

Unit 1: Understand and Promote Animal Health

Unit code:	D/600/9365
QCF Level 3:	BTEC National
Credit value:	10
Guided learning hours:	60

● Aim and purpose

This unit aims to provide learners with an understanding of the principles of animal health and how these can be put into practice. This unit is primarily aimed at learners within a centre-based setting looking to progress into the sector or to further education and training.

● Unit introduction

Learning about animal health is an interesting and important subject for anyone thinking of working in the animal care industry. Whatever animals are used for, their health has to be optimum for them to fulfil their purpose, whether as a pet, a working animal or an animal kept in a collection such as a zoo.

The learner will be able to recognise the signs of good and ill health in animals and evaluate these as indicators of health status. The learner will carry out health checks on animals and produce animal health plans. The structure and role of pathogenic organisms will be examined and prevention and treatment of a range of diseases and disorders. The learner will be able to carry out routine and non-routine treatments for animals.

Throughout this unit, learners will gain an in-depth knowledge of many animal health practices and the theory behind them, such as health checking, common diseases and disorders, the immune system and how it works, treating disease and keeping animal health records.

The unit relates both to everyday healthcare and more specialised health procedures and illnesses such as zoonotic and notifiable diseases that may have a huge impact on a collection of animals. On completion of this unit, learners will have an understanding of how to prevent certain illnesses and diseases with the use of careful planning and health management regimes, to minimise the impact they have on animals and owners alike.

● Learning outcomes

On completion of this unit a learner should:

- 1 Be able to recognise indicators of health in animals
- 2 Understand common diseases and disorders, their treatment and prevention
- 3 Be able to promote and maintain the health and wellbeing of animals
- 4 Know how to deliver and record basic animal treatments.

Unit content

1 Be able to recognise indicators of health in animals

Indicators of health in animals: behaviour; posture; coat condition; weight; presence of lumps/bumps; temperature, pulse, respiration, movement; eyes; ears; mouth; nose; teeth; mucous membranes; tail; faeces/urine output; vocalisation; eating and drinking; appropriate animal handling techniques; appropriate handling equipment eg muzzles, leads, carrying baskets and restraint equipment; relationship of health to natural habitats

2 Understand common diseases and disorders, their treatment and prevention

Common diseases: viruses eg parvovirus; bacteria eg salmonella; fungi eg ringworm; prions eg scrapie; endo parasite eg helminths; ecto parasite eg fleas, notifiable diseases, zoonotic diseases

Common disorders: eg Cushing's disease; hypothyroidism; diabetes; cancer; kidney disease

Treatment: antibiotics; nutritional therapy; antimicrobials; administration routes eg intranasal; intramuscular; intravenous; oral; topical; aural

Prevention: prophylactic treatment eg worming; parasite control; nutrition; supplementation; antibiotics in food

Immune system: active, passive, natural and acquired immunity; role of the immune system in disease control; factors that affect effective working

3 Be able to promote and maintain the health and wellbeing of animals

Promote and maintain health: husbandry requirements; enrichment; exercise requirements; accommodation; five animal needs; record keeping; content on health and welfare planning; preventative care and treatments (methods, reasons for)

4 Know how to deliver and record basic animal treatments

Basic animal treatments: vaccination; de-worming; de-fleaing and other ecto parasites; grooming; health checking; administration of treatments; restraining for delivering treatments; dental care; foot care eg nail/claw trimming

Recording treatments: time; date; amount of treatment; name of treatment; batch number; source of treatment; reaction to treatment; frequency of treatment; name of person administering treatment; medication

Assessment and grading criteria

In order to pass this unit, the evidence that the learner presents for assessment needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria for a pass grade describe the level of achievement required to pass this unit.

Assessment and grading criteria		
To achieve a pass grade the evidence must show that the learner is able to:	To achieve a merit grade the evidence must show that, in addition to the pass criteria, the learner is able to:	To achieve a distinction grade the evidence must show that, in addition to the pass and merit criteria, the learner is able to:
P1 describe the indicators of good and ill health in animals [SM, IE, CT, TW]	M1 assess health of given animals using equipment appropriately	D1 accurately assess health in given animals, relating this to the environments in which the animals live
P2 carry out health checks on animals [SM, TW]		
P3 handle animals in a way that complies with relevant legislation and minimises stress and injury [RL, TW, SM, EP]		
P4 examine the role of pathogenic organisms in animal disease and the immune system [IE, CT, RL, SM]	M2 summarise the role of the immune system, detailing the different types of immunity and the process of the immune response	D2 evaluate the effects of a zoonotic and a notifiable disease on an animal collection
P5 explain common diseases and disorders in animals and their impact on health and welfare including notifiable and zoonotic [IE, CT, RL, SM]		
P6 explain the reasons for and methods of preventative care and treatment measures used for animals [CT, IE, SM]	M3 maintain and monitor health and welfare of specified animals safely	D3 evaluate animal health and welfare carried out, recommending improvements.
P7 develop plans to promote and maintain animal health and wellbeing throughout the year [TW, SM, EP, RL]		

