger from the other hand is placed on the lower incisors and gentle pressure is exerted. Most animals allow at least a cursory inspection of the oral cavity once the jaws have been opened.

Some animals may be uncomfortable and have painful areas in the mouth, limiting conscious examination. Difficulty examining the mouth may be an indication to sedate or anaesthetize the patient to examine the mouth fully.

2. Translate the article.

ARTICLE 7

1. Read the article.

POULTRY FARMING

Poultry farming is the process of raising domestic birds such as chickens, ducks, turkeys and geese for the purpose of farming meat or eggs for food. Poultry are farmed in great numbers with chickens being the most numerous. More than 50 billion chickens are raised annually as a source of food, for both their meat and their eggs. Chickens raised for eggs are usually called layers while chickens raised for meat are often called broilers.

Layer Poultry Farming

The poultry birds which are raised for egg production are called layer poultry. A commercial hen generally starts laying eggs at the age of 12-20 weeks. After 70-72 weeks of age egg production of layer poultry get reduced. For commercial layer poultry farming, producers generally keep the hens for 12 months from their first laying period. And then sell them for slaughter purpose. Although chickens naturally survive for more than 6 years. For commercial egg laying poultry farming systems, the environmental conditions are often automatically controlled by the producers. For example, presence of light helps the bird lay eggs earlier. So, the producers should provide more lightening period to increase the probability of beginning laying eggs. The egg-laying birds lay more eggs in warmer months than in cold months. So, keeping the temperature moderate will be very helpful for better egg production. Some commercial egg laying chicken breeds can produce more than 300 eggs a year. Layer poultry are raised in various methods. The most common layer poultry farming systems are free range farming, organic method, yarding method, battery cage method, and furnished cage method.

Broiler Poultry Farming

The poultry birds which are raised for commercial meat production are called broiler poultry. By using modern farming methods broiler chickens become suitable for consumption within their 5 to 6 weeks of age.

In indoor raising method, broilers are kept inside a house. Rice hulls, wood shavings, peanut shells etc. are used as litter in the floor of the house. In this system, the broilers are kept in a large and open house and they become suitable for consumption within their 5 to 6 weeks of age. This type of poultry houses is well equipped with mechanical systems for delivering feed and water to the poultry birds and ventilation systems, coolers and heaters as well.

2. Answer the questions.

1. What birds are involved in poultry farming?
2. What chickens are raised for egg production?
3. What chickens are raised for meat?
4. When does a commercial hen generally start laying eggs?
5. What are the most common layer poultry farming systems?
6. When do broiler chickens become suitable for consumption?

3. Translate the article.

ARTICLE 8

1. Read the article.

POLICE DOG

A police dog, known in some English-speaking countries as a "K-9", is a dog that is specifically trained to assist police and other law-enforcement personnel. Their duties include: searching for drugs and explosives, locating missing people, finding crime scene evidence, and protecting their handlers. Police dogs must remember several verbal cues and hand gestures. The most commonly used breeds are the German Shepherd, Belgian Malinois and Rottweiler.

One of the first attempts to use K9s in Policing was in 1889 by the Commissioner of the Metropolitan Police of London, Sir Charles Warren. Warren's repeated failures at identifying and apprehending the serial killer Jack the Ripper had earned him much vilification from the press, including being denounced for not using bloodhounds to track the killer. He soon had two bloodhounds trained for the performance of a simple tracking test from the scene of another of the killer's crimes. The results were far from satisfactory, with one of the hounds biting the Commissioner and both dogs later running off, requiring a police search to find them.

It was in Continental Europe that dogs were first used on a large scale. Police in Paris began using dogs against roaming criminal gangs at night, but it was the police department in Belgium that introduced the first organized police dog service program in 1899. These methods soon spread to Austria-Hungary and Germany. The German police selected the German Shepherd Dog as the ideal breed for police work and opened up the first dog training school in 1920. The dogs were systematically trained in obedience to their officers and tracking and attacking criminals.

In Britain, the North-Eastern Railway Police were among the first to use police dogs in 1908 to put a stop to theft from the docks in Hull. By 1910, railway police forces were experimenting with other breeds such as Labrador Retrievers, Doberman Pinschers, and German Shepherds.

Dogs to be considered to work in police must first pass a basic obedience training course. They must be able to obey the commands of their handler without hesitation. This allows the officer to have complete control over how much force the dog should use against a suspect. Dogs trained in Europe are usually given commands in the country's native language. Dogs are initially trained with this language for basic behavior, so, it is easier for the officer to learn new words/commands, rather than retraining the dog to new commands. This is contrary to the popular belief that police dogs are trained in a different language so that a suspect cannot command the dog against the officer. Dogs used in law enforcement are trained to be "single purpose" or "dual purpose". Single purpose dogs are used primarily for backup, personal protection, and tracking. Dual purpose dogs do everything that single purpose dogs do, and also detect explosives or narcotics.

