

CASSOWARY ACTIVITIES CONTENTS

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LEARNING OUTCOMES CASSOWARY ACTIVITIES



LEARNING OUTCOMES PROMOTED WITHIN THIS UNIT ARE:

Investigating that requires students to clarify questions and formulate problems, gather and analyse relevant information and draw relevant conclusions supported by evidence in:

- I. Recognising the significant issues and perspectives involved in the cassowary debate
- 2. Investigating possibilities for cassowary survival

Creating that requires students to be enterprising and to think laterally and visually to be able to anticipate, transfer knowledge and skills from one situation to another and reorganise information and perceptions into new patterns and representation by:

- I. Responding resourcefully and with initiative to the problems of the cassowary.
- 2. Designing and developing strategy, plans and a survival campaign.

Communicating that requires students to read, listen, interpret, translate and express ideas and information by:

- Suggesting links between elements, describing cause and effect relationships, explaining consequences and expressing predictions.
- 2. Selecting media and styles appropriate to the purpose and audience to present information, arguments and conclusions.

Participating that requires students to relate to and work constructively with others to solve problems, make decisions and negotiate and enact plans for action through:

- Performing confidently as independent, self-directed individuals on tasks, problems and projects, and in doing so, take responsibility for their own actions and decisions.
- Using interpersonal skills to contribute positively to group dynamics, appreciate diverse perspectives, negotiate conflicting interests, meet needs, perform tasks or work towards a shared goal.
- 3. Relating to environments in sustainable ways and promoting sustainable practices in families, schools and the community.

CASSOWARY ACTIVITIES LEARNING OUTCOMES



Reflecting that requires students to demonstrate a willingness to reconsider and recognise that introspection and metacognition are inherent and crucial components of any investigation through:

- I. Considering own learning style, strengths and weaknesses, attitudes and depth of knowledge, and repertoire of skills and strategy with the conscious aim of improving learning.
- Planning, organising, evaluating and managing their own thinking, performance, behaviour, well being and progress by applying appropriate skills and strategy and monitoring the success of the project.
- 3. Transferring concepts, ideas, skills and strategy to entirely new situations and looking for opportunities to do so.

I am investigating when I recognise significant cassowary issues
I am participating when I share my ideas with others
I am reflecting when I consider how well the campaign worked
I am creating when I develop the campaign to save cassowaries
I am communicating when I discuss and display my work



CASSOWARY OUTCOMES CASSOWARY ACTIVITIES

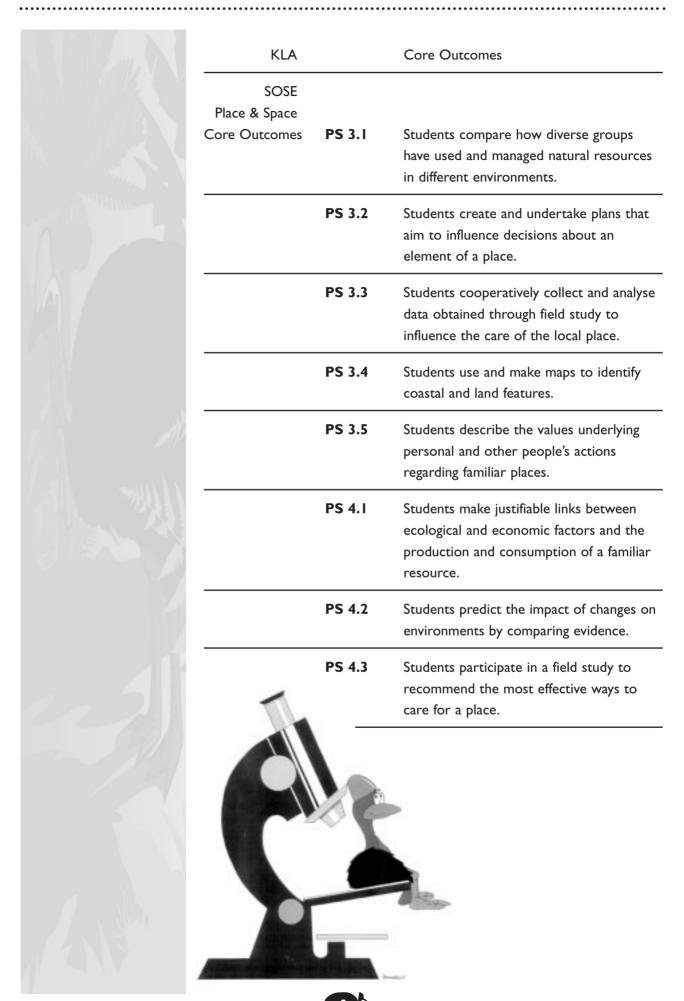


CASSOWARY OUTCOMES

The main learning outcomes (below) are based on the current Education Queensland Science and Studies Of Society and Environment Syllabi Core Learning outcomes.

KLA		Core Outcomes
Science Life & Living	LL 3.1	Students draw conclusions about the relationships between features of living things and the environment in which they live - living things have features that help them survive in their environment.
	LL 3.2	Students present information that illustrates stages in different types of life cycles of familiar living things.
	LL 3.3	Students describe some interactions between living things and between living and non-living parts of the environment - environments consist of living and non - living components that interact.
	LL 4.1	Students examine the internal & external structure of living things and account for observed similarities and differences in terms of adaptation.
	LL 4.2	Students identify and analyse similarities and differences in the ways that different living things reproduce. Activity/Suggested Assessment

CASSOWARY ACTIVITIES CASSOWARY OUTCOMES



CASSOWARY ACTIVITIES OVERVIEW CASSOWARY ACTIVITIES CASSOWARY ACTIVITIES



CASSOWARY ACTIVITY OVERVIEW

An outcomes based integrated planner based on The Awesome Matrix by Tony Ryan

Global Outcomes: Students recognize, collect information and examine issues facing the continued survival of the cassowary to realise the significance of:

- Balance between development and conservation values
- Vision for the future

	VERBAL/ LINGUISTIC	LOGICAL/ MATHEMATICAL	PICTURE/ SPATIAL	BODY/ KINAESTHETIC	MUSIC/ AUDITORY	INTERPERSONAL	INTRAPERSONAL	TECHNOLOGICAL	NATURE/ NATURALISTIC	STRATEGY/ CHECKLIST
REMEMBER	Cassowary Catalogue (Known knowledge chart) Cassowary Sleuth (Investigate articles summarise and rate)	Information Fact Table (Cassowary description)				Guest Speaker (Prepare questions)				COGNITIVE Reflective Journal Skimming & Scanning Venn Diagram Table Chart
UNDERSTAND	Cassowary Habitat	Life Styles (Compare life style of cassowaries and bush turkeys) Cassowary Information Table	Cassowary Landscapes Changing Environments	Cassowary Mime (Present the life history of a cassowary in mime or skit, including growth, habits, dangers)	Musical Mime (Match musical instruments to cassowary mime)	Endangered Species (Threatened species- degree of risk) Human Impact		Web Search (Access information on the internet)	Cassowary Walk (Ecosystem observation)	Retrievel Chart Mind Map Problem/Solution Cause/Effect Timeline Six Hats CAF
CREATE	*Oral Presentation (For motorists - to be used in Information Centres)	Distribu (Colour code o of cassowal	different types	Cassowary Survival Game (outdoors game)		Recovery Plan (In support material)			Cassowary Guidebook (Sketches and descriptions)	Web Search & Hotlist Online Report Scale Mapping Picture Strategy Inquiry
APPLY	*News Report (Write a report for newsletter, local paper)		Cassowary Advertiser	Practical Discoveries			Do's and Don't (Student writes as a cassowary)	Cassowary Online (Web page report)	Cassowary Consequences	COLLABORATIVE Think, Pair, Share Jigsaw Triads Hot Potato EAT's
EVALUATE	*Cassowary Display (Design and develop a multimedia display for library or information Centre)		Mind Map (Record information in semantic web format)				Personal Journal (Recall, recount and respond to activities)	Saving the Big Birds (Action teams - EATS's make multi-media presentations)		I,2,4 Numbered Heads Role Play Interviews

