

T Level Technical Qualification in Animal Care and Management

Animal Management and Science Occupational Specialism

**Knowledge Test Guide Standard Exemplification Material
Threshold Competence**

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Introduction

The sample evidence within this document refers to the Animal Management and Science Occupational Specialism knowledge test. The aim of these materials is to provide centres with examples of knowledge and understanding that attest to a threshold competence (pass) grade. The evidence presented here has been developed to reflect a threshold competence grade within each question but is not necessarily intended to reflect the work of a single candidate. The candidate responses have been developed to reflect the required standards that would contribute to an overall threshold competence grade. It is important to note that in live assessments a candidate's performance is very likely to exhibit a spikey profile and the standard of performance will vary across questions. The Guide Standard Exemplification Material (GSEM) illustrates linear performance across all pieces of evidence at the grade. A threshold competence grade will be based on a mark set for the individual question paper at awarding.

The evidence in this GSEM is separated into the sections as described below. Evidence is presented against questions from the paper. Assessors using the GSEM may find it helpful to review this document along with the Science Knowledge Test sample assessment materials (SAMs).

For the purpose of this GSEM, only the levels-based questions have been included in this evidence. All other questions will be marked as per the mark scheme included in the Science Knowledge Test SAMs.

Question

This section details the evidence to be submitted for marking for each question. Also referenced in this section are the performance outcomes that the evidence will be marked against when completing the questions.

In this GSEM there is evidence from:

- Q8
- Q18

Evidence

This section includes the question answers. This will be exemplar evidence that was written as part of the knowledge test and then externally marked by a City & Guilds examiner.

Commentary

This section includes detailed comments to demonstrate how the evidence attests to the standard of threshold competence.

It is important to note that the commentary section is not part of the evidence or assessment but are evaluative statements on how and why that response meets a particular standard.

Grade descriptors

To achieve a pass (threshold competence), a candidate will typically be able to:

Demonstrate an adequate level of performance that meets minimum industry requirements, to be able to enter the animal science industry to begin work in the occupational area.

Demonstrate an adequate understanding of husbandry plans and basic technical skills and techniques for carrying out routine health assessments associated with breeding and rearing animals.

Demonstrate a satisfactory understanding of human-animal interaction, applying safe and welfare orientated techniques when handling, restraining and moving animals, adapting them when necessary.

Interpret technical information to be able to plan and prepare equipment and work areas, assess risk and follow safe working methods appropriately when applying practical skills to a sufficient standard and within relevant legislation and regulations.

Produce basic population management plans for the care and monitoring of animals in accordance with relevant legislation, conservation and evolution.

Carry out adequate planning and research on reproductive technologies and gene manipulation including assessing the validity and reliability of sources.

Carry out basic analysis and evaluation of research to enable presentation of results to targeted audiences.

Demonstrate adequate knowledge and understanding of genetics and evolution of common wild and captive animals, health and nutrition for animals and the effects of disease on the animal with reference to veterinary practice and legislation.

Demonstrate adequate knowledge and understanding of fundamental scientific principles relevant to biology and chemistry for animal scientists.

Mostly use technical terminology accurately in plans, reports and documentation.

Knowledge Test Q8

Evidence contributes to the following:

Performance outcome(s)
PO2 Observe the behaviour, security and breeding practices of animals

Evidence	Candidate producing	Assessor producing	Included in this GSEM
Answer	√		√

The Volcanoes National Park in Rwanda is home to a small population of approximately 350 Mountain Gorillas. Their population is being threatened by the increasing number of tourists and from illegal hunting and poaching from neighbouring countries, Burundi and Congo. The impact of which is shown in the table below.

	2018	2019	2020	2021	2022
Number of African tourists	130,000	180,000	80,000	50,000	200,000
Number of tourists from other continents	1,500,000	1,800,000	500,000	0	2,000,000
Number of Gorilla deaths due to zoonotic disease	24	32	56	9	22
Number of Gorillas hunted/poached	7	9	12	8	5

Describe the mitigations that the Volcanoes National Park could take to help prevent extinction of the Mountain Gorilla.

(6 marks)

Candidate evidence

The biggest risks to the Gorilla population in the Volcanoes National Park is the introduction of human diseases by tourists which could make the Gorillas really sick as they could get human flu which they are not able to fight and get better from and may die. Another risk is the hunting and poaching from Burundi and Congo where hunters might be trying to get trophies from hunting and this will reduce the number of Gorillas because they are killing them. They are more likely to kill the biggest male as they look more fierce and impressive. If

the Silverback is killed there will be no male in the group to make babies or protect the females and young.