2. Answer the questions.

1. What are the duties of a police dog?
2. What are the most common dog breeds used in police service?
3. When was the first attempt to use a dog in police?
4. What are the requirements for dogs to work in police?

3. Translate the article.

ARTICLE 9

1. Read the article.

IMPACT OF HABITAT LOSS ON SPECIES

Habitat loss poses the greatest threat to species. The world's forests, swamps, plains, lakes, and other habitats continue to disappear as they are harvested for human consumption and cleared to make way for agriculture, housing, roads, pipelines and the other hallmarks of industrial development. Without a strong plan to create terrestrial and marine protected areas important ecological habitats will continue to be lost.

Habitat loss is probably the greatest threat to the variety of life on this planet today. It is identified as a main threat to 85% of all species described in the IUCN's Red List (those species officially classified as "Threatened" and "Endangered"). Increasing food production is a major agent for the conversion of natural habitat into agricultural land.

Why is it happening?

Forest loss and degradation is mostly caused by the expansion of agricultural land, intensive harvesting of timber, wood for fuel and other forest products, as well as overgrazing.

The net loss in global forest area during the 1990s was about 94 million ha (equivalent to 2.4% of total forests). It is estimated that in the 1990s, almost 70% of deforested areas were converted to agricultural land. Around half of the world's original forests have disappeared, and they are still being removed tenfold higher than any possible level of regrowth. As tropical forests contain at least half the Earth's species, the clearance of some 17 million hectares each year is a dramatic loss.

Human impact on terrestrial and marine natural resources results in marine and coastal degradation. Population growth, urbanization, industrialization and tourism are all factors.

In 1994, it was estimated that 37% of the global population lived within 60 km of the coast. Poverty, consumption and land-use patterns contribute to the degradation of marine habitats and to the destruction of the species that rely on them to survive

Protected areas or conservation areas are locations which receive protection because of their recognized natural, ecological or cultural values. There are several kinds of protected areas, which vary by level of protection depending on the enabling laws of each country or the regulations of the international organizations involved. The term "protected area" also includes Marine Protected Areas, the boundaries of which will include some area of ocean, and Transboundary Protected Areas that overlap multiple countries which remove the borders inside the area for conservation and economic purposes.

Protected areas are essential for biodiversity conservation, often providing habitat and protection from hunting for threatened and endangered species. Protection helps maintain ecological processes that cannot survive in most intensely managed landscapes and seascapes.

One of the main concerns regarding protected areas on land and sea is their effectiveness at preventing the ongoing loss of biodiversity. There are multiple case studies indicating the positive effects of protected areas on terrestrial and marine species. However, those cases do not represent the majority of protected areas. Several limitations that may preclude their success include: their small size and large isolation to each other, their limited role at preventing factors affecting biodiversity, their large cost and their increasing conflict with human demands.

2. Translate the article.

ARTICLE 10

1. Read the article.

ANIMAL WELFARE: WHAT IS IT?

Animal welfare means how an animal is coping with the conditions in which it lives. An animal is in a good state of welfare if it is healthy, comfortable, well nourished, safe, able to express innate behavior, and if it is not suffering from unpleasant states such as pain, fear, and distress. Good animal welfare requires disease prevention and veterinary treatment, appropriate shelter, management, nutrition, humane handling and humane slaughter. Animal welfare refers to the state of the animal; the treatment that an animal receives is covered by other terms such as animal care, animal husbandry, and humane treatment.

Ensuring animal welfare is a human responsibility that includes consideration for all aspects of animal well-being, including proper housing, management, nutrition, disease prevention and treatment, responsible care, humane handling, and, when necessary, humane euthanasia.

There are numerous perspectives on animal welfare that are influenced by a person's values and experiences. There are also various means of measuring animal welfare, including health, productivity, behavior, and physiological responses.

The American Veterinary Medical Association has defined its commitment to animal welfare through the adoption of the following Animal Welfare Principles that serves as guidance when the Association develops policies and takes action to ensure the welfare of animals: The AVMA, as a medical authority for the health and welfare of animals, offers the following eight integrated principles for developing and evaluating animal welfare policies, resolutions, and actions.

The responsible use of animals for human purposes, such as companionship, food, fiber, recreation, work, education, exhibition, and research conducted for the benefit of both humans and animals, is consistent with the Veterinarian's Oath.

Decisions regarding animal care, use, and welfare shall be made by balancing scientific knowledge and professional judgment with consideration of ethical and societal values.

Animals must be provided water, food, proper handling, health care, and an environment appropriate to their care and use, with thoughtful consideration for their species-typical biology and behavior.