^{*} Possible Further ideas





CASSOWARY CATALOGUE CASSOWARY ACTIVITIES

MATRIX:
STRATEGY:
•••••
MATERIALS:
PROCEDURE:

CASSOWARY CATALOGUE

MATRIX:	Remember/Verbal Linguistic
STRATEGY:	Think, Pair, Share for brainstorming and discussion
MATERIALS:	Slips of paper for brainstormingLarge sheet of paper to make 'known knowledge' chart

- 1. Students individually brainstorm what they already know about cassowaries on a sheet of paper. Allow students 3 minutes to complete this task.
- 2. Combine in pairs and share ideas and add extra information that has been generated through discussion. Allow 5 minutes for students to complete this task.
- 3. Appoint a spokesperson. Share ideas with class.
- 4. Compile a single list of all ideas collected and display on chart.
- 5. This chart can be used throughout the project to record additional information.



(You will find this page in the Activity Pack. Photocopy as required.) CASSOWARY ACTIVITIES CASSOWARY SLEUTHS

CASSOWARY SLEUTHS MATRIX: Remember/Verbal Linguistic, Logical Mathematical STRATEGY: Jigsaw - this strategy allows the class to investigate all the information provided in the kit in a short space of time **MATERIALS:** Retrieval Chart and information from kit. Cassowaries in the wet tropics Cassowary in Queensland Cassowary - Australia's Endangered Rainforest Inhabitant Threatened Animals Tropical Topics - a compilation ■ Video - Endangered Australians PROCEDURE: Form six groups. ١. Each group receives a different pamphlet to read and review. 3. Each group uses grid to record key headings. Students discuss information considering: ✓ value of information - is it useful? ✔ Readability - is it easily understood and relevant? ✔ Presentation - does it grab your attention? Rate pamphlet out of ten considering the above points. Share information gathered on pamphlets. 6. Rate pamphlets in group and change original opinions if necessary. 7. Select a leader to briefly outline value of each pamphlet with whole class. CASSOWARY SLEUTHS

> (You will find this page in the Activity Pack. Photocopy as required.)

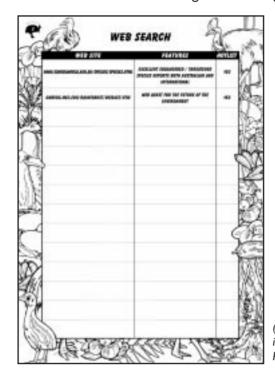


WEB SEARCH CASSOWARY ACTIVITIES

MATRIX:
STRATEGY:
MATERIALS:
PROCEDURE:

CASSOWARY ACTIVITIES WEB SEARCH

2. Evaluate each site visited using the following table



(You will find this page in the Activity Pack. Photocopy as required.)

- 3. Students could also use search engines to find sites
- 4. To add a page to Bookmarks or Favourites choose the exact site you wish to return to from the Bookmark or Favourites menu, choose 'Add', name the page choose an appropriate title and Add to list to open the page open Bookmark or Favourites menu click on the page name you want to open



CASSOWARY JOURNAL CASSOWARY ACTIVITIES

MATRIX:	Evaluate/ Intrapersonal
STRATEGIES:	Reflection log
MATERIALS:	Small notebook, diary or exercise book
•••••	<u> </u>
PROCEDURE:	Students keep a personal reflective journal about activities undertake
	Include:
	○ Write facts collected
	 Recount personal thoughts and feelings
	C List issues as student sees them
	○ Set goals
	Formulate plans to achieve goals
	 Fill with interesting newspaper articles, pictures, interviews, facts, figures, charts, graphs, web information
	O Diagrams and sketches
	Cartoons, speech bubbles
	○ Good news about people, departments and companies
	 Favourite cassowary words, poems, sayings
	Rate activities giving reasons
	2. Students can use this journal at the end of the unit to complete the blank Mind Map (see Activity 20).
	REFLECTION LOG
	AN INTERESTING FACT
	"THINK ABOUT IT" AN INSIGHT.
	A GOOD IDEA TO HELP IS
	"DO IT"
	MY INNER FEELINGS I WANT TO TALK ABOUT
	MY INNER FEELINGS I WANT TO TALK ABOUT "MEDIATE ON IT" "DISCUSS IT"

CASSOWARY ACTIVITIES GUEST SPEAKER

5	GUEST SPEAKER
MATRIX:	Remember / Interpersonal
STRATEGY:	Triads to develop questions
MATERIALS:	 Guest speaker - contact Qld Parks and Wildlife Service; or local wildlife park curator (see list in Support Materials pack) Local cassowary conservation group expert (North Queensland)
PROCEDURE:	Guest speakers provide a natural context for gaining deeper knowledge by questioning experts. This activity can increase communication skills and critical listening skills. This activity can be linked to visit to wildlife parks or in a school setting.
	I. Plan questions
	C Talk about the information needed
	Brainstorm questions in whole group
	 Use a question framework to organise sequence of questions
	 ✓ Who ✓ What ✓ When ✓ Where ✓ Why ✓ How
	 Work in threes to develop range of questions
	As a whole group discuss questions
	O Delete, refine or elaborate considering open ended questions
	2. Practice questions - set up a practice situation to identify strengths and weaknesses.
	Were the questions worded to avoid yes/no answers?
	O Do the questions lead to attaining required information?
	O Did questions provide ideas for follow up questions?
	3. Consider who will take notes, tape or video the guest speaker and who will introduce and thank the guest.
	4. Guest in classroom or on field trip
	C Listen carefully - show interest in what is being said
	Ask questions clearly, giving time to respond
	Consider further contact - another visit, phone, email, excursion
	5. Follow up activities - written report for class, school newsletter, community newspaper, reflection log, debate

6

CASSOWARY INFORMATION TABLE

STRATEGY: Construction of a Table	
	••••
MATERIALS: Ruled up information table Articles from kit Books on cassowaries from the library e.g. Birds World Wide Web information Video	••••

PROCEDURE:

- 1. Divide class into groups of 4. Use articles from previous activity. At least I student should be familiar with the article.
- 2. Complete table of facts about the cassowary.



(You will find this page in the Activity Pack. Photocopy as required.)

 Add more information to the table as and when it is discovered throughout all activities.



