



Aspley State High School Science Department

TASK 3

Subject: Year 11 Biological Science
Extended Response Task
Field Study Analysis of Cabbage Tree Creek

Topic: Our Backyard
Term: 3 2009

Name: _____

Excursion Dates [Week 3]

-In school Incursion: 27th July (Mon)
 - Excursion 31st July (Fri)

Date Due: Wed August 19th [Week 6]
Draft : Mon August 10th [Week 5]

Key Concepts 1, 3
UB – 2,3 IB – 3,4,5 EBI 1,3,4
Class: _____ **Teacher:** _____

Result Summary

Part	Component	A+	A	A-	B+	B	B-	C+	C	C-	D+	D	D-	E+	E	E-
A	Understanding															
B	Investigating															
C	Evaluating Issues															

Background

- In March of 2005, Aspley State High School was awarded the Healthy Water Ways Environmental Award - (school division). Aspley State High School, Aspley Special School, and the Cabbage Tree Creek Committee were co-recipients of this award.

The Cabbage Tree Creek Kid’s Congress involves state primary, secondary and special schools and non-government schools, Queensland University of Technology, Brisbane North Institute of TAFE, two Environmental Education Centres, community groups, local businesses and the Brisbane City Council.

In April 2008 the QUT announced the plans for the closure Carseldine Campus situated behind ASHS on Cabbage Tree Creek. There has been speculation regarding the fate of the campus site, and proposals that it be sold as an inner city housing development. The year 11 Biology class has been commissioned to collect first hand data and report on the health of Cabbage Tree Creek, and the effect of building a housing development at the QUT site. You are Environmental Captain, and you have been invited to present a paper at the next Cabbage Tree Creek Kid’s Congress to be held on Thursday 7th August 2008. Your report should include:

- An outline of the abiotic and biotic factors that contribute to the health of a waterway? (UB)
 - Collection abiotic and biotic data on the current health of the Cabbage Tree Creek waterway (IB)
 - Analysis of the abiotic and biotic factors to support or not support the building of a housing estate at the QUT campus. (EB)
- The Report format**
 - The report must be separated into three parts – as detailed below**
 - Subheadings must be used**
 - Bibliography must also be included.**

Your presentation will be in report format, and will include

Understanding Biology (Part 1)

1. Background Information about Cabbage tree creek, and the abiotic and biotic factors that affect the waterway.

Investigating Biology (Part 2)

2. Data Collection
 - Excursion booklet of abiotic and biotic factors and data collection.
 - Herbarium of native and introduced species (IB)
 - Scientific journal

Evaluating Biology (Part 3)

3. Key Note Report to the Cabbage Tree Creek Committee on the impact of a housing estate at the QUT site. (EBI)

STIMULUS POINTS

Part 1: Background information (Understanding Biology)

During the excursion many different abiotic factors and biotic factors were collected.

1. **Describe** how the **abiotic and biotic factors** affect the health of a waterway.
 - How do the abiotic factors effect the biotic factors?
 - How do the biotic factors effect the abiotic factors?
2. **Investigate** the **interrelationships** between the abiotic factors and the biotic factors and how altering these factors could affect the health of a waterway

Part 2 :Data Collection (Investigating Biology)

1. Complete the excursion booklet.
 - **Collect data** relating to biotic and abiotic factors on the Cabbage Tree Creek excursion.
2. Complete a herbarium
 - **Collect three (3) specimens of an introduced species AND three (3) specimens of native specimens.** Correctly mount and present each specimen in the ways outlined in class and in notes.
3. How healthy is the waterway? **Analyse the data gathered** from the excursion, **and make judgements and draw conclusions** about the health of Cabbage Tree Creek.

Part 3: Key Note Report to the Cabbage Tree Creek Committee on the impact of a housing estate at the QUT site

(Evaluating Biological Issues)

1. Do you support or not support the development of a housing estate at the QUT site?
How has human intervention affected Cabbage Tree Creek?
 - Historically, what **past and present scientific issues and social issues** have affected the health of Cabbage Tree Creek?
2. How reliable are your sources of information?
 - **Evaluate the reliability, accuracy and bias of the sources of information**
3. What effect will the housing estate have on the future of Cabbage Tree Creek?
 - **Develop future scenarios** on the effect of based on interpretation and analysis of current information. Make sure you **justify your decisions.**

SCIENTIFIC JOURNAL

Your scientific journal **must be presented in an** exercise book (48 page minimum) Collecting and organizing data is a component of the “investigating Biology “section of the syllabus. The scientific journal **must be** brought to each class and signed off at each stage of the report. Failure to present serious consequences will be ensue.

1. **Page One** -- has details of your name, your class, students in your group and your teacher.
2. **Page Two** – **Criteria Sheet must be glued in**
3. **Page Three** – **Task Sheet must be glued in.**
4. **Page Three** – **Scientific Journal Due dates**
5. **Your journal will catalogue - information gathered for your report and sites visited.**

Due Date	Task	Signature
Week 1 July 16 th Thurs	Hand out assignment Scientific Journal purchased and set up	
Week 2 July 20 th Monday July 21 st Tuesday July 23 rd Thursday	School Task - <ul style="list-style-type: none">• Weed ID• Fish Snapshot	
Monday July 27 th Friday July 31 st	Bunyaville Excursion <ul style="list-style-type: none">• Excursion Booklets	
Monday August 10 th Draft	Part 1- Background Info Part 2- Herbarium Show examples of 4 of 6 plants + info card. Part 3- Key Note Report	
Wednesday August 19 th DUE DATE	Part 1- Background Info Part 2- Data collection <ul style="list-style-type: none">•Excursion booklet•Herbarium Part 3- Key Note Report EBI Scientific Journal	

Student Ownership Statement.

