GREAT OCEAN ROAD COAST COMMITTEE

Secondary Resource

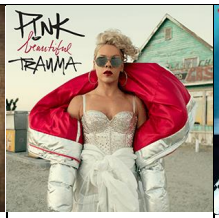
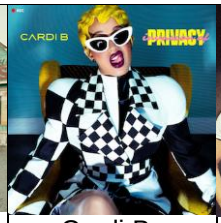
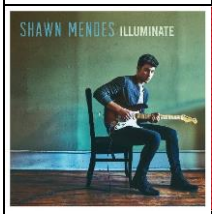
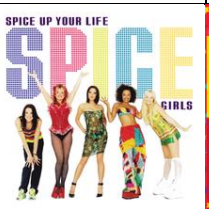
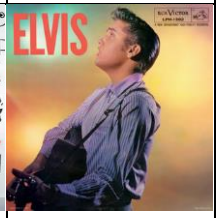
HOW AND WHY WE CLASSIFY

Classification is something we do every day without even thinking about it. We classify or group items together in our wardrobe, bedroom, fridge, pantry, pencil case: the list goes on. In biological OR life science, classification is a powerful tool that helps scientists understand life on Earth.

This activity will help you explore your own ideas about how and why we classify and to think deeper about how these ideas relate to the system of scientific classification used globally.

Activity 1: Classifying the charts

Below is a selection of album covers.
Your task is to group or classify these however you wish: no rules, no right or wrong options. Write down your album groups in the text box below.

				
Billie Eilish	Madonna	Pink	Cardi B	AC/DC
				
Shawn Mendes	Jonas Brothers	Tones and I	Ed Sheerhan	ABBA
				
Metallica	SPICE Girls	The Wiggles	5 S.O.S.	Elvis

Album Classification Groups

Activity 2: How and why you classified – Albums

Based on your album cover classification, answer the following questions:

1. What key features or rules did you use to define each group?

2. Do you think you would classify the albums differently if you knew or didn't know the artists? Why?

3. Can you break your groups into smaller sub-groups? How?

4. Do you think this task would be easier or harder if you didn't speak English? Why/why not?

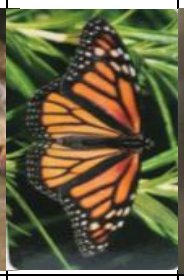
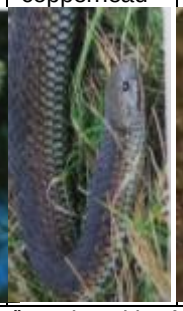
5. Compare your album classification with another student. How did your results differ? Why?

Activity 3: Coastal Classification

This activity will give you a chance to further explore classification by focusing on a small range of species native to coastal Victoria.

Part A: Based on appearance, common name and your general knowledge alone, classify the following animals. List your groupings in column A of the box below.

Part B: Research each species, writing any changes to groupings in column B below.

Largurk	Superb Fairy-wren	Perridak	Ballim-Ballim	Jacky Tree Dragon	Waa	Goyin
						
Gaan	Southern Boobook	Feathertail Glider	Laughung kookaburra	Karrborr	Common copperhead	Mon-ngarrk
						

** Images taken from "Indigenous Wildlife of Anglesea and Aireys Inlet Guide" produced by ANGAIR Inc. Copies can be ordered for free from https://www.angair.org.au/images/stories/angair/orderform2017.pdf

Coastal Species Classification Groups	
Part A. Pre-research Groups	**Part B. Post-research Groups**

Activity 4: How and why you classified – Animals

Based on your coastal animal species classification, answer the following:

1. In Part A what key features or rules did you use to define each group?

2. Did you change your groups in Part B. after doing research? How and Why?

3. Can you break your groups into smaller or larger sub-groups? How?

4. Compare your classification in both Part A and Part B with another student. How did your results differ? Why?

Activity 5: Scientific Classification

Use your textbooks, research and online resource links on the next page to answer the following questions:

1. What features, or characteristics, do scientists use to classify organisms?

_____
_____
_____
_____

2. Why is Latin used in classification?

_____
_____
_____

3. Why are scientific names better to use than common names in classification?

_____
_____
_____

4. Using your textbooks and the Online Resource links on the next page:
a. Fill in the seven levels of modern classification in the box below
b. Choose three animals from Activity 3 and fill in each level of their classification.

