

Unique Adaptations to a Unique Environment: Mary River Turtle and its Environs

LESSON THREE: Classification and Adaptation



PHASE	LEARNING SEQUENCE	ACTIVITY	RESOURCES
Engage	Determine how to classify Turtles within scientific categories Features of reptiles	<u>Review features of Mary River Turtle and its habitat, the Mary river</u>	Resource #1 ASOT goal setting
Explore	Traits common to the class of reptilia	In teams: Card sort activity. Sort the cards into true or false. The students will not know all the answers yet but the discussion that is generated will make them interested in whether they are right or wrong.	Resource #2 Introduction to Classification (cards 1 – 18 printed, cut up and laminated, set per group)
Explain	New term: adaptations	Either give teams a copy of the glossary sheet OR project it on the Whiteboard or data projector. Examine the glossary sheet. Does this give us clues to our answers? Give out the classification worksheet.	Resource #3 Reptile Glossary (A4 sheet for each student) Resource #4 What is Classification (worksheet for each student)
Elaborate	Apply knowledge of adaptations which help the animal survive.	Give groups a chance to re-sort their cards after reading glossary. Point how characteristics such as being “cold blooded” lead to behaviours such as basking & having a hard shell gives protection from predators	Resource #5 Word Wall words (printed & laminated)
Evaluate	Lesson Review: Did we find whether turtles are reptiles? Do we know what adaptations are?	Discuss card sorting. (See answers in Teacher Tips) Write the definition of adaptation into your science journal. Add laminated cards for new vocabulary to add to Word Wall.	Resource #6: ASOT goal review

Teacher Tips and Answers

Answers to card sort game: (let students attempt first)

True: 3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15

False: 1, 2, 6, 16, 17, 18

Did you know? (Share after card sort game)

Turtles are reptiles. Most people know that snakes, lizards and crocodiles are reptiles, many students may not realise that turtles are also reptiles.

Give feedback on True/False game. Ask students to report back on any surprises and cards they had to change after discussion.

Saltwater crocodiles are the largest living reptile. They can grow replacement new teeth throughout their lives.

Did you know that when scientists described the Mary River turtle, they had to create a new Genus as well as species? Therefore it is the only representative on earth of the Genus, Elusor.

Characteristics of reptiles (for adaptations section)

- Use external heat sources to maintain body temperature (this is why we see turtles basking)
- Have scales or scutes (for protection from predators)
- Have a backbone
- Lay eggs or have live young

Adaptation Examples:

Turtles have a number of adaptations that make them suited to life in water. Webbing between fingers and toes allows them to move quickly through water.

Their eyes and nostrils positioned on top of their head enable them to breathe and see above water while most of their body remains submerged.

ASOT Goal Setting

Today's Lesson poses the questions:

Are Turtles Reptiles?

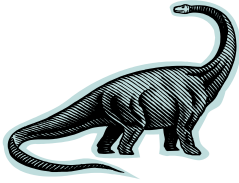


What are Adaptations?

Introduction to Classification

<p>1. Adult female Mary River Turtles often lay around 100 eggs.</p>	<p>2. Mary River Turtles are found all over Australia.</p>	<p>3. Mary River Turtles can live for up to 80 years.</p>
<p>4. Crocodiles can lose their teeth chomping on prey, but new sets always grow in.</p>	<p>5. Turtles are reptiles.</p>	<p>6. Reptiles have warm blood and fur.</p>
<p>7. Snakes are reptiles.</p>	<p>8. Lizards have great vision and use their tongues to taste their surroundings.</p>	<p>9. Turtles spend most of their lives in the water and have plated shells covering their bodies.</p>

10. Dinosaurs are the original reptiles.



11. Reptiles are cold-blooded (body temperature is directly related to its surroundings).

12. Reptiles have been living on Earth for over 300 million years.

13. Crocodiles are reptiles.



14. Reptiles have an internal skeleton with a central backbone (vertebrate).

15. Reptiles breathe through lungs.

16. Mary River Turtle females are larger than the males.

17. The Mary River Turtle is the only turtle that lives in the Mary River.

18. Mary River Turtle eggs take 1 year to hatch.



REPTILE GLOSSARY

adaptation

Definition: Modification of an organism or its parts that makes it better fitted for survival.

Context: *The gill-like structure in the tail of the Mary River Turtle is an adaptation that gives it an extra way of absorbing oxygen.*

cold blooded

Definition: Having a body temperature close to that of the environment.

Context: *The cold blooded crocodile or turtle needs to lie in the sun to warm up.*

reptile

Definition: Any of a group of cold blooded, air-breathing vertebrates that usually lay eggs and have skin covered with scales or bony plates.

Context: *The reptiles, or class Reptilia, includes turtles, crocodiles, lizards and snakes.*

scale

Definition: Any of the external plates that form an outer covering on the body of some animals, especially fish and reptiles.

Context: *Most reptiles are covered with horny scales or plates that protect their bodies from drying out. The scales on the shell of a turtle are also called scutes.*

vertebrate

Definition: Having a spinal column.

Context: *Reptiles are vertebrates; they have an internal skeleton with a central backbone.*

What is classification? [klas'ə fi kā'shən]

The definition of classification is a grouping of people or things in a systematic way.

Taxonomy and systematics comprise the **describing, naming** and **classifying** of plants and animals, and studying their origins and interrelationships. It forms the basic building blocks of the study of nature, and is a key science on which many others depend.



Classification

Species:
macrurus
Genus:
Elusor
Family:
Chelidae
Suborder:
Pleurodira
Order:
Testudines
Subclass:
Testudinata
Class:
Reptilia
Phylum:
Chordata
Kingdom:
Animalia

Levels of classification

Taxonomists classify all organisms into a hierarchy, and give them standardised names, that are often Latin or Greek, or derived from other languages or even people's names. There are seven main levels of classification in the hierarchy.

- Kingdom
- phylum (pl. phyla) for animals or division for algae, fungi and plants
- class
- order
- family
- genus (pl. genera)
- species

From: <http://australianmuseum.net.au/Mary-River-Turtle#sthash.XW0k7F4O.dpuf>

See diagram at <http://www.exploringnature.org/db/detail.php?dbID=87&detID=1192>

Word Wall words

classify

elusive

reptilia

basking

adapt

adaptations

ASOT Goal review

Today's Lesson addressed the questions:

Are turtles reptiles?

yes/no

What are adaptations?

