

## Classifying Animals

| Syllabus Outcome   | Essential Content  | Suggested Time Allocation    | Teaching/Learning Experiences, Instruction and Assessment   | Evidence of Learning   |
|--|--|------------------------------|---|--|
| <p>A student:</p> <p>4.19 draws conclusions based on information available</p> | <p>Students learn about/learn to:</p> <p>4/5.19 thinking critically</p> <p>a) justify inferences in light of gathered information</p> <p>d) make generalisations in relation to a relevant set of observations or experimental results</p> | <p>2 x 40-minute periods</p> | <p><b>Identifying Students' Prior Learning About Classifying</b></p> <p>Class/Group Activity: Students identify everyday situations where people design and use systems of classification.</p> <ul style="list-style-type: none"> <li>– Students describe some examples of everyday situations.</li> <li>– For each example the students identify the similarities or differences that could be used to sort the objects into groups.</li> <li>– Students suggest reasons why people classify objects.</li> </ul> <p>Class/Group Activity: Students design a system for classifying some everyday objects.</p> <ul style="list-style-type: none"> <li>– Each group sorts and classifies 10 objects and compares their classification system with those used by others in the class.</li> <li>– Each group identifies how they could improve their system of classification of the 10 objects.</li> <li>– Students identify possible reasons why different people have classified the same objects in different ways.</li> <li>– Students discuss the question 'Which classification is the best or most correct?' and justify their ideas.</li> </ul> | <p>Students describe classifying as a process people design and use to group objects/living things/matter.</p> <p>Students recall that classification systems are usually based on easily observable features.</p> <p>Students deduce that differences in classification occur when people place more importance on some features than others.</p> |

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| <p>A student:<br/>4.4 identifies choices made by people with regard to scientific developments</p> <p>4/5.24 respects differing points of view on scientific issues and is honest, fair and ethical</p> <p>4.16 accesses information from identified secondary sources</p> | <p>Students learn about/learn to:<br/>4/5.4 the implications of science for society and the environment<br/>b) give examples to show that different cultures or groups within society (including Aboriginal and other Indigenous people) may use or weight criteria differently to make a decision about an issue involving a major scientific component</p> <p>4/5.16 gather information from secondary sources<br/>c) extract information from column graphs, histograms, divided bar and sector graphs, line graphs, flow diagrams, and other texts and audio/visual resources</p> | <p>1 x 40-minute period</p> <p>3 x 40-minute periods</p> | <p><b>A Traditional Aboriginal System of Classifying</b><br/>Class Activity: Students investigate how traditional Aboriginal people named and grouped some living things.<br/>With guidance from a person with knowledge of traditional Aboriginal classification (eg a member of the local Aboriginal community, National Parks Ranger or Aboriginal Environmental and Site Officer) students:<br/>– gain an understanding of how traditional Aboriginal people named and grouped a variety of common plants and/or animals<br/>– consider why traditional Aboriginal people from different regions would have used different names for common Australian animals.<br/>(refer to <a href="#">Teacher Information</a> on Aboriginal names and <a href="#">Table of Names of Animals</a>)</p> <p><b>Introducing Using Simple Keys</b><br/>Group Activity: Students use simple dichotomous keys to classify everyday objects.<br/>– The teacher models the use of a dichotomous key to identify objects (eg laboratory equipment, household devices) or members of the class.<br/>– Students use the provided simple keys to classify some everyday objects from first-hand observation and secondary sources.</p> | <p>Students recall that the knowledge of traditional Aboriginal people about their environment is important in how plants and animals are named and grouped.</p> <p>Students appreciate that different groups of people bring different understanding to their observations of situations.</p> <p>Students explain that when different names and different criteria are used it is difficult to describe living things and communicate about them.</p> <p>Students describe a key as a tool that can be used to classify objects or living things.</p> <p>Students identify that in a dichotomous key each step has two alternatives.</p> |

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| <p>A student:</p> <p>4.8 describes features of living things</p> | <p>Students learn about/learn to:</p> <p>4. 8.2 classification</p> <p>a) identify a range of plants and animals using simple keys</p> <p>b) classify living things according to structural features and identify that they have patterns of similarities and differences</p> |                           | <p>Individual/Group Activity: Students use a simple dichotomous key to identify some common Australian animals.</p> <ul style="list-style-type: none"> <li>– Students use a provided dichotomous key and pictures to identify some common Australian animals using restored Wiradjuri names.</li> <li>– Students match the common European name to the Wiradjuri name for each animal on the key.</li> <li>– In a class discussion the students identify the problems that arise when naming living things using two different languages – refer to <a href="#">Animal Pictures for Key</a>, <a href="#">Animal Key Flow Chart</a> and <a href="#">Animal Key Text</a>)</li> </ul> <p>Class/Group Activity: Students investigate the way biologists name living things. Students match the scientific name of each of the animals that they have identified on the animal key. with their restored Wiradjuri name and common European name.</p> <ul style="list-style-type: none"> <li>– Students locate or are provided with appropriate pictures of some animals (eg black swan, grey kangaroo, platypus). With teacher guidance students identify the meaning of the genus and species names and relate the scientific names to the observable features of the animals. (Refer to <a href="#">Teacher Information</a> on Aboriginal names.)</li> <li>– The students discuss the advantages of using a classification system based on agreed structural features and a universally accepted naming system.</li> </ul> | <p>Students use simple dichotomous keys to identify some living things.</p> <p>Students recognise that some observable structural features are used in identifying and describing living things.</p> <p>Students identify that when a common language is used it is easier to communicate information.</p> <p>Students outline some features of the biological system used to name living things including that:</p> <ul style="list-style-type: none"> <li>– every organism has two names</li> <li>– the names are written in a universal language (Latin or Greek) that does not change</li> <li>– observable structural features are used as the basis for classification.</li> </ul> <p>Students deduce that a common language and understanding of the basis for classification is needed to make it easier to identify, describe and communicate about living things.</p> |

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| <p>A student:</p> <p>4.18 with guidance, presents information to an audience to achieve a particular purpose</p> | <p>Students learn about/learn to:</p> <p>4/5.18 presenting information<br/>e) use drawings, diagrams, graphs, tables, databases, spreadsheets and flowcharts to show relationships and present information clearly and/or succinctly</p> | <p>1 x 40-minute period</p> | <p><b>Extension Activity: The following extension activity is based on additional content and may be used where teachers wish to extend students' learning experiences beyond the scope of the essential syllabus content.</b></p> <p>Individual/Group Activity: Students design a simple key to identify some traditional Aboriginal tools, weapons and devices.<br/>(Refer to <a href="#">Toolpics</a> and <a href="#">Classifying Aboriginal Tools and Weapons</a>)</p> <ul style="list-style-type: none"> <li>– Students recall the rules for the structure of simple dichotomous keys.</li> <li>– With guidance students could use Inspiration software to develop the format for the dichotomous key.</li> <li>– Students construct a simple dichotomous key to classify some Aboriginal tools, weapons and devices.</li> <li>– Students compare and modify their keys.</li> <li>– The class discuss the range of features they selected to classify the tools/weapons/devices.</li> </ul> |                      |