

**T Level Technical Qualification in  
Animal Care and Management  
Animal Management and Science  
Occupational Specialism (Level 3)**

**Research Project**  
**SAMPLE Candidate Pack**

May 2024 v1.0

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## **1. Assessment**

This assessment is for the Animal Management and Science Occupational Specialism component of the Animal Care and Management Technical Qualification. This pack consists of a research project assignment brief, that you will need to use to complete your assessment tasks.

## Performance outcomes

The weighting for this assessment will remain the same for every version of the research project. This ensures the appropriate depth and breadth of knowledge and skills for each specialism can be reliably assessed in every version and meets the needs of the industry while keeping comparability between each assessment over time. The research project marks contribute 25% towards the overall occupational specialism grade and the following performance outcome is covered within this assessment.

Performance outcome	Typical knowledge and skills
<b>PO1</b> Apply research methods to collect and analyse scientific information on reproductive technologies and gene manipulation.	Develop the knowledge and skills to plan, carry out and present research on reproductive technologies and gene manipulation. Develop the knowledge needed for assessing sources for validity and reliability during research. Apply skills relevant to carrying out scientific research and presenting it to targeted audiences.

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## Assessment overview

You will be assessed against a number of tasks. This research project has a total of 36 marks. The table below shows the weighting of the marks for each of the tasks. You will be assessed against these tasks which align with the performance outcomes.

Performance outcome (PO)	Tasks	Marks per task	Task weightings	Marks per PO
PO1 Apply research methods to collect and analyse scientific information on reproductive technologies and gene manipulation.	1 Planning and researching	12	33%	36
	2 Research report	15	42%	
	3 Presentation	9	25%	
<b>Totals</b>		<b>36</b>	<b>100%</b>	<b>36</b>

## 2. Candidate guidance

### General guidance

This is a formal assessment that you will be marked and graded on. You will be marked on the quality and accuracy of the work you produce. It is therefore important that you carry out your work to the highest standard you can.

### Plagiarism

Plagiarism is the failure to acknowledge sources properly and/or the submission of another person's work as if it were your own. Plagiarism is not allowed in this assignment.

This project is an assessment of your abilities, so the work submitted must be all your own and carried out under the conditions stated. You will be asked to sign a declaration that you have not had any help with the assignment. Your tutor is allowed to give you some help understanding the instructions if necessary, but they will record any other guidance you need, and this will be taken into account during marking.

Where research is allowed, your tutor must be able to identify which work you have done yourself, and what you have found from other sources. It is therefore important to make sure you acknowledge sources used and clearly reference any information taken from them (e.g. providing as a minimum a list of web addresses / books / articles etc used).

### Timings and planning

You are advised to study the details of the project before starting.

You should check with your tutor that you have all the relevant materials, equipment and information/data sources that you need before starting the project.

You should take care when planning to make sure you have divided the time available between parts of the project tasks appropriately. Timings for tasks are provided within this pack to support with planning and time allocation.

Any requested changes to deadlines must be agreed to by both your tutor and City & Guilds.

### Word counts

Typical word counts/page lengths of evidence are provided within the requirements of each task. Where word counts/page lengths have been provided, these are given as an indicative guide only to support you to understand the type of response that is expected from you. You will not be penalised as part of the marking if your response is below or above the indicative word count provided, however you should consider the clarity and succinctness of your response if it goes above the word count/page length.

The number of pages indicated for research notes is a mandatory requirement. You should add page numbers to your research notes and your tutor should only submit the indicated number of pages of research notes. Additional pages of research notes will not be accepted.

## Presentation of work

Presentation of work must be neat, legible and appropriate to the task, and evidence required for submission.

You should make sure that each piece of evidence including any forms are clearly labelled with your name and the project reference.

All electronic files must be given a clear file name that allows your tutor to identify it as your work.

Written work may be word-processed or handwritten unless stated otherwise.

Any screenshots used within research notes should be clear and legible.

When producing written work electronically, you should use font size 12 and singular line spacing.

Any sketches and drawings should be neat, tidy and annotated.

Calculations should be set out clearly, with all working shown, as well as any assumptions made. You should use appropriate units at all times, consistent with the requirements of the assignment.

