# 3.4 Animal Studies of Attachment: Lorenz and Harlow: Test Pack

AQA 7182 · about 20 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

**Answer ALL questions.**

**1** Define the term 'imprinting' as used in Lorenz's research on attachment in greylag goslings, naming the key behavioural sign of imprinting.

**(Total for Question 1 is 2 marks)**

**2** Define 'contact comfort' as used by Harlow in his rhesus monkey research, and give one brief behavioural sign used to show its importance.

**(Total for Question 2 is 2 marks)**


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**3** Outline the main findings from Lorenz's greylag gosling study, including the idea of a critical period and the irreversibility of imprinting.

**(Total for Question 3 is 4 marks)**

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**4** Application: A wildlife rehabilitator hand-rears orphaned ducklings and wants them to live successfully in the wild. Based on Lorenz's findings about imprinting and critical periods, give three practical steps the rehabilitator should take to increase the chance the ducklings develop normal wild behaviour, and explain why each step follows from Lorenz's research.

**(Total for Question 4 is 6 marks)**


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# Mark scheme · 3.4 Animal Studies of Attachment: Lorenz and Harlow: Test Pack

## Question 1

| | |
|---|---|
| defines imprinting as a rapid form of learning in which a young animal forms an attachment to the first moving object it sees oe | **B1** |
| identifies following the first moving object as the key behavioural sign of imprinting oe | **B1** |

**Answer: Imprinting is a rapid form of learning where a young animal forms an attachment to the first moving object it sees; the key sign is that the young animal follows that object.**

## Question 2

| | |
|---|---|
| defines contact comfort as the comfort and security gained from physical touch and soft tactile contact provided by a caregiver oe | **B1** |
| gives a behavioural sign, e.g. infant monkeys spending more time clinging to the cloth surrogate or seeking it when frightened oe | **B1** |

**Answer: Contact comfort is the comfort and security from physical touch provided by a caregiver; behaviourally, infant monkeys clung to and spent more time with the cloth surrogate, especially when frightened.**

## Question 3

| | |
|---|---|
| reports that goslings imprinted on the first moving object they saw and followed that object thereafter oe | **M1** |
| states Lorenz suggested a critical period shortly after hatching during which imprinting must occur oe | **M1** |
| states that imprinting was often irreversible and persisted even if goslings later encountered their biological mother oe | **M1** |
| may mention that later effects included changes to later social and mating behaviour, implying long term influence oe | **A1** |

**Answer: Goslings imprinted on the first moving object they saw and followed it; imprinting must occur within a short critical period after hatching and is often irreversible, affecting later social and mating behaviour.**

## Question 4

| | |
|---|---|
| step 1: ensure ducklings are exposed to a realistic duck or a realistic model as the first moving object soon after hatching oe | **M1** |
| explains that Lorenz found imprinting occurs on the first moving object and directing this to a duck model increases likelihood of imprinting on the correct species, supporting later normal behaviour oe | **A1** |
| step 2: introduce the ducklings to other ducks and natural environment cues within the species' critical period rather than leaving them isolated with humans oe | **M1** |
| explains that Lorenz identified a short critical period for imprinting, so exposing them to species-typical stimuli during that window reduces irreversible imprinting on humans and aids later social and mating behaviour oe | **A1** |
| offers an additional practical measure such as minimising human contact, using puppet or masked carers, or using conspecific foster mothers oe | **M1** |
| explains this reduces the chance of imprinting on humans and follows Lorenz's finding that first-object exposure directs later attachment and behaviour oe | **A1** |

**Answer: Practical steps include exposing ducklings immediately after hatching to a realistic duck or model so the first moving object is species-typical, and introducing them to real ducks and natural cues within the critical period while minimising human contact; these follow from Lorenz's finding that imprinting occurs on the first moving object within a short time window and strongly influences later social and mating behaviour.**


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