Assessment and grading criteria		
To achieve a pass grade the evidence must show that the learner is able to:	To achieve a merit grade the evidence must show that, in addition to the pass criteria, the learner is able to:	To achieve a distinction grade the evidence must show that, in addition to the pass and merit criteria, the learner is able to:
P8 implement measures to promote and maintain the health and wellbeing of animals [CT, TW, EP]	M4 confidently treat and monitor animals with minimal assistance.	
P9 monitor and report on animal health and wellbeing [IE, CT, RL]		
P10 describe how to deliver a range of basic routine and non-routine animal treatments safely, in line with codes of practice and legislation [TW, RL]		
P11 describe the importance of monitoring animals after treatment [SM, EP, IE]		
P12 describe the methods for monitoring animals and the records required. [SM, IE, CT]		

PLTS: This summary references where applicable, in the square brackets, the elements of the personal, learning and thinking skills applicable in the pass criteria. It identifies opportunities for learners to demonstrate effective application of the referenced elements of the skills.

Key	IE – independent enquirers CT – creative thinkers	RL – reflective learners TW – team workers	SM – self-managers EP – effective participators
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Essential guidance for tutors

Delivery

Delivery of this unit will involve practical and written assessments, visits to suitable collections and will link to work experience placements.

Learners should be given opportunities to practise carrying out healthcare on a variety of animal species from the following categories: exotic, small mammal, large mammal, rodent and bird. Emphasis should be on practical delivery and assessments where possible, with adequate time given for learners to prepare for these assessments.

All learners should have access to the animals, with the emphasis being on health and safety and animal welfare at all times. This will involve careful planning to ensure that animals are not stressed or overused.

Learners should be encouraged to carry out independent research, to allow for guided development of research and independent thinking skills.

Tutors should also be encouraged to formulate links with external animal care organisations to provide a 'real' view of animal health and how it relates to the overall welfare of animals. This could be via both visits to animal collections and guest lectures from animal care professionals.

Outline learning plan

The outline learning plan has been included in this unit as guidance and can be used in conjunction with the programme of suggested assignments.

The outline learning plan gives **an indication of the volume of learning it would take the average learner** to achieve the learning outcomes. It is **indicative and is one way of achieving the credit value**.

Learning time should address all learning (including assessment) relevant to the learning outcomes, regardless of where, when and how the learning has taken place.

Topic and suggested assignments/activities and/assessment
Introduction to unit and animal care facilities.
Assignment 1: Good and Ill Health (P1, P2, P3, M1, D1) and research
Practical activity: health checking, signs of health, TRP etc.
Assignment 2: Disease and the Immune System (P4, P5, M2, D2) and research
Theory: common diseases and disorders.
Treatment and prevention of diseases and disorders.
Practical activity: delivery of treatments.
Theory: recording treatments.
Assignment 3: Maintaining Health and Wellbeing (P6, P7, P8, P9, M3, D3)
Theory: promote and maintain health.
Theory: delivery of treatments.
Assignment 4: Basic Treatment Delivery (P10, P11, P12, M4)
Practical: assessments of the unit.
Unit review.

Assessment

Assessment of this unit should involve a mixture of theoretical assignments and practical assessments.

Assessment of P1, P2, P3, M1 and D1, could be carried out through practical health checking assessments, where learners identify points of good and ill health on a minimum of three different species according to a marking checklist supplied by the tutor. Animals should be handled in a way that minimises stress and complies with legislation as detailed in P3. This could be evidenced by tutor observation or a witness testimony.

For D1, learners should make accurate and valid health assessments for given animals and discuss how this is influenced by their environments.

For P4 and P5 learners could produce a leaflet or written document that describes common diseases and disorders (including notifiable and zoonotic diseases) in a given species, and how the immune system works to combat the disease or disorder. This could be extended for M2 through an essay which describes the immune system in greater detail, and includes the process of the immune response. Learners should also include signs and prevention of zoonotic and notifiable diseases.

For D2, learners should evaluate effects of zoonotic and notifiable diseases on a given animal collection, possibly in a written assignment.

For P10, P11 and P12 and M4, learners must carry out basic routine and non-routine treatments and monitor and record them for a minimum of two different animals. In an accompanying information leaflet aimed at animal carers, learners could explain the reasons for using preventative care and treatment, to include a plan for promoting and maintaining the health for a given species.