## Instructions for this project

Ensure you read all the provided assessment information issued by the tutor.

You must work independently and not share your work with any other candidates in these supervised assessment sessions.

Your work will be kept secure during any supervised breaks that are taken.

Internet access is **not** allowed, unless otherwise stated in the task.

You must complete all the tasks and present all evidence that is detailed in each task.

This assessment booklet contains the assignment brief.

The tasks have been separated into individual documents which will be handed to you at the start of each task.

## Within each task you will find the following:

- **Conditions of assessment:** This will tell you the duration and rules you must follow when completing a task.
- **Controlled conditions:** This will tell you the rules you must follow when completing each task e.g. you must not share or discuss your work with other candidates.
- **What must be produced for marking: This describes the evidence you must submit when the task is completed. Be aware failure to submit any evidence requested can adversely affect your overall mark for the assessment.**
- **Additional evidence for this task:** This describes other forms of evidence that will be collected by the tutor to support the marking of your performance. This will often include but not limited to photographic and video evidence.
- **What must be submitted:** This describes any additional evidence that must be submitted but will not be marked.

### 3. Assignment brief

You are working as a researcher in an animal genetics laboratory called 'Guilds Genetics' which is responsible for genetic research in companion, farm and equine animals. Guilds Genetics has 4 members of staff including yourself:

- 1 x Manager
- 1 x Team Leader
- 2 x Researchers

The researchers in the team regularly research different reproductive technologies and genetic manipulation techniques in animal science. This research is presented to the team leader, by writing a research report and then creating an informative scientific poster to allow others to look at the research.

The most recent technologies that need to be researched are embryo transplantation and genetic testing in mammals. Guilds Genetics considers the other organisations that might need to be involved in this genetic research, as well as the legal and ethical implications of each technique.

Guilds Genetics are reviewing the applications of using embryo transplantation and genetic testing. Therefore, you have been assigned this area of research and it will need to be presented to the Team Leader to support them in understanding the effectiveness of the techniques and any ethical and legal considerations surrounding this area of research. You will also be required to use your findings to create a scientific poster to support your presentation, which will be made available to the other researchers within the organisation.

Your assignment contains **three** tasks in total and has a total time of **16 hours and 10 minutes**.

Your tutor will release the tasks to you at the start of each supervised session; they will also provide you with your permitted resources for that task. You will **not** be permitted any additional notes, such as printed resources and textbooks, or access to the internet, unless otherwise stated in the task conditions for assessment.



## 4. Tasks

### Task 1 - Planning and researching

Your Team Leader has asked you to plan and carry out research on embryo transplanted and genetic testing.

Your research will include:

- information from a variety of reliable sources
- data collection on the reasons and applications for using embryo transplant and its effectiveness for improving reproduction rates
- data collection on the reasons and applications for using genetic testing, welfare considerations and its use in animal science and genetics
- organisations that may be involved in using embryo transplanted and genetic testing
- ethical and legal considerations of embryo transplanted and genetic testing.

Your research will focus on the following **two** species:

- Dog (*Canis familiaris*)
- Cow (*Bos taurus*).

You should compare the effectiveness of embryo transplant and the uses of genetic testing between the two species.

In preparation for carrying out your research, you must produce a research proposal and action plan for the research project. You must then carry out your research and produce research notes based on your findings.

#### Task 1a – Research proposal

Produce a written research proposal for your research project that includes the following information:

- aims and objectives of your research
- the principles of the research design and methodology of research
- sources of information and the proposed techniques to analyse and interpret the data.

#### Task 1b – Action plan

Produce a research action plan, that includes the following:

- topics to be researched
- the resources required and their suitability
- search criteria for your research
- the timelines for completion including critical pathway analysis of your research project
- how you will monitor your progress when completing the research project
- contingency planning for when your research project may not go to plan.

### **Task 1c - Research**

Using your research proposal from Task 1a and research action plan from Task 1b, you will now carry out your research on embryo transplantation and genetic testing and prepare your research notes.

You should produce four A4 pages of research notes which will be used in subsequent tasks. These can include screenshots, images or diagrams. You should include a list of Harvard style references in your notes.