Yr 11 Biology -

Our Backyard Extended Response Task.

I declare that:

This assignment is my own work and I have not copied other student's work or directly from textbooks or other sources. I have not gained unfair assistance from other students, parents or guardians.

STUDENT SIGNATURE _____ DATE SUBMITTED: _____

Context 3 Task 3 Extended Response Criteria
Assessment Criteria Field Study Analysis of Cabbage Tree Creek

Name: _____

	Criteria	A	B	C	D	E
Understanding Biology (UB)	Describe the relationship between abiotic and biotic. (UB 2)	Makes Links between related ideas of abiotic and biotic factors and thoroughly identifies all meaningful interrelationships between: (1) how abiotic factors affect biotic factors and (2) how biotic factors affect abiotic factors. Explains all background information on how abiotic and biotic factors affect the health of a waterway. Appropriate references are cited.	Identifies and explains related ideas of abiotic and biotic factors and identifies interrelationships between: (1) how abiotic factors affect biotic factors and (2) how biotic factors affect abiotic factors. Explains background information on how abiotic and biotic factors affect the health of a waterway. References are cited.	Describes ideas of abiotic and biotic factors and identifies (1) how abiotic factors affect biotic factors and (2) how biotic factors affect abiotic factors. Describes some background information on how abiotic and biotic factors affect the health of a waterway. Some references are cited.	States a limited amount of information about what is biotic and abiotic factors and how these may affect the health of a waterway: stated in the background information.	States ideas relevant to Abiotic and biotic and the health of a waterway. Provides some information
	Link and apply concepts to describe terms such as biotic and abiotic to explain phenomena in range of situations (UB 3)	Applying knowledge and understanding of abiotic and biotic factors to thoroughly identify the meaningful interrelationship and link this to “how altering these factors could affect the health of a waterway”. Demonstrate an excellent understanding of all concepts and terms in the background information. Appropriate references are cited.	Applying knowledge and understanding of abiotic and biotic factors and link this to “how altering these factors could affect the health of a waterway”. Demonstrate a good understanding of most concepts and terms in the introduction. References are cited.	Applies knowledge and understanding of abiotic and biotic factors and how these factors affect the health of a waterway. Demonstrate a sound understanding of most concepts and terms in the introduction. References are cited.	Limited knowledge and understanding of abiotic and biotic factors Demonstrate a poor understanding of most concepts and terms in the introduction.	
	RESULT (UB)					
Investigating Biology (IB)	Develop skills and processes to collect, organise, interpret, analyse and present data from Cabbage Tree Creek. (IB 3,4)	Collecting and organising a variety of data: (1) about abiotic and biotic factors from Cabbage Tree Creek and (2) Collect 3 specimens of introduced specie and 3 specimens of native specie. Each specimen is correctly mounted and presented in the logbook. Data is clearly presented to identify trends and the interrelationships between abiotic and biotic factors and the health of our waterway. Data is interpreted and critically analysed to make justifiable conclusions about the health of the waterway.	Collecting and organising a variety of data: (1) about abiotic and biotic factors from Cabbage Tree Creek and (2) Collect 3 specimens of introduced specie and 3 specimens of native specie. Each specimen is correctly mounted and presented in the logbook. Data is clearly presented to identify trends between abiotic and biotic factors and the health of our waterway. Data is interpreted to make conclusions about the health of the waterway.	Collects and organises a variety of data: (1) about abiotic and biotic factors from Cabbage Tree Creek and (2) Collect 3 specimens of introduced specie and 3 specimens of native specie. Specimen is mounted and presented in the logbook. Data about abiotic and biotic factors and the health of our waterway are presented and discussed .	Follows instructions to collect and organise data about biotic and abiotic factors and the health of our waterway.	Using supplied information to make statements about abiotic, biotic and the health of our waterway.

	Make judgements and draw conclusions regarding the validity of the investigation (IB5)	Evaluates the design of the investigation and reflects on the validity of the data collected from Cabbage Tree Creek.	Evaluates the design of the investigation and the adequacy of the data collected from Cabbage Tree Creek.	Discusses the data and makes plausible recommendations about the data collected from Cabbage Tree Creek.		
	RESULT (IB)					
Evaluating Biology	Recognise relevant past and present scientific and social issues (EB1)	Evaluates the issue of a housing estate development by Reflecting on the past and present scientific and social issues that have affected the health of Cabbage Tree Creek and linking this to justifiable evaluations of the health of Cabbage Tree Creek.	Analyses the issue of a housing development by recognising the past and present scientific and social issues that have affected the health of Cabbage Tree Creek, and integrating this into evaluating the health of Cabbage Tree Creek.	Identifies the issues of a housing estate development by discussing the past and present scientific and social issues that have affected the health of Cabbage Tree Creek, to evaluate the health of Cabbage Tree Creek.	Recognising that a housing estate development has biological implications related to the health of Cabbage Tree Creek.	The student uses supplied information to make statements about biological issues.
	Evaluate the reliability, accuracy and bias of information (EB3)	Critically analysing and evaluating the accuracy, reliability and bias of the sources of information.	Analysing and evaluating the accuracy, reliability and bias of the sources of information.	Gathering information to determine the accuracy, reliability and bias of the sources of information.		
	Justify Decisions based on the interpretation and analysis of current information (EB4)	Integrating the data and background information to make justified and responsible decisions about the future scenarios of the health of Cabbage Tree Creek.	Integrating the data and background information to make supported decisions about the future scenarios of the health of Cabbage Tree Creek.	Selecting relevant data and background information to make plausible decisions about the future scenarios of the health of Cabbage Tree Creek.		