CASSOWARY ACTIVITIES PRACTICAL DISCOVERIES

7	PRACTICAL DISC	COVERIES
MATRIX:	Understand/ Body Kinesthetic	
STRATEGY:	Whole group - an introductory se to establish the general features o	-
MATERIALS:	ScalesTape MeasureBackpack	
PROCEDURE:	•••••••••••••••••••••••••••••••••••••••	••••••••••••
1	Cassowary Dimensions	
	Students guess height of cassowary	y. Show suggested heights on vertical cudents scan fact sheets for average
		using the tape measure to work out cher or $1\frac{1}{2}$ students. Measure height tout can then be made.
	3. Students guess weight of cassowar Average cassowary weights are:	y. Suggestions written on blackboard.
	✓ Heaviest 85kg✓ Female 60kg✓ Male 34kg	
	4. Students gather in groups that the group then weighs in. The closest g	y think will add up to 85kg. Each group to 85kg receives an incentive.
	Things that Kill Cassowaries	
	1. Students list ideas using basic retri	eval chart. Some ideas are:
	NATURAL	UNNATURAL
	OLD AGE DINGOES PYTHONS (EAT YOUNG) GOANNAS (EGGS) QUOLL (CARNIVEROUS CAT, NOCTURNAL)	ROAD DEATH POISON (BAIT) LAND CLEARING PIGS (BREAK EGGS, CAUSE DISEASE) SHOOTING DOGS
	Most damage caused by land clearing a	nd fragmentation of environment
	Cranky Cassowary - Boxed Bushw	
	Role play a bush walker meeting a	
	Decide what to do and act it out.	· · · · · · · · · · · · · · · · · · ·
	3. Suggestions:	
	 ✓ Running away ✓ Making yourself larger ✓ Getting behind a tree (with stomation of the stoward of the stomation of the stoward of the st	NO YES ch against tree) YES YES



ENDANGERED SPECIES CASSOWARY ACTIVITIES

8	EN	DANG	GERED SPECIES
MATRIX:	Unde	rstand / into	erpersonal
STRATEGY:	Hot p Oral o		vith 6 speakers
MATERIALS:	☐ s	choolWorld	orld wide web sites: d Endangered Species Project per for recording ideas
PROCEDURE:	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • •	
	I. Di	ivide class int	co six groups.
	2. D	iscuss the thr	reatened species - degrees of risk :
	3. D	iscuss and an	swer student questions.
		rainstorm end ot potato stra	dangered species in Australia and Queensland using the ategy.
	~		sits in a circle so that a piece of paper can be passed from r to the next.
	-	passes it to	dent writes one known species on the piece of paper then the next person, who does the same. This process continues group. Discussion and prediction is encouraged.
	~		f the time, each group shares their information with the other adds names of species overlooked.
	5. CI	lassify species	s into six categories:
	6. In	troduce the t	topic question 'What does it mean to be endangered?'
		ch group of oat category.	6 selects a category and researches one animal or plant
	·	What does it i Where does What is theii Does it have What are its	ing questions as a guide for answering the topic question mean to be endangered?' the species live? r life style/growth phase? e any unusual features? special needs?
	V	Other threat	sing the animal/plant to become endangered? ened species in its habitat umans do now to protect it?
			ne species for an oral presentation to the class.
			ion - share speaking tasks among group:
		ructure of pr	
		eaker I	Introduce species Briefly outline task the group undertook and the rol of each speaker will follow
	Sn	eakers 2-5	Body - answer questions posed about their species



Speaker 6

Conclusion - summarise group's findings and provide an answer to the question

CASSOWARY ACTIVITIES ENDANGERED SPECIES

LISTING GUIDELINES

In assessing the conservation status of listed taxa, heavy reliance is placed on an internationally accepted system of classification developed by the IUCN (the World Conservation Union).

ENDANGERED

A taxon may be prescribed under the Act as endangered if:

- a. its number has been reduced to a critical level or its habitat has been so drastically reduced that it may be in immediate danger of extinction; or,
- b. it has not been sighted in the wild for a period critical to its life cycle although no thorough search has been made for it.

Under IUCN, species are considered endangered if one of the following five conditions applies (Listed as **A** to **E**):

A. Population reduction in the form of either of the following:

- 1. An observed, estimated, inferred or suspected reduction of at least 50 percent over the last 10 years or three generations, whichever is the longer, based on (and specifying) any of the following:
 - a. direct observation
 - b. an index of abundance appropriate for the taxon
 - c. a decline in area of occupancy, extent of occurrence and/or quality of habitat
 - d. actual or potential levels of exploitation
 - e. the effects of introduced taxa, hybridisation, pathogens, pollutants, competitors or parasites
- 2. A reduction of at least 50 percent, projected or suspected to be met within the next 10 years or three generations, whichever is the longer, based on (and specifying) any of (b), (c), (d), or (e) above. (continued)
- B. Extent of occurrence estimated to be less than 5000 sq/km or area of occupancy estimated to be less than 500 sq/km, and estimates indicating any two of the following:
 - 1. Severely fragmented or known to exist at no more than five locations.
 - 2. Continuing decline, inferred, observed or projected, in any of the following:
 - a. extent of occurrence
 - b. area of occupancy
 - c. area, extent and/or quality of habitat
 - d. number of locations or subpopulations
 - e. number of mature individuals



ENDANGERED SPECIES CASSOWARY ACTIVITIES

3. Extreme fluctuations in any of the following:

- a. extent of occurrence
- b. area of occupancy
- c. number of locations or subpopulations
- d. number of mature individuals

C. Population estimated to number fewer than 2500 mature individuals and either:

- I. An estimated continuing decline of at least 20 percent within five years or two generations, whichever is longer; or
- 2. A continuing decline, observed, projected, or inferred, in numbers of mature individuals and population structure in the form of:
 - a. severely fragmented (that is no subpopulation estimated to contain more than 250 mature individuals): or
 - b. all individuals are in a single subpopulation.
- D. Population estimated to number fewer than 250 mature individuals.
- E. Quantitative analysis showing the probability of extinction on the wild is at least 20 percent within 20 years of five generations, whichever is the longer.

VULNERABLE

A taxon may be prescribed under the Act as vulnerable if:

- a. its population is decreasing because of threatening processes; or
- b. its population has been seriously depleted and its protection is not secured; or
- c. its population, while abundant, is at risk because of threatening processes; or
- d. its population is:
 - low or localised: or
 - dependent on limited habitat that is at risk because of threatening processes.

Under IUCN, species are considered vulnerable if one of the following five conditions applies (Listed as **A** to **E**):

A. Population reduction in the form of either of the following:

- An observed, estimated, inferred or suspected reduction of at least 20 percent over the last 10 years of three generations, whichever is the longer, based on (and specifying) any of the following:
 - a. direct observation
 - b. an index of abundance appropriate for the taxon
 - c. a decline in area of occupancy, extent of occurrence and/or quality of habitat

CASSOWARY ACTIVITIES ENDANGERED SPECIES

- d. actual or potential levels of exploitation
- e. the effects of introduced taxa, hybridisation, pathogens, pollutants, competitors or parasites.
- 2. A reduction of at least 20 percent, projected or suspected to be met within the next ten years or three generations, whichever is the longer, based on (and specifying) and of (b), (c), (d) or (e) above.
- B. Extent of occurrence estimated to be less than 20 000 sq/km or area of occupancy estimated to be less than 2000 sq/km, and estimates indicating any two of the following:
 - 1. Severely fragmented or known to exist at no more than 10 locations
 - 2. Continuing decline, inferred, observed or projected, in any of the following:
 - a. extent of occurrence
 - b. area of occupancy
 - c. area, extent and/or quality of habitat
 - d. number of locations or subpopulations
 - e. number of mature individuals
 - 3. Extreme fluctuations in any of the following:
 - a. extent of occurrence
 - b. area of occupancy
 - c. number of locations or subpopulations
 - d. number of mature individuals

C. Population estimated to number fewer than 10 000 mature individuals and either:

- I. An estimated continuing decline of at least 10 percent within 10 years or three generations, whichever is longer; or
- 2. A continuing decline, observed, projected, or inferred, in numbers of mature individuals and population structure in the form of:
 - a. severely fragmented (that is no subpopulation estimated to contain more than 1000 mature individuals); or
 - b. all individuals are in a single subpopulation

D. Population very small or restricted in the form of either of the following:

- I. Population estimated to number fewer than 1000 mature individuals.
- 2. Population is characterised by an acute restriction in its area of occupancy (typically less than 100 sq/km) or in the number of locations (typically fewer than five). Such a taxon would thus be prone to the effects of human activities (or stochastic events whose impact is increased by human activities) within a very short period of time in an unforeseeable future, and is thus capable of becoming critically endangered or even extinct in a very short period.
- E. Quantitative analysis showing the probability of extinction in the wild is at least 10 percent within 100 years.