Animals should be cared for in ways that minimize fear, pain, stress, and suffering.

Procedures related to animal housing, management, care, and use should be continuously evaluated, and when indicated, refined or replaced.

Conservation and management of animal populations should be humane, socially responsible, and scientifically prudent.

Animals shall be treated with respect and dignity throughout their lives and, when necessary, provided a humane death.

The veterinary profession shall continually strive to improve animal health and welfare through scientific research, education, collaboration, advocacy, and the development of legislation and regulations.

2. Translate the article.

IRREGULAR VERBS

Infinitive	Past Simple	Past Participle	Перевод
Be	Was/were	Been	*Быть*
Beat	Beat	Beaten	*Бить*
Become	Became	Become	*Становиться*
Begin	Began	Begun	*Начинать*
Blow	Blew	Blown	*Дуть*
Break	Broke	Broken	*Ломать*
Bring	Brought	Brought	*Приносить*
Broadcast	Broadcast	Broadcast	*Транслировать*
Build	Built	Built	*Строить*
Buy	Bought	Bought	*Покупать*
Catch	Caught	Caught	*Ловить*
Choose	Chose	Chosen	*Выбирать*
Come	Came	Come	*Приходить*
Cost	Cost	Cost	*Стоить*
Cut	Cut	Cut	*Резать*
Deal	Dealt	Dealt	*Договориться*
Dig	Dug	Dug	*Копать*
Do	Did	Done	*Делать*
Draw	Drew	Drawn	*Рисовать*
Drink	Drank	Drunk	*Пить*
Drive	Drove	Driven	*Управлять*
Eat	Ate	Eaten	*Есть*
Fall	Fell	Fallen	*Падать*
Feed	Fed	Fed	*Кормить*
Feel	Felt	Felt	*Чувствовать*
Fight	Fought	Fought	*Сражаться*
Find	Found	Found	*Находить*
Fly	Flew	Flown	*Летать*
Forbid	Forbade	Forbidden	*Запрещать*
Forget	Forgot	Forgotten	*Забывать*
Forgive	Forgave	Forgiven	*Прощать*
Freeze	Froze	Frozen	*Морозить*
Get	Got	Got	*Достать и др.*
Give	Gave	Given	*Давать*
Go	Went	Gone	*Идти*
Grow	Grew	Grown	*Расти*
Have	Had	Had	*Иметь*
Hear	Heard	Heard	*Слышать*
Hide	Hid	Hidden	*Прятать*
Hit	Hit	Hit	*Ударить*
Hold	Held	Held	*Держать*
Hurt	Hurt	Hurt	*Ранить*
Keep	Kept	Kept	*Соблюдать*
Know	Knew	Known	*Знать*
Lay	Laid	Laid	*Лежать*

Lead	Led	Led	*Вести*
Leave	Left	Left	*Покидать*
Lend	Lent	Lent	*Одолжить*
Let	Let	Let	*Разрешить*
Lose	Lost	Lost	*Терять*
Make	Made	Made	*Изготовлять*
Mean	Meant	Meant	*Значить*
Meet	Met	Met	*Встретить*
Pay	Paid	Paid	*Платить*
Put	Put	Put	*Класть*
Read	Read [red]	Read [red]	*Читать*
Ride	Rode	Ridden	*Ехать верхом*
Ring	Rang	Rung	*Звонить*
Rise	Rose	Risen	*Подниматься*
Run	Ran	Run	*Бежать*
Say	Said	Said	*Говорить*
See	Saw	Seen	*Видеть*
Sell	Sold	Sold	*Продавать*
Send	Sent	Sent	*Посылать*
Set	Set	Set	*Устанавливать*
Shake	Shook	Shaken	*Трясти*
Show	Showed	Shown	*Показывать*
Shrink	Shrank	Shrunk	*Сжиматься*
Shut	Shut	Shut	*Захлопнуть*
Sing	Sang	Sung	*Петь*
Sink	Sank	Sunk	*Затонуть*
Sit	Sat	Sat	*Сидеть*
Sleep	Slept	Slept	*Спать*
Slide	Slid	Slid	*Скользить*
Speak	Spoke	Spoken	*Беседовать*
Spend	Spent	Spent	*Проводить*
Spread	Spread	Spread	*Распространяться*
Spring	Sprang	Sprung	*Прыгать*
Stand	Stood	Stood	*Стоять*
Steal	Stole	Stolen	*Красть*
Stick	Stuck	Stuck	*Клеить*
Swim	Swam	Swum	*Плыть*
Take	Took	Taken	*Брать*
Teach	Taught	Taught	*Учить*
Tear	Tore	Torn	*Рвать*
Tell	Told	Told	*Говорить*
Think	Thought	Thought	*Думать*
Throw	Threw	Thrown	*Кидать*
Understand	Understood	Understood	*Понимать*
Wake	Woke	Woken	*Просыпаться*
Wear	Wore	Worn	*Носить*
Win	Won	Won	*Выигрывать*
Write	Wrote	Written	*Писать*

