Leaving Certificate

Agricultural Science

Animal Science and Production

Please see *Teachers' Notes* for explanations, additional activities, and tips and suggestions.

Learning Support	Vocabulary, key terms working with text and writing text	**Pages 3-10, 12-13**
Language Support	Vocabulary, key terms, grammar, working with text and writing text	**Pages 3-13**
Subject class	Key vocabulary	**Pages 3-10**
Learning focus	Using Agricultural Science textbooks and accessing curriculum content and learning activities.	
Levels for Language Support students	Students' English-language skills should be developed to **Level B1** during funded Language Support. Mainstream subject learning will require the development of skills at **Level B2** if students are to cope with public examinations.	
Contents of this Unit		**Page**
	Keywords	3,4, 5
	Vocabulary file	6,7
	Activating students' knowledge	8
	Focus on vocabulary	9,10
	Focus on grammar (*adverbs*)	11
	Focus on reading	12
	Focus on writing (*writing sentences*)	13
	Answer Key	14-15

Using this unit

Language support and mainstream subject class

The sections ***Activating students' knowledge***, ***Focus on vocabulary,*** and ***Focus on grammar*** have been designed, in particular, for Language Support classes.

Focus on reading and ***Focus on writing*** are suitable for use in either Language Support or subject classes.

Answer Key

Answers are provided at the end of the unit for all activities except those based on free writing.

Textbooks

This unit focuses on sections on Animal Science and Production from the Agricultural Science Leaving Certificate curriculum. Students will need to use their textbooks if they are to gain the most benefit from the activities.

Learning Record

The Learning Record is intended to help students monitor their progress. This can be downloaded or printed from the website in the section *Advising Students and Record of Learning for the Leaving Certificate*. A copy of the Learning Record should be distributed to each student for each unit studied**.**

Students should:

1. Write the subject and topic on the record.
2. Tick off/date the different statements as they complete activities.
3. Keep the record in their files along with the work produced for this unit.
4. Use this material to support mainstream subject learning.

Symbols

Symbols are used throughout the unit to encourage students to develop their own learning and support materials.

prompts students to file the sheet when they have completed the activity. This is used for activities which can be used as a reference in the future e.g. for subject classroom, revision, homework etc.

prompts students to add vocabulary, definitions, or examples of vocabulary in use to their own personal glossary for the topic. A personal glossary makes study and revision more efficient.

Keywords

The list of keywords for this unit is as follows:

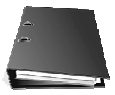
abdominal
acids
adrenal
agricultural
amino
ammonium
anaemia
animal
anterior
antibiotics
antibodies
aphids
arteries
artificially
available
bacon
bacterial
barley
be
beef
beet
bile
birds
birth
blackface
blood
boars
body
bone
bowman's
brain
breed
broiler
bull
bulls
calf
calves
calving
capillaries
carcase
cattle
cause
cavity
cell
cellulose
cereal
characteristic
chromosome
coding
colostrums
commonly
concentrate
concentration
conception
condition
conformation
connective
consumption
contagious
content
continental
corpus
cortex
cow
crop
crossbred
culled
cultivation
cycle
daily
dairy
days
dehydration
dental
desirable
detection
diarrhoea
diet
digest
diploid
dipping
disease
dissecting
dissection
distilled
division
domestic
dominant
dosed
drosophila
ducts
dung
during
dwarf
early
earthworm
effectors
eggs
embryos
enzymes
ewe
examine
external
faeces
failure
farm
farrowing
fat
fattened
fatteners
fattening
feed
feedstuff
females
fertilization
fertilizers
fever
fig
flies
flock
fluid
fluke
follicle
foot
found
fowl
fish
gametes
gaseous
gene
generation
genetic
genotype
genus
gestation
gilts
gizzard
gland
glucose
glycogen
grain
grass
grassland
graze
growth
gut
haemoglobin
handling
haploid
hatch

hay
heifer
herd
herds
heterozygous
hind
hindquarters
homologous
homozygous
hooved
hormone
host
housed
however
humans
hybrid
hygiene
immunity
importance
improver
impulse
inbreeding
include
individual
infected
infection
infectious
inheritance
injection
insecticide
insemination
intake
intestinal
intestine
involves
kidney
lactation
lamb
lambing
lameness
larva
legume
levels
lice
lipids
listlessness
liver
loin
lowland
lungs
lungworms
lymph
mainly
maintain
maintenance
male
mammal
management
mastitis
mate
material
mating
meal
meiosis
metabolically
microscopic
milk
milking
mitosis
molasses
monohybrid
months
mucus
muscle
muscles
navel
needed
nematodes
nervous
normal
notifiable
nutrient
nutrition
nutritional
observe
occur
occurrence
oestrous
offspring
oilseed
organic
organisms
organs
parasite
parasitic
parlour
pasture
pastures
peak
period
phenotype
phyla
phylum
pig
pigs
pituitary
polled
poultry
practices
pregnancy
prevent
prevention
principles
procedure
produce
production
progeny
progesterone
properly
protein
protozoa
purebred
quality
rabbit
ram
ration
rations
reared
rearing
receptors
rennin
replacement
reproduction
reproductive
requirements
results
rumen
ruminants
salts
scab
science
scour
season
secreted
secretion
see
seed
seepage
sex
sheep
should
silage
similar
skeleton
skin
slaughter
slurry
snail
sow
specialized
species
sperm