To reduce these risks and prevent the Gorillas from becoming extinct the National Park could request any visitors to the Gorillas must be vaccinated against diseases which could be passed from human to Gorilla. They could also stop visitors from meeting the Gorillas by placing restrictions on how close they can get to them. Preventing tourists from seeing the Gorillas may also mean they don't get as much money for the conservation of the Gorillas so this will have a bad effect on the population and they will need to let people see them but in limited amounts.

The National Park could also set up restricted access to the National Park with lots of fences. If there is only one gate that is manned to gain access to the National Park, this could be made accessible by invitation only or with tickets. Anyone not authorised in the park could be classed as a poacher or hunter and they could face penalties for breaking the law.

Commentary

The candidate provided adequate knowledge and understanding of the effects of disease on the animal and methods to mitigate the risk of gorilla extinction, with mitigations described for both disease control and hunting/poaching. However, the mitigations provided lacked detail and would have benefitted from further reasoning as to how these would work to prevent Gorilla extinction in the Volcanoes National Park.

They could have also considered a different method of reducing hunting/poaching, as one entrance into a National Park is not a realistic suggestion. For example, adding protection between Rwanda and neighbouring countries of some kind would demonstrate a wider understanding of mitigations that could be taken.

They have used some key information from the table to identify that human disease was a likely risk to the Gorillas but missed opportunities to use the table further to give a wider range of possible mitigations.

Knowledge Test Q18

Evidence contributes to the following:

Performance outcome(s)
PO3 Plan for and manage the good health and welfare of animals

Evidence	Candidate producing	Assessor producing	Included in this GSEM
Answer	√		√

A kitten presenting with signs associated with cat flu has been brought into the veterinary practice and is sitting in a mixed waiting room. They are called into a cat only consultation room and the diagnosis of cat flu is confirmed. The kitten is admitted and hospitalised in the isolation wards and treatment of intravenous fluids, anti-inflammatories and antibiotics is commenced. After five days of treatment, the kitten is discharged back to its owner.

Discuss the role of the veterinary team in the diagnosis of the disease, management and treatment of the kitten when hospitalised and then returned to its owner.

Evaluate the journey of the kitten through the veterinary practice and any impact this may have on the kitten's welfare.

(12 marks)

Candidate evidence

The veterinary team work together to diagnose and treat the kitten. The vet nurse will support the vet surgeon in understanding the signs and symptoms the kitten is showing, but it is only the vet surgeon who can diagnose the cat flu condition and prescribe medication as part of the Vet Surgeon Act.

The vets might take swabs, X-rays and samples from the kitten to decide on what is wrong with it and how to best treat it. Once the diagnosis has been made, the vets will give it some fluids as the kitten is unlikely to drink due to feeling poorly, and anti-inflammatories and antibiotics to make it feel better.

The kitten will be placed in an isolation pen for 5 days. The vets will make sure the kitten is comfortable in the pen during this time by giving it cosy blankets, tasty food and lots of care. When it is time to go home, the vets will ask the receptionist to contact the owner, the receptionist will then provide the owner with all the information about the medication that has been prescribed by the vet for the owner to continue at home. The receptionist will also take payment and book in follow up appointments.

When the kitten arrives at the vets it will be feeling unwell and unhappy. Being in the carry box is probably unusual for the kitten.

When sat in the waiting room the kitten might be able to see, smell and hear all the other, noisy animals, especially dogs and this could upset the kitten. If there are other cats in the waiting room, they might also catch the cat flu.

When the kitten is seen by the vet, it will be scared because it doesn't know the vet, but because it is poorly it won't be able to show many scared behaviours like biting, but it would try to hide.

When the kitten is admitted into the vets it will be sad and will miss its owner, it might cry and become stressed, but because it is poorly it will probably sleep in the isolation pen as it will have access to blankets and somewhere to hide.

When it has finished its treatment, after 5 days, the kitten will feel better and will show normal behaviours such as purring which is good.

Commentary

The candidate provided adequate overview of the role of the veterinary team, showing some understanding of the role of the vet nurse and vet surgeon in the diagnosis of cat flu and the management and treatment of the kitten whilst it was under the care of the veterinary practise. For example, knowing that the diagnosis could only be carried out by the veterinary surgeon demonstrates their knowledge of relevant legislation. However, the candidate could have differentiated these roles further to show more understanding of their responsibilities when caring for the kitten such as including the role of a veterinary nurse in its care.

The candidate provided an adequate evaluation of the milestones during the journey of the kitten at the veterinary practice, highlighting which factors were good for welfare and which were not, but they have missed opportunities to discuss the wider impacts of the health and welfare of the kitten. For example, the proximity to other animals demonstrates knowledge of stressors to the kitten and the likelihood of disease spread. However, the candidate has missed the opportunity to explain this in more depth and give reasoning for the stressors such as the natural fight or flight response.

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