

# BIOLOGY - UNIT OF STUDY 6

▶ YEAR 11 ▶ NCEA AS90162 LEVEL 1.2 ▶ PROCESS INFORMATION TO DESCRIBE A USE OF BIOLOGY KNOWLEDGE WITH DIRECTION.



SUPPORTS INTERNAL ASSESSMENT FOR ACHIEVEMENT STANDARD 90162

## TEACHER GUIDELINES

The following guidelines are supplied to enable teachers to carry out valid and consistent assessment using this internal assessment resource.

## CONTEXT/SETTING

This assessment is a directed research assignment based on the use of biological knowledge involved in the recognition and identification of stereotypic behaviour in captive animals and how this behaviour can be caused by confinement in an abnormal environment, ie, a zoo, aquarium or circus.

This activity consists of two parts that lead to the production of a report.

**PART ONE** involves collecting and processing information. This information can be researched and/or provided.

**PART TWO** involves presenting a report.

## CONDITIONS

This assessment is a research assignment that is to be completed in two parts.

This time could be allocated in a single fortnight or could be spread over a longer interval such as a school term to allow for research and processing of a range of source material.

### PART ONE

#### COLLECTING AND PROCESSING INFORMATION

Students will have three to four hours of class/library/computer/fieldwork time and will need to use homework time to collect information from a range of sources.

### PART TWO

#### INTERPRETATION AND REPORT WRITING

Students will need one to three hours to write and prepare the report. The report must show evidence of the processing of information and linking of processed information in regard to recognition and identification of stereotypic behaviour in captive animals and how confinement in an abnormal environment can contribute to this type of behaviour.



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## RESOURCE REQUIREMENTS

Students need access to a range of information sources. The sources of information are first-hand ie, observation of animals and/or secondary, ie, information previously collected and processed by another person or seen on the *Animals & Us* DVD.

# ZOOCHOTIC animals

STEREOTYPIC BEHAVIOUR IN ANIMALS  
USED FOR ENTERTAINMENT

TEACHING AND LEARNING ACTIVITIES



## STUDENT INSTRUCTION SHEET

In this activity you are to research and process biological knowledge to produce a report linking biology knowledge to its use.

The assessment activity has **two** parts:

- ▶ **PART ONE** involves collecting and processing information.
- ▶ **PART TWO** involves presenting a report. The report is to follow the provided format or template.

## TASK

In this activity you are to carry out research and create a report that identifies stereotypic behaviour in captive animals and how this behaviour can be caused by confinement in an abnormal environment, ie, a zoo, aquarium or circus.

### PART ONE

#### COLLECTING AND PROCESSING INFORMATION

- a) Collect relevant information from a **range of sources** (minimum of three) to allow you to discuss BOTH how abnormal environments can contribute to and cause stereotypic behaviour in captive animals AND what your information shows about how people use a range of biology knowledge **for a particular purpose**, such as making decisions regarding the ethical and behavioural (emotional and physical) appropriateness of keeping animals captive in an abnormal environment, ie, a zoo, aquarium or circus.

#### SELECTING A TOPIC

You will be writing a report that discusses stereotypic behaviour in captive animals and how this behaviour can be caused by confinement in an abnormal environment.



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## LIST OF SECONDARY RESOURCES

### REPORTS

- The Case Against Marine Mammals in Captivity*. HSUS and WSPA. 2008. (p.140)  
 "Cetaceans in Captivity", *SAFE Campaign Report*, July-October 1999. (p.148)

### NEWSPAPERS

- "The Bear Essentials for Zoos". Mark Henderson and Diana McCurdy, *The Dominion Post*, Friday October 3 2003. (p.110)  
 "The Dolphin Dilemma" and "The 'Sick Culture' of Captivity". Jane Phare, *Herald on Sunday*. August 13 2006. (p.138)

### MAGAZINES

- "The Shame of Auckland Zoo", Selwyn Manning. *Metro*. 1994. (p.91)  
 "The Future of Zoos". Mike White. *North & South*. 2006. (p.228)