ENDANGERED SPECIES CASSOWARY ACTIVITIES

RARE

A taxon may be prescribed under the Act as rare if its population is represented by :

- a. relatively large population in a restricted range; or
- b. smaller populations thinly spread over a wider range

PRESUMED EXTINCT

A taxon may be prescribed under the Act as presumed extinct if it has not been sighted in the wild for a period critical to its life cycle despite thorough searching.

COMMON

A taxon may be prescribed under the Act as common if it is:

- a. common or abundant; and
- b. it is likely to survive in the wild even though it is the subject of a threatening process

The koala, echidna, platypus and migratory birds subject to international agreements are assessed as common, and are given particular recognition by requiring governments to have regard to their special cultural significance and management requirements needed to conserve existing populations.



CASSOWARY ACTIVITIES CASSOWARY HABITAT

9

CASSOWARY HABITAT

MATRIX:	Understand/Verbal Linguistic
STRATEGY:	Skimming and scanning
MATERIALS:	 Habitat Information Chart, cassowary pamphlets Fact Sheets - Northern hairy - nosed wombat; Proserpine rock-wallaby; Mahogany Glider, Bilby
PROCEDURE:	 I. Brainstorm habitat components: ✓ Space ✓ Climate ✓ Food ✓ Water ✓ Shelter ✓ Vegetation diversity
	 Skim/scan information sources - contents page, index, glossary, titles Work in small groups to complete chart. Each group contrasts with another endangered species.
	4. Encourage discussion and reference to variety of sources

HABITAT COMPONENT	ENDANGERED SPECIES		
	CASSOWARY	NORTHERN HAIRY NOSED WOMBAT	
SPACE	RAINFOREST, MELALEUCA WOODLANDS, SWAMPS, FORESHORE, MANGROVES,	FLAT, SANDY, SEMI ARID GRASSLANDS	
CLIMATE	WET/HUMID; 2500 - 5000MM PER ANNUM	DRY, PRONE TO DROUGHT - AV 570MM PER ANNUM	
FOOD	'SPECIALIST FRUGIVORES' FOREST FRUITS, SNAILS, INSECTS FUNGI, FLOWERS, SOME SMALL ANIMALS (RATS, MICE, CHICKS)	NATIVE GRASSES - BLACK SPEARGRASS, FAIRY GRASS, WIRE GRASS, NINE-AWN GRASS; INTRODUCED BUFFEL GRASS	
WATER	WATER FOR DRINKING & BATHING - HIGH WATER REQUIREMENTS	WATER - LOW WATER REQUIREMENT FOR DRINKING	
SHELTER	FOREST CANOPY	BURROWS UNDERGROUND DENSE NICHES FOR NESTING	

CASSOWARY DISTRIBUTION CASSOWARY ACTIVITIES

CASSOWARY DISTRIBUTION 10 MATRIX: Picture/Spatial STRATEGY: Overlay transparencies to increase awareness of vegetation, habitat zones and cassowary territories Pros, cons, questions **MATERIALS:** ■ Wildlife information sheet - The Cassowary in Queensland Wet Tropics World Heritage Area transparencies PROCEDURE: 1. Use cassowary distribution map in fact sheets to map general distribution areas. Reproduce hand drawings of this map for use on poster or to be scanned for online report. 3. Using overlay transparencies examine and discuss Daintree area: ✓ Vegetation - students may need to research definitions of vegetation types and pictures of features eg: dry sclerophyll areas ✓ Habitats - predict Daintree Region where cassowaries may be located. Check with overlay Daintree Region **Daintree Region** (You will find these overlays in the main pack)

CASSOWARY ACTIVITIES CASSOWARY DISTRIBUTION



- 4. Conduct a PCQ (Pros, Cons and Questions) to reintroduce the keystone issues to cassowary survival.
 - ✔ Personnel roles not understood
 - ✓ Cassowary Rescue Future Directions



(You will find this page in the Activity Pack. Photocopy as required.)

The first two columns help students to think of a variety of divergent ideas while the third column invites students to think 'outside the square' to explore all possibilities. These questions can become the subjects for further research and for the development of action plans where choices, proposed solutions and conclusions can be recommended.



CASSOWARY WALK CASSOWARY ACTIVITIES

(II)

CASSOWARY WALK (AN ECOSYSTEM OBSERVATION)

MATRIX:	Apply / nature (possible Wildlife Park activity)
STRATEGY:	Collect data through observation of a natural habitat
MATERIALS:	A natural area, if possible, a cassowary habitat or Wildlife Parl (refer to list in Support Pack)

PROCEDURE:

An ecosystem is an area in which all living (biotic) and non-living (abiotic) things interact.

ACTIVITY 1 - HABITAT OBSERVATION

- I. On a field trip or local walk students work individually to observe a section of the area.
- 2. If possible, choose an area where there is a variety of plant and animal life and different parts to the habitat rainforest, creek, swamp.
- 3. Students work quietly on their own this is a very important aspect of this activity.
- 4. Students observe their ecosystem using all their senses for 5 10 minutes before listing observations.
- 5. Using the proforma, students list 5 observations. Reflect on:
 - ✓ Shelter eg shade and visibility can you see a long way?
 - ✓ Water puddles, swamps, creeks
 - ✓ Food fruit on the forest floor, rotting logs, fungi, spiders, insects

ACTIVITY 2 - DETAILED OBSERVATION OF A CASSOWARY

- Before trip complete Cassowary Information Table.
- 2. Use descriptions, diagrams and sketches to record cassowary features. Include:
 - ✓ Identikit sketch front and side views
 - ✓ Interesting features colours, shape, eyelashes, toenails, casque
 - ✔ Observe droppings the most common sign of cassowary activity
 - ✓ Differences between ages
 - ✓ Sounds
 - ✓ Student's feelings eg threatened by size or behaviour? Overwhelmed by size / brightness?

CASSOWARY ACTIVITIES CASSOWARY WALK



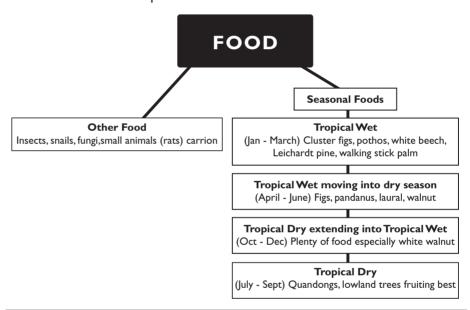
- 3. Answer the following questions:
 - ✓ What makes the area suited to cassowaries?
 - ✓ What would the cassowary not like about the area?
 - ✓ What habitat components appeal to the cassowary: eg water, canopy, food?