Levels of Classification	**1.**	**2.**	**3.**
K			
P			
C			
O			
F			
G			
S			

5. Did these animals have any classification levels in common? List these below, including the level/s in common and why they are classed together.

_____
_____
_____
_____
_____
_____

On-line Resources

Classification

Classification of organisms:
https://4.files.edl.io/12ee/10/06/19/145544-c4354e81-7811-437d-9564-3aa5b234fb3d.pdf

Classification of living things
https://www.softschools.com/science/biology/classification_of_living_things/

Scientists develop systems for classifying living things.
http://www.classzone.com/science_book/mls_grade6_FL/299_305.pdf

Rules of taxonomy
http://www.biology4kids.com/files/studies_taxonomy.html

Why use Latin names?
http://www.virtualherbarium.org/teach/latin.html

Classification system: Science learning hub New Zealand:
https://www.sciencelearn.org.nz/resources/1438-classification-system

Teachers Notes & Curriculum Links

This resource has been designed as a tuning-in and introductory session catering for year 7 & 8 students.

Activity 1. Classifying the Charts

The aim of this activity is for students to recognise the role of personal bias and the complexity involved in trying to define the most important categories to classify items. The activity can be completed as an individual or small group. You may wish to print and cut out the albums for students to physically sort.

As an extension, you may also ask students to add or create their own deck of everyday items to classify and justify the categories they would use to categorise. It is suggested results be shared and compared between individuals or groups prior to completion of Activity 2.

Activity 2. How and why you classified – Albums

The aim of this activity is for students to reflect and justify their results from activity 1, including learning from fellow students different ideas and reasoning.

Activity 3. Coastal Classification

Images in this activity have been taken from "Indigenous Wildlife of Anglesea and Aireys Inlet Guide" produced by ANGAIR Inc. Ask our Education Team to send you a hardcopy or order free copies from https://www.angair.org.au/images/stories/angair/orderform2017.pdf,

English Translations for indigenous Wadawurrung common names: Largurk (Sugar glider), Perridak (Platypus), Ballim-Ballim (Wanderer), Waa (Little Raven), Gaan (Blue-tongue lizard), Karrborr (Koala), Goyin (Red-necked wallaby and Mon-ngarrk (Echidna).

Activity 4. How and why you classified – Animals

The aim of this activity is for students to reflect and justify their results from Activity 3. Concepts discussed may include the use need to use more specific features to classify species than basic adaptations. For example, all these species have eyes, feet/legs, many have wings or tails, and live in similar habitats however these general features alone are not suitable to classify species.

Activity 5: Scientific Classification

Students need to refer to their textbooks and further research to explore the basics of classification, including use of Latin nomenclature and features used to group living things. They also research hierarchical classification and how each tier is increasingly specific yet that species at higher levels can share many common features. For example belonging to Kingdom Animalia, have a spine or are warm blooded etc.

To reinforce the concept of hierarchical classification you can also ask the students to apply their original album classification into this system *(eg. Kingdom: Music, Phylum: genre Class: solo vs groups, Order: male vs female vs mix, Family: year of album release, Genus: Band name, Species: Album title*).

VICTORIAN CURRICULUM LINKS

YEARS 7 & 8

Science Understanding: Biological Sciences	**Elaborations**
There are differences within and between groups of organisms; classification helps organise this diversity (VCSSU091)	• grouping a variety of organisms on the basis of similarities and differences in particular features • classifying using hierarchical systems, for example, kingdom, phylum, class, order, family, genus, species • using scientific conventions for naming species