**You will need to use the findings from your research notes when completing subsequent tasks. You must ensure your findings are clear and usable for you to use as you move through the assessment.**

#### **Resources:**

##### **Task 1a:**

- digital equipment with **no** internet access

##### **Task 1b:**

- digital equipment with **no** internet access

##### **Task 1c:**

- digital equipment with internet access.

#### **Conditions of assessment:**

- the time allocated for this task is 10 hours.
  - Task 1a - 2 hours
  - Task 1b - 2 hours
  - Task 1c - 6 hours
- you must carry out the task on your own, under **controlled conditions**.

#### **Controlled conditions:**

- you must work on your tasks in the allocated times only
- use of the internet is permitted for Task 1c only
- assessment evidence must be handed in at the end of each session for secure storage
- you are not permitted to bring any additional materials into the assessment session
- you must not share or discuss your work with other candidates.

#### **What must be produced for marking:**

##### **Task 1a:**

- Research proposal in a digital, written format (typically 1000 words), page numbered.

##### **Task 1b:**

- Action plan for the research project (typically 1000 words).

**Additional evidence for this task:**

- N/A

**What must be submitted:**

**Task 1c:**

- Research notes (up to four sides of A4) which can include screenshots/pictures/diagrams. Screenshots should be clear and legible. You must ensure:
  - text is formatted as Arial font, size 12
  - standard line spacing and borders
  - page numbers
  - file is saved securely (e.g. electronically in a secure location or on a memory stick to be handed in)
  - no additional pages, as they will not be accepted.
- A list of Harvard style references (these are additional to the notes and are not counted in the page limit of four sides of A4).

## Task 2 - Research report

Using your research notes from Task 1c, you must analyse your research findings and produce a written research report that should include:

- title and introduction
- aims and objectives
- literature review analysing your findings and including assessment of the validity and reliability of the sources
- comparison of the effectiveness of embryo transplant and the uses of genetic testing between the two species
- evaluation of how your project has progressed, including any adaptations you had to make to your research action plan and justifications for doing so
- conclusion.

### Resources:

#### Task 2:

- research proposal from Task 1a
- action plan from Task 1b
- research notes from Task 1c
- digital equipment with **no** internet access.

### Conditions of assessment:

- the time allocated for this task is 4 hours
- you must carry out the task on your own, under **controlled conditions**.

### Controlled conditions:

- you must work on your tasks in the allocated times only
- access to the internet is not permitted for this task
- assessment evidence must be handed in at the end of each session for secure storage
- you are not permitted to bring any additional materials into the assessment session
- you must not share or discuss your work with other candidates.

### What must be produced for marking:

#### Task 2:

- digital, written research report (typically 2000 words)
  - file is saved securely (e.g. electronically in a secure location or on a memory stick to be handed in)

## Task 3 - Presentation

### Task 3a – Scientific poster

Using your research report from Task 2, you are required to create a digital, scientific poster for your presentation to the team leader. The scientific poster should help the team leader to understand the reasons and applications of embryo transfer and genetic testing, their effectiveness, and the ethical and legal considerations of each.

The scientific poster should contain relevant and summarised information from your research.

### Task 3b - Presentation

Present your scientific poster that you have created in Task 3a to the Team Leader at Guilds Genetics:

- Your presentation should be delivered orally for up to 10 minutes.

### Resources:

#### Task 3a:

- digital equipment with **no** internet access
- research proposal from Task 1a
- action plan from Task 1b
- research report from Task 2.

#### Task 3b:

- digital equipment with **no** internet access
- scientific poster from Task 3a.

### Conditions of assessment:

- the time allocated for this task is 2 hours and 10 minutes
  - Task 3a - 2 hours
  - Task 3b - 10 minutes.
- you must carry out the task on your own, under **controlled conditions**.

### Controlled conditions:

- you must only work on your tasks in the allocated times
- assessment evidence must be handed in at the end of each session for secure storage
- you are not permitted to bring any additional materials into the assessment session
- you must not share or discuss your work with other candidates
- use of the internet is not permitted.

**What must be produced for marking:**

**Task 3a:**

- digital, scientific poster (minimum A3, typically 800 words)
  - text is formatted as Arial font
  - standard line spacing and borders.

**Task 3b:**

- video recording of the presentation.

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