ACTIVITY 3 - DISCUSSION

The cassowary is synonymous with the rainforests of North Queensland. Discuss with guide/staff/guest speaker 'if we cannot protect the largest native bird of our tropical forests, what hope do WE as a species have'. Take notes on reply. This could then form the question for a debate back in class.

ACTIVITY 4 - FOOD CHART

Back in the classroom construct a food chart (as below) using the data collected on the field trip and information from fact sheets.



ACTIVITY 5 - DISCUSSION

Back in the classroom, conduct a class discussion, posing the following questions:

- ✓ What would the application of an herbicide do to your ecosystem?
- ✓ What would the application of a pesticide do to your ecosystem?
- ✓ What would happen if garbage were dumped into your ecosystem?
- ✓ What would happen if water was removed from your ecosystem?

Keep all notes, diagrams and drawings to use in developing guidebook.

CASSOWARY LANDSCAPE CASSOWARY ACTIVITIES

(12)

CASSOWARY LANDSCAPES

MATRIX: Understand / Picture Spatial

STRATEGY: Evaluation Strategy - one of the older

Evaluation Strategy - one of the oldest strategies, first recorded in print by Benjamin Franklin

MATERIALS: Landscape drawings (in this kit)

PROCEDURE:

- I. This T chart is best used in pairs. Each member to complete ideas of one side of the T chart.
- 2. After completing the initial T chart, students can rate points raised in each column
- 3. Share among class. Make a class chart of top 5 ideas in each column.
- 4. Design and draw/paint preferred landscape for cassowaries using landscape drawing as a guide.



(You will find this page in the Activity Pack. Photocopy as required.)



(You will find this page in the Activity Pack. Photocopy as required.) CASSOWARY ACTIVITIES CHANGING ENVIRONMENTS

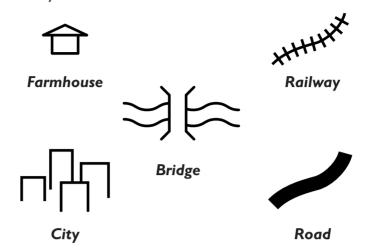
13	CHANGING	ENVIRONMENTS
MATRIX:	Understand / Picture S	Spatial
STRATEGY:	Highlighting changes i	n natural features
MATERIALS:	·	ngs of environment, pamphlets, arent distribution maps (in kit)
PROCEDURE:	European settlement	sowary habitat as it may have been before . Consider natural features - mountains, valleys, ne, vegetation (rainforest, melaleuca woodland,
	2. List animals and plant	ts that lived in the environment.
	3. Students could close as it was then.	eyes and imagine they are walking through the area
	4. Encourage the use of	f a key to distinguish natural features.
	✓	
	Hills	Mountains
	\sim	Sea River
	QΥQ	
	Rainforest	Cleared Area
		s been completed compose a sensory poem to re. Use senses as an introduction for draft. Do not ation.
	 ✓ (see) ✓ (hear) ✓ (touch) ✓ (smell) ✓ (see) ✓ (hear) ✓ (think) 	Red and blue among black plumage Water trickling over the rocks Fragile fern fingers against my skin Air clear and refreshing Green speckled eggs almost invisible A cacophony of birds This is heaven!

- 6. Describe the cassowary habitat as it is today. Think about man made features roads, buildings, bridges etc.
- 7. Make a list of natural and built features before completing second map.

CHANGING ENVIRONMENTS CASSOWARY ACTIVITIES



8. Use a key to show natural and built features.



9. After the drawing has been completed compose a second poem to contrast the "then" and "now" environments.

/	(see)	Cane harvesters in the paddock	
•	(hear)	Human voices talking	
•	(feel)	The sun hot on my skin	
/	(think)	The world is changing	
/	(see)	A cassowary in sight	
•	(hear)	Screech of brakes, thud of cassowary	
~	(remember)	The peaceful past is gone.	

- 10. As an extension, discuss local cassowary habitats.
- II. Should they be protected from further use by humans? Does everyone agree?
- 12. Design and develop a poster to inform the community of the importance of preserving this local area.



CASSOWARY ACTIVITIES LIFE STYLES



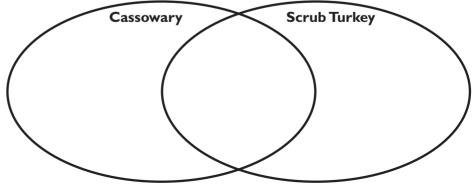
LIFE STYLES

MATRIX: Understand/Logical Mathematical
 STRATEGY: Contrast and summarise life styles of cassowaries and bush turkeys. Venn Diagram - graphic organiser/ 3 step interview
 MATERIALS: Information collected from facts sheets and any other sources about cassowaries and bush turkeys

PROCEDURE:

A Venn diagram is a graphic organiser for finding areas of difference and similarity.

- I. Divide into teams of 4, numbering the members 1-4
- 2. Introduce the discussion topic 'Compare the life styles of the cassowary and bush turkey'. List similarities and differences using the following key features.
 - ✓ colour
 - ✓ size
 - ✓ habitat
 - ✓ distribution
 - ✓ diet
 - ✓ nesting
 - ✓ parental responsibilities
 - ✓ conservation status
- 3. Divide into pairs eg 1/2; 3/4. 1/2 research and take notes on the life of cassowaries while 3/4 do the same for bush turkeys
- 4. The 3 step interview is then introduced.
 - **Step I** Nos I and 3 interview each other about the information they have gathered. Nos 2 and 4 interview and share their information
 - **Step 2** Nos I and 4 interview each other and start to list areas of similarity and difference. Nos 2 and 4 do the same
 - **Step 3** The 4 members then develop a Venn Diagram together
- 6. Share diagrams among groups and display. Students could also transfer information to graphs or tables.



Venn Diagram - 2 interconnecting circles



HUMAN IMPACT CASSOWARY ACTIVITIES

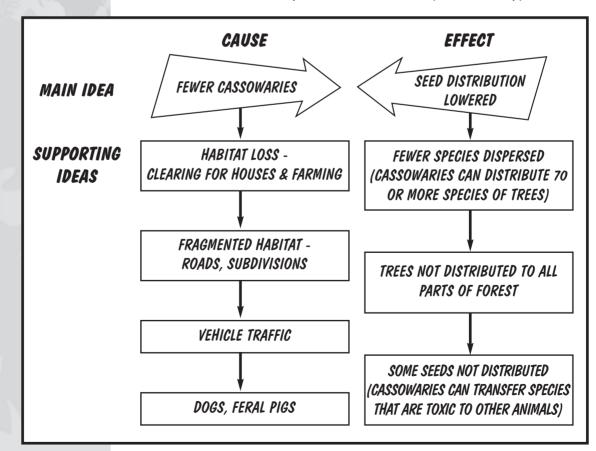
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HUMAN IMPACT

- I. Create a cause and effect retrieval chart
- 2. Suggested topics: Housing and business development; clearing for farming; human intervention; roads and traffic; catastrophic events

HABITAT MODIFICATION		
CAUSE	EFFECT	
INFLUENCE OF HUMANS	CHANGED ENVIRONMENT	
LAND CLEARED FOR FARMING	SOIL EROSION, WATERWAYS CHANGE	
BUILDING DEVELOPMENTS	HABITAT CHANGE - SPACE, SHELTER	
ROADS BUILT THROUGH FOREST	FOOD CHANGE CONSEQUENCES	
INTRODUCED PLANTS & ANIMALS	NATIVE PLANT/ANIMAL LOSS	
CATASTROPHIC EVENTS	FREE FEEDING & HOME RANGE DAMAGE	
DISEASE	INCREASED STRESS & DEATH	

3. This could also be completed as a DIAGRAM (structure map)



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CASSOWARY ACTIVITIES CHANGING ENVIRONMENTS

4. From the above information and along with other information gathered explore the problems of educating people in the steps needed to conserve cassowary habitats (basically it comes down to breaking our everyday habits and choosing a positive path to help).