For P6, learners need to explain the reasons for and methods of preventative care and treatment measures used for animals. This could be in written format or delivered as presentation.

P7, P8 and P9 learners must plan, implement, monitor and report on animal health and welfare. This is likely to be evidenced through the production of care plans and logs/diaries. It must cover a minimum of three animal species.

For M3, learners could develop their own health records, and then implement these records for a specified period of time for specified animals. Learners should then create a presentation to explain how they have provided preventative treatment to the animals, and the reasons for using it safely and in line with animal welfare legislation. M3 does not include this level of detail.

For D3, learners should evaluate their own and each others' healthcare plans, and write an essay detailing the preventative treatment and monitoring of the animals needed afterwards. They should include a summary of treatments used and suggest potential improvements.

Programme of suggested assignments

The following table shows a programme of suggested assignments that cover the pass, merit and distinction criteria in the grading grid. This is for guidance and it is recommended that centres either write their own assignments or adapt any Edexcel assignments to meet local needs and resources.

Criteria covered	Assignment title	Scenario	Assessment method
P1, P2, P3, M1, D1	Good and Ill Health	You work as an assistant in a veterinary practice. You need to handle and health check animals and provide analysis and evaluation.	Practical assessment. Essay.

Criteria covered	Assignment title	Scenario	Assessment method
P4, P5, M2, D2	Disease and the Immune System	Detail common diseases and disorders, the immune system and evaluate the effects of notifiable and zoonotic diseases on an animal collection.	Assignment.
P6, P7, P8, P9, M3, D3	Maintaining Health and Wellbeing	Carry out routine treatments, produce a leaflet and present the information to peers.	Presentation. Assignment. Practical assessment.
PI0, PI1, PI2, M4	Basic Treatment Delivery	Carry out routine and non-routine treatments, monitor and record them for a minimum of two different animals.	Practical assessment. Assignment.

Links to National Occupational Standards, other BTEC units, other BTEC qualifications and other relevant units and qualifications

This unit forms part of the BTEC land-based sector suite. This unit has particular links with:

Level 2	Level 3
	Element AC10.1 Implement plans to maintain animal health and welfare Element AC10.2 Monitor and evaluate the maintenance of animal health and welfare
Introduction to Animal and Plant Biology	Understand the Principles of Animal Biology
Contribute to the Nursing of Animals	Understand the Principles of Animal Nursing
Introduction to Caring for Ornamental Aquatics	Understand the Principles of Aquatics Husbandry and Management
Maintain Animal Health and Welfare	Understand the Principles and Carry Out Practice of Exotic Animal Health and Husbandry
Maintain Animal Accommodation	Understand and Undertake Wildlife Management and Rehabilitation
Understand the Principles and Practices of Animal Establishments	Understand and Carry Out Farm Livestock Husbandry

Essential resources

Learners should have access to a range of species that are 'handleable' and that can be used for practical sessions. Learners should be aware of the use of animals, and ensure that they are not overused or their welfare compromised at any time. Safe working practices should be employed at all times.

Learners should have access to a well-stocked, up-to-date library or resource centre, and the use of ICT facilities within the centre.

Employer engagement and vocational contexts

Centres are encouraged to develop links with animal collections to give learners an insight into alternative ways of providing healthcare for animals. These may be vets, zoos and wildlife parks, animal health/welfare companies, farms or boarding/rescue facilities. This could be through either visits to the establishments or visits from guest lecturers from suitable organisations.

Indicative reading for learners

Textbooks

Alderton D – *Exotic Pets: Practical Pet care Handbook* (Lorenz Books, 2004) ISBN 9780754814061

Alderton D et al – *The Complete Book of Pets and Petcare* (Lorenz Books, 2006) ISBN 9780754816614

Bower J and Youngs D – *The Dog Owner's Veterinary Handbook* (Trafalgar Square, 2009)
ISBN 9781852238261

Case L P – *The Dog: its Behavior, Nutrition, and Health* Second Edition (WileyBlackwell, 2005)
ISBN 9780813812540

Hayes M H and Knightbridge R (editor) – *Veterinary Notes for Horse Owners* (Ebury Press, 2002)
ISBN 9780091879389

Hoffman M – *The Doctors Book of Home Remedies for Dogs and Cats* (Bantam, 1998) ISBN 978-0553577815

Kotter E – *Gerbils, A Complete Pet Owner's Manual* (Barron's Educational Series, 2010) ISBN 9780764144295

Krottlinger J – *Keeping Reptiles and Amphibians* (TFH Publications, 1993) ISBN 9780866225168

Lane D, Cooper B and Turner L (editors) – *BSAVA Textbook of Veterinary Nursing* (British Small Animal Veterinary Association, 2007) ISBN 9780905214894

