



Classification & Adaptations

Understanding How Animals Are Grouped and Survive

Stage 3



NSW Stage 3 Outcomes:

ST3-4LW-S · ST3-2DP-T · GE3-1 · GE3-2 · EN3-1A · EN3-6B · MA3-18SP · CA3



CLASSIFICATION



Classification systems

Classification is the organisation of living things based on shared characteristics.

It allows scientists to identify relationships between species.

Why is classification important in science?



Activity:

Explain: Classification helps scientists to:



ANIMAL GROUPS



Major animal groups

Animals can be grouped into:

- mammals
- birds
- reptiles

These groups share defining characteristics.

What characteristics define each group?

List: Group → Key Features → Example



CLASSIFICATION CRITERIA

How animals are classified

Animals are classified based on:

- body covering
- reproduction
- body structure
- movement

Which features are most useful for classification?

Complete:

Select one animal and justify its classification using evidence.

ADAPTATIONS

Types of adaptations

Adaptations are traits that improve survival. They include:

- structural adaptations (physical features)
- behavioural adaptations (actions)



How do adaptations develop over time?

Explain the purpose of adaptations in survival.



STRUCTURAL ADAPTATIONS

Physical features

Structural adaptations directly influence how animals interact with their environment. Examples:

- limbs for movement
- teeth for feeding
- body covering for protection



How do physical adaptations affect survival success?

Activity:

Analyse one structural adaptation and explain its function.

BEHAVIOURAL ADAPTATIONS

Behaviour & survival

Behavioural adaptations influence how an organism responds to its environment.

Examples:

- nocturnal behaviour
- hunting strategies
- shelter building



Why might behaviour be as important as physical features?

Explain:

Evaluate one behavioural adaptation and explain its importance.



ADAPTATIONS & ENVIRONMENT

Environment interaction

Adaptations are closely linked to environments.
Changes in environment can reduce survival rates.



How does environmental change affect adapted species?

Complete:

Predict how a species would respond to habitat change.



COMPLEX INTERACTIONS

Interdependence and adaptation

Adaptations not only support survival but also influence interactions between species.

How do adaptations affect food webs and ecosystems?



Complete:

Explain how one adaptation affects other organisms.



AT THE ZOO

Observation & analysis

Record:

- **Animal**
- **Classification group**
- **Key adaptations**
- **Environment**
- **Survival advantage**

[illegible]

Extension:

Evaluate how effective these adaptations are.

ZONE: TRICKY TONGUES & TREETOPS

ECHIDNA

Echidnas demonstrate specialised adaptations within the mammal group.

THINK...

How do specialised adaptations influence survival?

ACTIVITY...

Analyse how the echidna's features support feeding and protection.

Evaluate the risks of being highly specialised.

ZONE: DAINTREE RAINFOREST

CASSOWARY

Cassowaries are highly adapted rainforest birds.



THINK...

How do adaptations support survival in dense environments?

ACTIVITY

Explain how the cassowary's features support its ecological role.

Assess the impact if this species were removed.

ZONE: KANGAROO WALKABOUT

KANGAROO

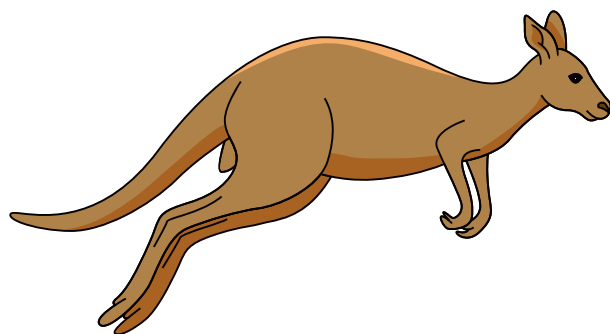
Kangaroos show strong adaptations for movement and survival in open habitats.

THINK...

Why are these adaptations successful in this environment?

ACTIVITY...

Analyse how the kangaroo's movement supports survival.



ZONE: NIGHTFALL

SUGAR GLIDER

Sugar gliders demonstrate both structural and behavioural adaptations.

THINK...

How do movement adaptations reduce energy use?

ACTIVITY...

Evaluate the effectiveness of gliding as an adaptation.



ZONE: CROCODILE BILLABONG

FRESHWATER CROCODILE

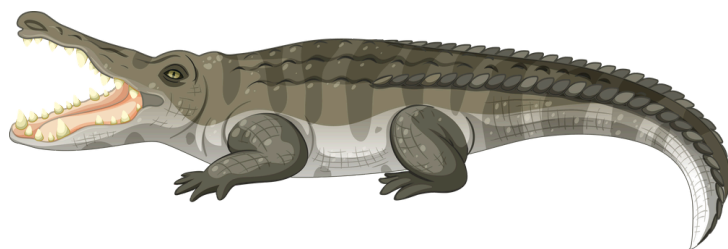
Crocodiles are apex predators with specialised hunting adaptations.

THINK...

How do predator adaptations influence ecosystems?

ACTIVITY

Evaluate the role of crocodile adaptations in ecosystem balance.



AFTER OUR VISIT TO THE ZOO

Reflection

Choose one animal and explain:

its classification

its adaptations

how these support survival

DATA ANALYSIS

Class Data

Collect data on:

- number of animals observed per group

Analyse:

- Which group was most common?
- Why might this be the case?

EXTENDED TASK

Write:

Write a paragraph: "How might environmental changes affect animal adaptations and survival?"

Include:

- one species
- one environmental change
- one predicted outcome

Handwriting practice lines consisting of 12 horizontal dashed lines.