### ELECTRONIC TEXTS

- "RSPCA calls for phase out of zoo elephants following new scientific study".  
[www.politics.co.uk/opinion-formers/press-releases/rspca-calls-phase-out-zoo-elephants-following-new-scientific-studies-1254148366366.htm](http://www.politics.co.uk/opinion-formers/press-releases/rspca-calls-phase-out-zoo-elephants-following-new-scientific-studies-1254148366366.htm)  
 "Suffering Deep Down". The Captive Animals' Protection Society. 2004.  
[www.captiveanimals.org/aquarium/suffering.htm](http://www.captiveanimals.org/aquarium/suffering.htm)  
 "Enclosure Size in Captive Wild Mammals: A Comparison Between UK Zoological Collections and the Wild". The Captive Animals' Protection Society. 2003. (p.112)  
[www.captiveanimals.org/zoos/enclosures.pdf](http://www.captiveanimals.org/zoos/enclosures.pdf)  
*Animal Welfare (Zoos) Code of Welfare 2005*.  
 Biosecurity New Zealand. (p.112)  
*Animal Welfare (Zoos) Code of Welfare 2005: Report*.  
 Biosecurity New Zealand. (p.112)

### DVD TEXTS ON ANIMALS ON SHOW DVD

- Circus Suffering*. The Captive Animals' Protection Society. 2002.  
*Sad Eyes and Empty Lives: The Reality of Zoos*. The Captive Animals' Protection Society. 1999.  
*No Place Like Home*. The Captive Animals' Protection Society. 2009.  
*Lolita: Slave to Entertainment*. Rattle the Cage Productions. 2003.

### ADDITIONAL INFORMATION

- Possible research topics could include:
- ▶ Abnormal maternal behaviour in primates.
  - ▶ Pacing in big cats and bears.
  - ▶ Feeding disorders (playing with food, regurgitating and reingesting).
  - ▶ Hyperaggression in primates and big cats.
  - ▶ Overgrooming and mutilation in primates.
  - ▶ Rocking and swaying in elephants and great apes.
  - ▶ Neck twisting and tongue rolling in giraffes.
  - ▶ Chewing and bar biting in bears, giraffes and horses.
  - ▶ Circling and surface breaking in fish, sharks and sting rays.



Use the table below to develop your specific research topic.

Select an animal, stereotypic behaviour and abnormal environment that are related.

**At this stage, speak with your teacher to check that your specific research topic is appropriate.**











This must be completed by:

DATE:

b) Process this information. Processing usually includes:

- ▶ collating the information and selecting the bits that relate to your research topic or question, the how and why of your topic.
- ▶ presenting evidence of your processing of information, such as listing, sorting, collating, highlighting or summarising.
- ▶ thinking about the selected information to identify the important biology knowledge and how it is used by people for a particular purpose.
- ▶ selecting relevant and useful illustrations, diagrams and graphs, if appropriate.

**TABLE: STEREOTYPIC BEHAVIOUR IN CAPTIVE ANIMALS**

CAPTIVE ANIMAL	STEREOTYPIC BEHAVIOUR	CAPTIVE ENVIRONMENT
 Primates	ABNORMAL MATERNAL BEHAVIOUR	ZOO
 Elephants and great apes	ROCKING AND SWAYING	ZOO, CIRCUS
 Marine mammals, fish and sharks	CIRCLING	AQUARIUM
 Big cats, bears	PACING	ZOO
 Marine mammals, fish, sharks and sting ray	SURFACE BREAKING	AQUARIUM
 Primates, parrots	OVERGROOMING AND MUTILATION	ZOO
 Giraffes	NECK TWISTING AND TONGUE ROLLING	ZOO
 Bears, giraffes and horses	CHEWING AND BAR BITING	ZOO
 Primates	FEEDING DISORDER	ZOO
 Primates and big cats	HYPERAGGRESSION	ZOO, CIRCUS

For example your specific research topic could be: *To find and document examples of hyperaggression in captive primates. To explain how and why confinement in an abnormal environment at \_\_\_\_\_ Zoo causes this behaviour to occur.*

Write your specific research topic in the space below:

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## STUDENT INSTRUCTION SHEET CONT . .

### PART TWO

#### PRESENTING A REPORT

Produce a report that gives information on the topic or clearly answers the research question. **Use your own words**, and combine information from a range of sources (this means at least three different sources) into one report. If you include direct quotations this can be clearly indicated by the use of quotations marks and a reference. For example: "At Auckland Zoo the polar bear's insanity is infamous". (Manning, 1994).