5. Complete the following:

Make a list of the rules which people should follow when in a cassowary habitat.



(You will find this page in the Activity Pack. Photocopy as required.)

- 6. Plan an information campaign to educate people about the cassowary's world.
 - ✓ What message needs to be given to the public
 - ✔ How could you get the message across
 - ✔ Write a catchy slogan, jingle or headline to catch people's attention
 - ✔ Present campaigns to the class
 - ✓ Complete a PMI (plus, minus, interesting)
 - ✓ Select the five that the whole class likes and present them in the school library or information centre.
- 7. Extension Conduct a class debate on:
 "Cassowary habitats should be conserved at all costs"

(16)

CASSOWARY CONSEQUENCES

PROCEDURE:

1. Develop a timeline of the cassowary year

✓ Birds roam extensively because food is scarce; eat almost anything that can be found, including dried droppings

Aþril - June
✓ Difficult times for birds

✓ Adults begin courting May/June

✓ Young evicted from home range - hazardous time for immature birds learning to fend for themselves in

✓ Fruiting trees in lowlands producing reliable food many favoured species are in full fruit

✓ Eggs hatch during maximum fruiting period; males very protective of chicks; humans beware

Oct - Dec Males seen with striped or brown young

✓ Colourful females make occasional appearances

✓ No shortage of food

✓ Birds build up reserves to cope with shortages over the next few months.

- 2. Use this information to find creative solutions to cassowary care
- 3. Complete the following scenarios

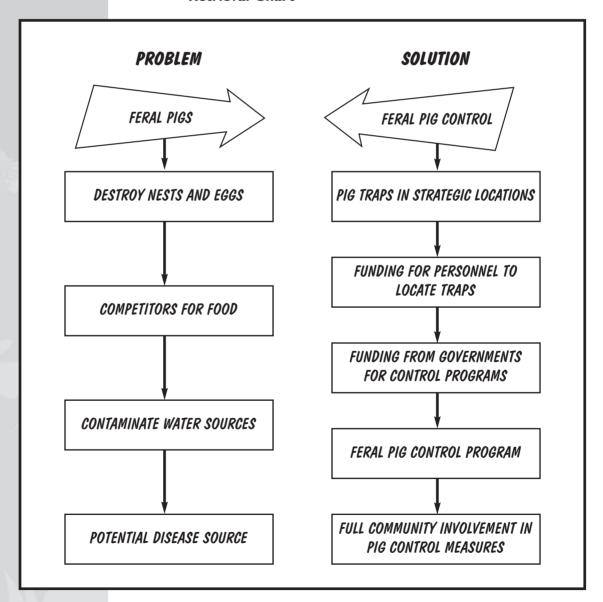


(You will find this page in the Activity Pack. Photocopy as required.) CASSOWARY ACTIVITIES CASSOWARY CONSEQUENCES

4. After discussion of the scenarios develop a PROBLEM / SOLUTION retrieval chart and/or a two column diagram.

REDUCED CASSOWARY FOOD SOURCES	
Problems	Solutions
Vegetation changes	Land conservation Leave natural areas untouched
Ecosystem imbalance	Clean up introduced species Revegetation programs
Cassowary less energy	Implement management plans Quarantine procedures Fund research projects Public awareness campaigns Join a conservation group

Retrieval Chart



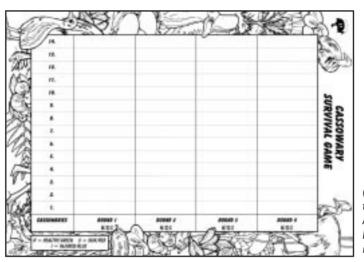
CASSOWARY SURVIVAL CASSOWARY ACTIVITIES

	CASSOWARY SURVIVAL		
MATRIX:	Create / Body Kinesthetic		
STRATEGY:	Outdoors Game to understand why some cassowaries perish while others survive		
MATERIALS:	 Handkerchiefs for blindfolds Scarves for tying up broken legs/backs Tweezers, chopsticks, pliers, slotted spoons, tongs to use as beaks Different markers for cassowary food 		
PROCEDURE:	••••••••••••••••••••••••••••••••		
	 All students become cassowaries and choose different implements to mak their beaks - discuss which implements are more like cassowary's beak. 		
	Cassowaries survive by gathering enough food markers to live. Those who don't will perish.		
ar))	3. Not all students are healthy cassowaries as happens in nature. Disable students by:		
	✔ Blindness - blindfold		
1/1100	✔ Broken leg - strap with ruler and scarves		
2733	✔ Broken back - bind 2 legs together		
	✔ Broken beak - sticky tape over mouth		
	Discuss how accident happened using real life situations		
	4. Spread markers on ground to represent different fruits, or other edible items in the cassowary diet		
	5. Name and discuss percentage of fruit/items in the area and how many are needed to survive		
41	6. Record numbers of cassowaries on the graph in the following categorie - healthy, sick or injured		
	7. The game		
	Students move around as cassowaries collecting markers with their 'beaks'		
	Time allocated will depend on class size and the skill of collecting markers.		
	After set time regather and compare numbers of markers collected. Make assumptions about the health of cassowaries eg 20 markers may mean healthy cassowary while 6 markers may be starting to get weaker.		

CASSOWARY ACTIVITIES CASSOWARY SURVIVAL

(Continued)

- ✓ Record numbers on graph.
- ✓ Continue for 3 more rounds recording numbers at the end of each round.



(You will find this page in the Activity Pack. Photocopy as required.)

Variations

- ✓ Introduce seasonal conditions such as drought, cyclone, flood. Discuss availability of food and adjust markers as necessary
- ✓ Introduce dangers some students take on roles as motorists, bulldozers, dogs, feral animals. Work out how each danger affects cassowaries
- ✓ Record and compare data



CASSOWARY ACTIVITIES

SAVING THE BIG BIRDS 18 MATRIX: Evaluate / technological STRATEGY: conservation issues of their proposals **MATERIALS:** or Hyperstudio PROCEDURE: sheet).

SAVING THE BIG BIRDS

Through participation students:

- ✓ Develop an awareness and understanding of cassowary
- ✓ Investigate current conservation methods
- ✓ Make conclusions about their effectiveness
- ✓ Design, make and appraise a powerpoint/slideshow presentation
- ✓ Work effectively in small Environmental Action Teams (E.A.T.)

Two computers with Powerpoint, Apple Presentations

- In this activity students will take on the role as environmentalists, conducting research into the southern cassowary and developing a sense of responsibility for the preservation of their habitats.
- In groups, students will research and write a proposal for the conservation of the cassowary. This activity has enormous potential as an assessment item as it is designed with several components - group work, research, content and multimedia presentation (see assessment
- Students will create a multimedia presentation using software such as Powerpoint, Apple Presentation or Hyperstudio to deliver to the rest of the class, parents and/or community groups.