spores
steers
stimulate
stocking
stomach
storage
strains
straw
sucking
suckle
sugars
summarized
supervision
symptoms
system
table
tapeworms
teat
thorax
thrive
thus
thyroid
ticks
tissue
trace
traits
transmitted
transverse
treated
treatment
udder
unhygienic
unit
untreated
uric
urine
utilization
varieties
ventilation
vessels
veterinary
via
virus
weaned
weight
winter
wool
worms
wrinkled
yield
yielding
yields

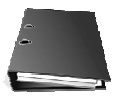
Vocabulary file (1) for the topic
Animal Science and Production

Word	Meaning	Page(s) in my textbook	Note
organisms			
invertebrates			
vertebrates			
digestive systems			
the nervous system			
animal feedstuffs			
dairying			
species			



Vocabulary file (2) for the topic
Animal Science and Production

Word	Meaning	Page(s) in my textbook	Note
spore			
parasites			
mammals			
organs			
the abdomen			
the intestine			
blood circulation			
blood-clotting			
kidney			



Introduction

Activating students' existing knowledge

Use a spidergram to activate students' ideas and knowledge on the key points in this chapter. See **Teachers' Notes** for suggestions.

Possible key terms for the spidergram:

Digestive Systems

Animal health

Mammals

- Invite newcomer students to provide key words in their own languages.
- Encourage dictionary use.
- Encourage all students to organise their vocabulary into relevant categories (e.g. meaning, nouns, keywords, verbs etc.).

All students should record vocabulary and terms from the spidergram in their personal dictionaries.

NAME: _____ DATE:_____

LC AGRICULTURAL SCIENCE: Animal Science and Production

Language Level: B1
Individual / pair

Focus on vocabulary

1. Matching

Match each expression in Column A with a definition in Column B. Draw a line between the matching expressions.

Column A	Column B
invertebrates	animals with a backbone
parasites	a part of an animal or plant that has a special purpose
mammal	when the body changes food in the stomach into substances that it can use
organs	animals without a backbone
vertebrates	plants or animals that live on or inside another plant or animal in order to get food
digestion	an animal that feeds its babies on milk from its body

2. Now check your understanding of the key words by putting them into the blanks in the sentences below.

- Birds and mammals are examples of _____ animals.
- Two groups of _____ are flukes and tapeworms.
- A worm is an example of an _____ animal.
- _____ have hair and most of them produce live young.
- The heart, lungs and liver are all _____.
- During _____ food stuffs are broken down sufficiently to allow them to be absorbed.

3. Missing Words

Study the words in the box, and then check that you understand them by putting them into the sentences below.

oesophagus	arteries	dairying
vaccine	lungs	saliva
notifiable diseases		
breeds	feedstuffs	veins

- The smell and sight of food, and also the presence of food in the mouth, causes the secretion of _____.
- In mammals the _____ is a simple tube connecting the mouth and the stomach.
- Blood vessels which deliver blood to the heart are called _____.
- Blood vessels which carry blood away from the heart are called _____.
- A _____ is given to people and animals to stop them from getting a particular disease.
- Mammals have two large _____ in the chest cavity or thorax.
- Examples of animal _____ are hay, silage, barley and wheat.
- _____ are highly contagious and are a serious national animal health risk.
- _____ and beef production together account for 73% of all agricultural production in Ireland.
- Cattle _____ are of three types: diary, beef and dual purpose.

Language Level: B1
Individual / pair

Focus on grammar

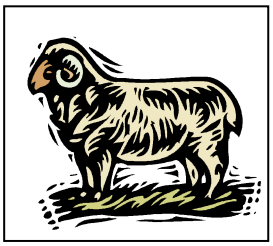
Adverbs

(Adverb: a word that describes or gives more information about a verb. Example: he ate quickly)

4. Read the sentences and underline the adverbs, there is one in each sentence.

- An experienced person should regularly examine the cow approaching the date.
- If the birth is delayed it is advisable to obtain veterinary assistance immediately.
- Calves can be reared naturally by suckling the cow.
- Once grass is growing normally, concentrate feeding is reduced.
- In dairy farming all calf-rearing is done artificially.

5. Insert the following adverbs into the sentences below.



widely *selectively* *gradually*
accurately *traditionally*

- _____, sheep have been associated mostly with hill and mountain areas.
- Sheep have been _____ bred throughout history for wool quantity and quality.
- The amount of concentrates fed should be increased _____ up to a maximum at lambing of 0.5 kg per ewe per day.
- Lambing outdoors, although _____ practised, is not recommended.
- The records kept during the mating season enable the farmer to _____ estimate the lambing date of each ewe.