Numbers 1-20

1 one
2 two
3 three
4 four
5 five
6 six
7 seven
8 eight
9 nine
10 ten
11 eleven
12 twelve
13 thirteen
14 fourteen
15 fifteen
16 sixteen
17 seventeen
18 eighteen
19 nineteen
20 twenty

Numbers 20-1,000,000,000

30 thirty
31 thirty-one
40 forty
47 forty-seven
50 fifty
59 fifty-nine
60 sixty
63 sixty-three
70 seventy
72 seventy-two
80 eighty
86 eighty-six
90 ninety
94 ninety-four
100 one hundred
250 two hundred and fifty
1,000 one thousand
1,00,000 one hundred thousand
1,ooo,ooo,ooo one billion

Ordinal numbers

1st	the first
2nd	the second
3rd	the third
4th	the fourth
5th	the fifth
6th	the sixth
7th	the seventh
8th	the eighth
9th	the ninth
10th	the tenth
11th	the eleventh
12th	the twelfth
13th	the thirteenth
14th	the fourteenth
15th	the fifteenth
16th	the sixteenth
17th	the seventeenth
18th	the eighteenth
19th	the nineteenth
20th	the twentieth
21st	the twenty-first
22nd	the twenty-second
23rd	the twenty-third
24th	the twenty-fourth
25th	the twenty-fifth
26th	the twenty-sixth
27th	the twenty-seventh
28th	the twenty-eighth
29th	the twenty-ninth
30th	the thirtieth
31st	the thirty-first

Years

2008	two thousand and eight
1900	nineteen hundred
1959	nineteen fifty-nine
2000	the year two thousand
2017	twenty seventeen
1950s	the nineteen fifties
1960s	the nineteen sixties
80s	the eighties
100 years	century

Seasons

Winter
Spring
Summer
Autumn

in

Months

January
February
March
April
May
June
July
August
September
October
November
December

in

Days of the week

Monday
Tuesday
Wednesday
Thursday
Friday
Saturday
Sunday

on

in the morning
in the afternoon
in the evening
at night
at noon

Dates

1.09.2017 (on) the first of September, twenty seventeen

Fractions and decimals

1/4 a quarter
1/2 a half
3/4 three quarters
1/3 a third
2/3 two thirds
0.25 point two five or nought point two five, or zero point two five
1.5 one point five
8.56 eight point five six

REFERENCES

http://dictionary.cambridge.org
http://doctorly.org/how-to-become-a-veterinary-dentist/
http://medical-dictionary.thefreedictionary.com
http://onlinelibrary.wiley.com
http://spectrumveterinaryinstruments.com
http://study.com/academy/lesson/the-surgical-suite-in-a-veterinary-hospital.html
http://vetspecialists.com
http://www.animalplanet.com
http://www.bbc.com
http://www.fabretp.eu/reproductive-techniques.html
http://www.mahofsc.com/neoplasia-tumors-and-cancer/
http://www.nationalgeographic.com/animals/
http://www.nhm.ac.uk
http://www.oie.int/for-the-media/animal-diseases/animal-disease-information-summaries/
http://www.petmd.com
http://www.petmd.com/horse/conditions
http://www.sheep.info
http://www.theorganicfarmer.org
http://www.thesaurus.com
http://www.vet.cornell.edu
http://www.vetmed.ucdavis.edu
https://careertrend.com/how-7523448-organize-veterinary-clinic.html
https://en.oxforddictionaries.com
https://en.wikipedia.org
https://en.wikivet.net
https://www.avdc.org/periodontaldisease.html
https://www.avma.org
https://www.britannica.com
https://www.cvmbs.colostate.edu
https://www.merriam-webster.com
https://www.mspca.org/animal_protection/farm-animal-welfare-pigs/
https://www.multitran.ru
https://www.psychologytoday.com/topics/animal-behavior
https://www.thebalance.com/veterinary-surgeon-125815
https://www.worldwildlife.org

Издается в авторской редакции.

Подписано в печать 11.09.2017 г. Формат 60x84 1/8.
Бумага кн.-журн. П.л. 13,75. Гарнитура Таймс.
Тираж 117 экз. Заказ №16507.

Федеральное государственное бюджетное образовательное учреждение
высшего образования
«Воронежский государственный аграрный университет
имени императора Петра I»
Типография ФГБОУ ВО Воронежский ГАУ.
394087, Воронеж, ул. Мичурина, 1