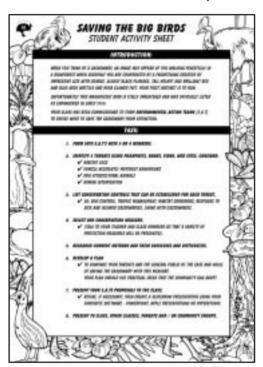


CASSOWARY ACTIVITIES SAVING THE BIG BIRDS



4. Students work in groups of 3 or 4. Group work skills can be improved through a process of explanation, modelling, practice and feedback. Emphasise:

- ✓ Group decision making
- ✓ Sharing the tasks
- ✓ Listening to group members
- ✓ Valuing all ideas
- 5. A student activity sheet and assessment proforma have been developed to assist teachers with this activity.



(You will find this page in the Activity Pack. Photocopy as required.)



(You will find this page in the Activity Pack. Photocopy as required.) DO'S AND DON'TS CASSOWARY ACTIVITIES

DO'S AND DON'TS (FROM A CASSOWARY'S PERCEPTION)

MATRIX:	Apply/ intrapersonal
STRATEGY:	Green Hat Thinking/Consider all Factors (CAF)
MATERIALS:	Ideas investigation reporting sheet
DDAACDUDE.	

PKUCEVUKE:

- Working in groups, become a cassowary and give advice to humans about how to save them.
- 2. Use green hat thinking strategy. Think:
 - ✔ Creatively
 - ✔ Develop different ideas
 - ✓ Share new ideas
 - ✓ Welcome any suggestions and proposals
 - ✓ Adopt other ways to solve the problem
- 3. Use CAF (Consider All Factors) to encourage broader thinking and to generate a large quantity of ideas. Reinforce that this strategy encourages students to not be blinkered by the obvious and any idea "outside the square" is worthwhile.
- Record ideas



(You will find this page in the Activity Pack. Photocopy as required.) PASSOWARY ACTIVITIES MIND MA

CASSOWARY ACTIVITIES 20 MATRIX: STRATEGY: **MATERIALS:** PROCEDURE:

MIND MAP

MATRIX: Evaluate / Visual Spatial

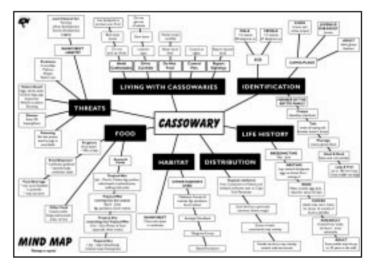
STRATEGY: Mind Map

MATERIALS: A3 foldouts of mind map, Blank map

I. Use the mind map as a guide to developing and summarising all information about cassowaries as the unit progresses

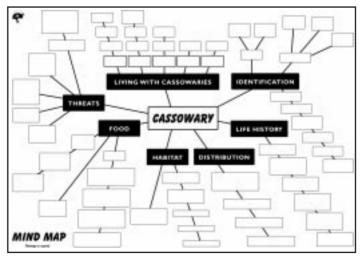
- 2. Use a blank map or make a simpler version and display in classroom and add to as new facts learned. Constructing this map helps students to organise/summarise knowledge visually and allows for discussion of ideas and to practise new vocabulary and concepts
- 3. Use the blank map as an assessment tool. Students can demonstrate their depth of knowledge and understanding. For an open book assessment students can use Reflective Journals (see activity 4).

Mind Map



(You will find this page in the Activity Pack. Photocopy as required.)

Mind Map - blank



(You will find this page in the Activity Pack. Photocopy as required.) CASSOWARY GUIDEBOOK CASSOWARY ACTIVITIES

21)	CASSOWARY GUIDEBOOK
MATRIX:	Apply / Nature (another suggested wildlife park activity)
STRATEGY:	Develop understanding and appreciation of a cassowary ecosystem by publication of a guidebook Numbered Heads
MATERIALS:	 □ Lists and sketches from field trip □ Plant /animal references from library, web, experts □ Drawing paper, pencils □ Computer, printer □ Binding materials
PROCEDURE:	
	 Recall all animals and plants found on the field trip using the numbered heads strategy
	✓ Divide the class into teams of three
الاد	✓ Assign the numbers 1,2, 3 to each member
#11/ 1	Ask students to recall and list all animals and plants from their recorded information from field trip
111000	✓ Call out a number such as 3 and all 3's will record all information given
	Call out another number such as I and all I's will name all fauna observed
	✓ Call out last number 2 and all 2's will name all flora observed
	2. Prioritise then select cassowary and important plants and animals associated with the cassowary to be included in the guidebook
	3. Divide selected plants and animals among teams
	4. Each member of the group chooses one section to research and develop. Use the following headings as a guide to develop presentations
	 Description - scientific name, appearance, interesting features and diagram
	 Ecology - habitat, life history, feeding behaviour, reproduction
	✓ Human Intervention - threats and suggested management
	5. Publish as agreed by class - handmade, word processes, powerpoint
	6. Make several copies for school, local information centre, tourist outlet
	7. Students can give guided tours to other students, parents, community groups or tourists

CASSOWARY ACTIVITIES CASSOWARY POSTER

CASSOWARY POSTER **MATRIX:** Create / Verbal Linguistic/ Picture Spatial STRATEGY: Students will plan and create a poster for display in the school library or local information centre that will influence community opinions **MATERIALS:** Cardboard, poster making materials PROCEDURE: I. Planning Phase O Discuss target audience O Decide the aspect to highlight using the 1,2,4 strategy: I - Brainstorm ideas individually, 2 - share and add to ideas with a partner, 4 - two pairs join together to share and add to ideas. O Starter ideas could include: ✔ Drive carefully ✓ Control cats and dogs ✓ Don't dump pets in the bush ✓ Conserve habitats on farms ✓ Be careful with chemicals ✓ Learn more and teach others O Techniques: choose techniques to enhance the poster ✔ Humour ✓ Slogans ✓ Cartoon characters ✔ Pictures ✓ Diagrams ✔ Photos ✓ Borders ✓ Lettering ✓ Eye appeal O Headline: a headline is designed to grab the readers attention O Pictures/lettering: these should compliment each other and ensure easy viewing Wording: consider; ✓ lists / statements / slogans ✓ technical / conversational / colloquial language ✓ consider use of a logo ✓ layout - position of headline, pictures, wording ✓ colours - to enhance overall effect

CASSOWARY POSTER CASSOWARY ACTIVITIES

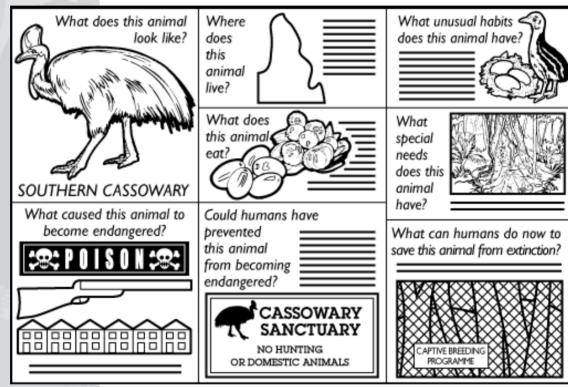
(Continued)

2. Draft the poster

- ✓ Is it visually pleasing?
- ✓ Is the wording provoking?
- ✓ Check spelling

3. Complete the poster and display in school library or information/tourist centres

Variation - this activity could be a competition judged by the local Mayor or wildlife celebrity.