Meredith A and Johnson-Delaney (editors) – *BSAVA Manual of Exotic Pets* (British Small Animal Veterinary Association, 2002) ISBN 9780905214474

Simpson G (editor) – *Practical Veterinary Nursing - Third Edition* (British Small Animal Veterinary Association, 1994) ISBN 9780905214276

Turner T – *Veterinary Notes for Dog Owners* (Hutchinson, 1994) ISBN 9780091738174

Turner T and Tuner J (editors) – *Veterinary Notes for Cat Owners* (Hutchinson, 1994) ISBN 9780091751036

Websites

www.bvna.org.uk

British Veterinary Nursing Association

www.defra.gov.uk

Department for Environment, Food and Rural Affairs

www.pdsa.co.uk

PDSA

www.rspca.org.uk

The Royal Society for the Prevention of Cruelty to
Animals

Delivery of personal, learning and thinking skills (PLTS)

The following table identifies the PLTS opportunities that have been included within the assessment criteria of this unit:

Skill	When learners are ...
Independent enquirers	describing good and ill health, examining disease and immunity, looking at methods of providing treatments, monitoring animals and completing records, explaining legislation
Creative thinkers	examining factors such as pathogens, preventative care, implementing plans, monitoring animals and carrying out routines
Reflective learners	completing records, handling animals, explaining diseases, developing plans, monitoring animals and carrying out routines
Team workers	handling animals, health checking animals, completing plans, carrying out treatments and completing records
Self-managers	describing health and health checking, handling animals, researching and explaining, developing plans
Effective participators	developing plans, handling animals, implementing plans, monitoring animals.

Although PLTS opportunities are identified within this unit as an inherent part of the assessment criteria, there are further opportunities to develop a range of PLTS through various approaches to teaching and learning.

Skill	When learners are ...
Independent enquirers	planning and carrying out research activities related to the unit and animal health analysing information on animal health and signs of illness
Creative thinkers	asking questions to extend their thinking during lectures and practical sessions trying out alternatives or new solutions to animal healthcare adapting ideas as circumstances change eg changes to animal welfare legislation
Reflective learners	identifying opportunities for animal healthcare changes and their own achievements setting goals for themselves eg conquering a fear of handling an animal reviewing progress in practical tasks and coursework
Team workers	working with others to carry out health checks, exercise and husbandry routines of animals reaching clear agreements regarding who is carrying out which task working together in an emergency situation
Self-managers	showing initiative and commitment with animals and their healthcare dealing with pressures in an emergency first aid situation managing emotions when it comes to animal welfare and healthcare
Effective participators	discussing issues of concern when health checking an animal or finding an animal in a less than ideal welfare situation identifying improvements to current animal welfare regimes influencing others in their animal healthcare regimes and standards.

● Functional Skills – Level 2

Skill	When learners are ...
ICT – Use ICT systems	
Select, interact with and use ICT systems independently for a complex task to meet a variety of needs	using facilities in centres, completing coursework, using smartboards and PCs in class, using interactive materials for teaching and learning, researching subjects on the internet
Use ICT to effectively plan work and evaluate the effectiveness of the ICT system they have used	
Manage information storage to enable efficient retrieval	
Follow and understand the need for safety and security practices	
Troubleshoot	
ICT – Find and select information	
Select and use a variety of sources of information independently for a complex task	
Access, search for, select and use ICT-based information and evaluate its fitness for purpose	
ICT – Develop, present and communicate information	
Enter, develop and format information independently to suit its meaning and purpose including: <ul style="list-style-type: none"> • text and tables • images • numbers • records 	
Bring together information to suit content and purpose	
Present information in ways that are fit for purpose and audience	
Evaluate the selection and use of ICT tools and facilities used to present information	
Select and use ICT to communicate and exchange information safely, responsibly and effectively including storage of messages and contact lists	

Skill	When learners are ...
Mathematics	
Understand routine and non-routine problems in a wide range of familiar and unfamiliar contexts and situations	suggesting weights of animals and medication to suit their needs, working out dosage of supplements per size of animal, and gathering and analysing weights of animals for healthcare evaluations
Identify the situation or problem and the mathematical methods needed to tackle it	
Select and apply a range of skills to find solutions	
Use appropriate checking procedures and evaluate their effectiveness at each stage	
Interpret and communicate solutions to practical problems in familiar and unfamiliar routine contexts and situations	
Draw conclusions and provide mathematical justifications	
English	
Speaking and listening – make a range of contributions to discussions and make effective presentations in a wide range of contexts	presenting to peers, listening to others' presentations
Reading – compare, select, read and understand texts and use them to gather information, ideas, arguments and opinions	researching for their assignment
Writing – write documents, including extended writing pieces, communicating information, ideas and opinions, effectively and persuasively	writing assignments.