Language Level: B1 / B2
Individual / pair

Focus on reading

6. Practise reading quickly! Read the questions a) to h), and then match them to the answers in the boxes, 1-8. Sometimes you won't know the answer because you haven't studied it yet, but you can guess – use clues such as the number of pieces of information, and your own general knowledge.

a) What is the function of the endosperm?
b) What is meant by the germination of a seed?
c) What is the name given to the type of change in the life cycle of an insect?
d) What is the importance of tagging animals on the farm?
e) What are the main benefits of sowing certified seed?
f) Give three functions of the liver.
g) In what part of the digestive system does absorption of food into the blood stream take place?
h) State two differences between the digestive system of a pig and a sheep.

1. growth of plant/ growth of seed/ sprouting

2. traceability for the farmer or for mart or for butcher or for consumer/ legal requirement

3. free of weed seeds/ high purity/ high germination rate/ free of wild oat seed/

4. food store

5. small intestine or ileum

6. breaks down red blood cells/ regulates temperature/ breaks down toxins

7. pig does not have ruminant system/ food is stored in rumen/ single(simple) stomach

8. metamorphosis

Language Level: B1 / B2
Individual / pair

Focus on writing

7. Practise writing sentences by putting the words and phrases into the correct order. (*We have done the first one for you).*

a) one and two million / most estimates/ the number of animal species/ put /in the world/ at between/

Most estimates put the number of animal species in the world at between one and two million.

b) that are warm-blooded /the birds and the mammals/ two groups of animals/ are the only /in the Animal Kingdom/

_____

c) birds/ winged vertebrates /are

_____

d) include /chemicals/ carbohydrates, fats, proteins, vitamins, minerals and water/ found in foods

_____

e) to allow them/ during digestion/ to be absorbed/ foodstuffs are broken down/ sufficiently

_____

f) sheep/are called ruminants/ and their close relatives/cattle/

_____

g) heart /mammals/ a four-chambered/have

_____

h) a mammal/ air enters/ though the mouth or nose/ either/

_____

i) the kidneys/ for the production of urine/ are specialised organs

_____

Answer key

1.

invertebrates	animals without a backbone.
parasites	plants or animals that live on or inside another plant or animal in order to get food.
mammal	an animal that feeds its babies on milk from its body.
organs	a part of an animal or plant that has a special purpose
vertebrates	animals with a backbone.
digestion	when the body changes food in the stomach into substances that it can use.

2.
Birds and mammals are examples of **vertebrate** animals.
Two groups of **parasites** are flukes and tapeworms.
A worm is an example of an **invertebrate** animal.
Mammals have hair and most of them produce live young.
The heart, lungs and liver are all **organs**.
During **digestion** food stuffs are broken down sufficiently to allow them to be absorbed.

3.

- The smell and sight of food, and also the presence of food in the mouth, cause s the secretion of **saliva**.
- In mammals the **oesophagus** is a simple tube connecting the mouth and the stomach.
- Blood vessels which deliver blood to the threat are called **veins**.
- Blood vessels which carry blood away from the heart are called **arteries**.
- A **vaccine** is given to people and animals to stop them from getting a particular disease.
- **Mammals** have two large lungs in the chest cavity or thorax.
- Examples of animal **feedstuffs** are hay, silage, barley and wheat.
- **Notifiable diseases** are highly contagious and are a serious national animal health risk.
- **Dairying** and beef production together account for 73% of all agricultural production in Ireland.
- Cattle **breeds** are of three types: diary, beef and dual purpose.

4.

- An experienced person should <u>regularly</u> examine the cow approaching the date.
- If the birth is delayed it is advisable to obtain veterinary assistance <u>immediately</u>.

- Calves can be reared naturally by suckling the cow.
- Once grass is growing normally, concentrate feeding is reduced.
- In dairy farming all calf-rearing is done artificially.

5.

- Traditionally, sheep have been associated mostly with hill and mountain areas.
- Sheep have been selectively bred throughout history for wool quantity and quality.
- The amount of concentrates fed should be increased gradually up to a maximum at lambing of 0.5 kg per ewe per day.
- Lambing outdoors, although widely practised, is not recommended.
- The records kept during the mating season enable the farmer to accurately estimate the lambing date of each ewe.

6.

a) 4

b) 1

c) 8

d) 2

e) 3

f) 6

g) 5

h) 7

7.

Most estimates put the number of animal species in the world at between one and two million.

The birds and the mammals are the only top group of animals in the Animal Kingdom that are warm-blooded.

Birds are winged vertebrates.

Chemicals found in foods include carbohydrates, fats, proteins, vitamins, minerals and water.

During digestion foodstuffs are broken down sufficiently to allow them to be absorbed.

Cattle, sheep and their close relatives are called ruminants.

Mammals have a four-chambered heart.

Air enters a mammal either though the mouth or nose.

The kidneys are specialised organs for the production of urine.