CASSOWARY ACTIVITIES CASSOWARY ONLINE REPORT

(23)

CASSOWARY ONLINE REPORT

MATRIX:	Apply / Technological	
STRATEGY:	Small groups or pairs	
MATERIALS:	 Access to World Wide Web site School World Endangered Species Project www.schoolworld.asn.au/species/species.html Information from previous activities Computers and internet access 	

PROCEDURE

Students over the world are submitting reports on endangered /threatened species. Check out these at **www.schoolworld.asn.au/species/glider.html** - this report on the mahogany glider was submitted by students from

- this report on the mahogany glider was submitted by students from Victoria Plantation School at Ingham. It can be used as a model for this activity. Also use other reports from this site, in particular, reports on endangered birds.

Guidelines can be downloaded from:

www.schoolworld.asn.au/species/outline.html

Use the following as a guide to process information for display on the School World Endangered Species Project. When sending report include the following information.



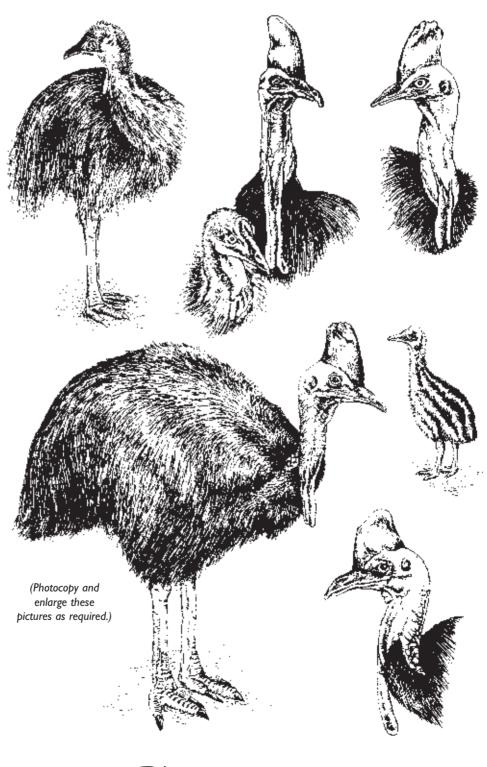
(You will find this page in the Activity Pack. Photocopy as required.)

The SchoolWorld Endangered Species Project has been designed as a collaborative addition to enhance awareness and understanding of endangered/threatened species, using new technologies to motivate and challenge students.

CASSOWARY ONLINE REPORT CASSOWARY ACTIVITIES

> If your class undertakes this activity, choose one, several or a whole class project to forward. They will be processed and displayed on the Endangered Species web site. Decide how best to present the students work, whether as a complete unit or an indexed form. The page design will mirror the students' presentation onto the backgrounds being used on the site. Where possible graphics enhance the projects. SchoolWorld can assist in this area.

Refer to Main Page, Programs, Projects, Join School World, Member Schools, The School World Team pages for more information.





CASSOWARY ACTIVITIES CASSOWARY ADVERTISER

24

CASSOWARY ADVERTISER

MATRIX: Apply / Picture Spatial

STRATEGY: Advertisement promoting what people can do to help

MATERIALS: Paper/ pens etc

PROCEDURE:

PLANNING

- I. Decide on a survival strategy to promote
- 2. Who will be the target audience and where will it be published?
- 3. Techniques which technique will create an eye catching image:
 - ✓ Humour caricature, cartoon
 - ✓ Slogan or pun
 - ✔ Printing style
 - ✓ Eye appeal large or small images
 - ✓ Bold or subdued colours
- 4. Headline to grab the readers' attention
- 5. Picture related to words
- 6. Language to suit the audience
 - ✓ Conversational
 - ✓ Technical
 - ✓ Colloquial
 - ✓ Language that children or adults use
 - a. Points to consider about wording
 - ✓ Include cassowary name
 - ✓ Description of problem
 - ✓ Conservation measures
 - ✔ Powerful adjectives
 - ✔ Repetition
 - ✓ Always use the present tense
 - b. Use of a logo, icon or command.



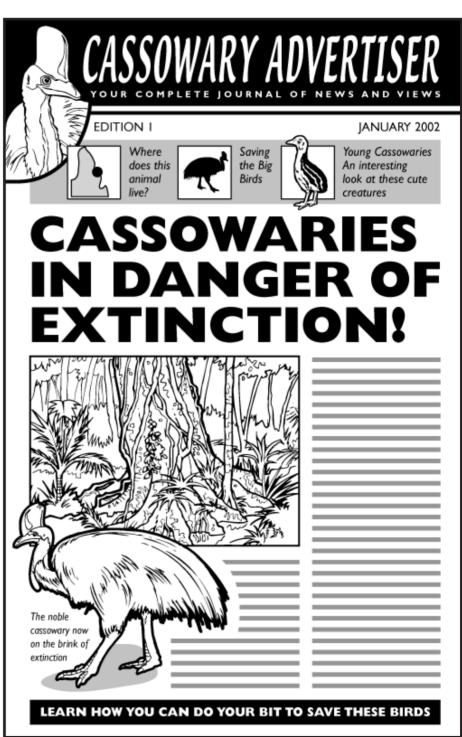
CASSOWARY ADVERTISER CASSOWARY ACTIVITIES



PRESENTATION

I. Design the layout. Where will the headline, pictures and wording be?

2. Use the example below as a model.



3. Conduct a class competition to judge the best advertisements and submit them to the Wet Tropics Authority PO Box 2050 Cairns 4870

CASSOWARY ACTIVITIES CASSOWARY MIME

CASSOWARY MIME 25 **MATRIX: Understand/Body Kinesthetic** STRATEGY: Small groups **MATERIALS:** Cassowary mask template Natural materials for costumes and habitat Scissors, paste etc PROCEDURE: This activity could be conducted outside Form students into small groups representing cassowaries in a particular area 2. Each group decides on roles and structure 3. Discuss roles considering home, food, growth, habits and dangers Build habitat and costumes using natural materials and templates After organising habitats and costumes practise miming 24 hour cycle in the life of a cassowary Vary activity by introducing seasonal elements - fire, cyclone, drought, flood. CASSOWARY MIME CASSOWARY M/ME But also begate to yourse sent took (throw but an well senten a very

(You will find these pages in the Activity Pack. Photocopy as required.)

MUSICAL MIME CASSOWARY ACTIVITIES

26

MUSICAL MIME

MATRIX: Understand/Music Auditory
 STRATEGY: Musical background and sounds to compliment students' mimes.
 Small groups (same as for mime); involve the music specialist in selecting music and developing performance.
 MATERIAL: Instrumental music Musical instruments Tape recorder

PROCEDURE:

- I. In mime groups find and experiment with music and instruments to create original background music
- 2. Encourage each group to consider the following elements
 - ✓ Tempo fast or slow
 - ✔ Dynamics crescendo, descrescendo, forte, piano
 - ✓ Technique staccato, legato
 - ✓ Timbre percussion, woodwind, string, brass
 - ✓ Style dance, classical, lullaby, waltz, jazz
- 3. Incorporate music into mime and practise
- 4. Present to class or school assembly
- 5. Conduct a PMI on each groups' performance
 - **P** comment on the PLUS's of the performance
 - **M** comment on the MINUS's or what could be improved
 - comment on what was INTERESTING and real worked



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