The report could be in one or more of the following formats:

- ▶ written report (including illustrations, diagrams and graphs, if appropriate).
- ▶ model presentation.
- ▶ oral presentation.
- ▶ project booklet.

The following formats can also be used. However you will find it harder to complete a discussion as these formats limit discussion:

- ▶ multi-media.
- ▶ PowerPoint.
- ▶ poster presentation (should include supporting discussion).

The report should be (or equivalent to, if not a written report) between two to four A4 pages in length, including any illustrations, diagrams and graphs.

Your report must:

- a) State the research topic or question.
- b) Discuss **in your own words** how abnormal environments can contribute to and cause stereotypic behaviours in captive animals.
- c) Discuss, in your own words, what your information shows about how people use a range of biological knowledge **for a particular purpose**. For example, discuss how people use a range of biological knowledge to make decisions regarding the ethical and behavioural (emotional and physical) appropriateness of keeping animals captive in an abnormal environment, ie, a zoo, aquarium or circus.



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- d) Include **evidence** of the way you processed your information, such as listing, sorting, collating, highlighting or summarising. This should be attached to the end of the report or handed in with the report.
- e) Include a list of at least three references or sources you used, including information given to you by your teacher, eg, URL addresses from the internet or references to articles or books. The sources should be written in such a way that another person can use them to find the same information.



## SAMPLE REPORT TEMPLATE

## STUDENT INSTRUCTIONS SHEET CONT ...

## REPORT ON ZOOCHOTIC (STEREOTYPIC) ANIMALS

NAME:

TYPE OF ANIMAL:

TYPE OF ENCLOSURE:

What is the stereotypic behaviour studied?

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What examples of stereotypic behaviour have been found in this animal?

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How has confinement in an abnormal environment caused the stereotypic behaviour?

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How does the stereotypic behaviour affect the animal's mental and emotional functions?

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How does the stereotypic behaviour affect the animal's ability to function physically?

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Discuss how people make decisions regarding the ethical and behavioural (emotional and physical) appropriateness of keeping animals captive in an abnormal environment. \_\_\_\_\_

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**ASSESSMENT SCHEDULE: Bio/1/2 — ZOOCHOTIC ANIMALS: STEREOTYPIC BEHAVIOUR IN ANIMALS**

To determine the overall level of performance all judgements within a column must be met. For each judgement, evidence can be obtained from anywhere in the report. Text in bold font includes both the key aspects of the judgement and differences between the levels A, M and E.

JUDGEMENTS FOR ACHIEVEMENT	JUDGEMENTS FOR ACHIEVEMENT WITH MERIT	JUDGEMENTS FOR ACHIEVEMENT WITH EXCELLENCE
<p>Report is written mostly in the student's own words (ie, is processed – See criteria and Explanatory Note (EN) 5) and <b>describes</b> (criteria) the use of biology knowledge involved in the recognition and identification of stereotypic behaviour in captive animals and how this behaviour can be caused by confinement in an abnormal environment, ie, a zoo, aquarium or circus.</p> <p>Range of at least <b>three</b> sources used.</p>	<p>Report is written mostly in the student's own words (criteria and EN 5) and <b>explains</b> (criteria) the use of biology knowledge involved in the recognition and identification of stereotypic behaviour in captive animals and how this behaviour can be caused by confinement in an abnormal environment, ie, a zoo, aquarium or circus. Some original research, either from the <i>Animals &amp; Us</i> DVD or observing captive animals.</p> <p>At least <b>two</b> clear reasons explain how the biology knowledge applies to its use.</p> <p>Range of at least <b>three</b> sources used.</p>	<p>Report is written mostly in the student's own words (criteria and EN 5) and <b>discusses</b> (criteria) the use of biology knowledge involved in the recognition and identification of stereotypic behaviour in captive animals and how this behaviour can be caused by confinement in an abnormal environment, ie, a zoo, aquarium or circus, showing analysis skills by <b>linking relevant biology ideas</b> to the use. This can be done as an elaboration of the links, a justification of the links, an evaluation of the links, an analysis of the links or by comparing or contrasting.</p> <p>Analysis of original research.</p> <p>Range of at least <b>three</b> sources used.</p>