



Assessment Task Notification

<u>Course:</u>	HSC Senior Science
<u>Teacher(s):</u>	Mrs Murrie and Mrs Mahony
<u>Task Number:</u>	2
<u>Due Date of Task:</u>	Thursday 22nd June 2017
<u>Task Value:</u>	30%
<u>Nature of Task:</u>	Students will analyse data and perform a secondary sources investigation.
<u>Other Information:</u>	Draw all graphs and diagrams in pencil.

Outcomes

Assessed:

- P4** identifies applications of science that affect society and the environment
- P5** identifies current areas of scientific research
- P12** discusses the validity and reliability of data gathered from first-hand and secondary sources
- P13** identifies appropriate terminology and reporting styles to communicate information and understanding in science
- P14** draws valid conclusions from gathered data and information

(Note: change from assessment task schedule – P9 not assessed in the task)

Task Details:

This task involves three (3) parts:

- Part A** **Factors effecting plant growth – processing information from a graph**
- Part B** **Secondary sources investigation – using cloning and tissue culture to protect a rare Australian plant species**
- Part C** **Secondary sources documentation**

Instructions:

- **Research should be undertaken using a variety of sources and written using your own words.**
- **Include a separate reference list for the secondary sources investigation Part B.** Make sure your references are in the correct format. Use an online citation maker such as <http://www.bibme.org> or refer to the school diary.

Preliminary Senior Science Assessment Task 2 2017

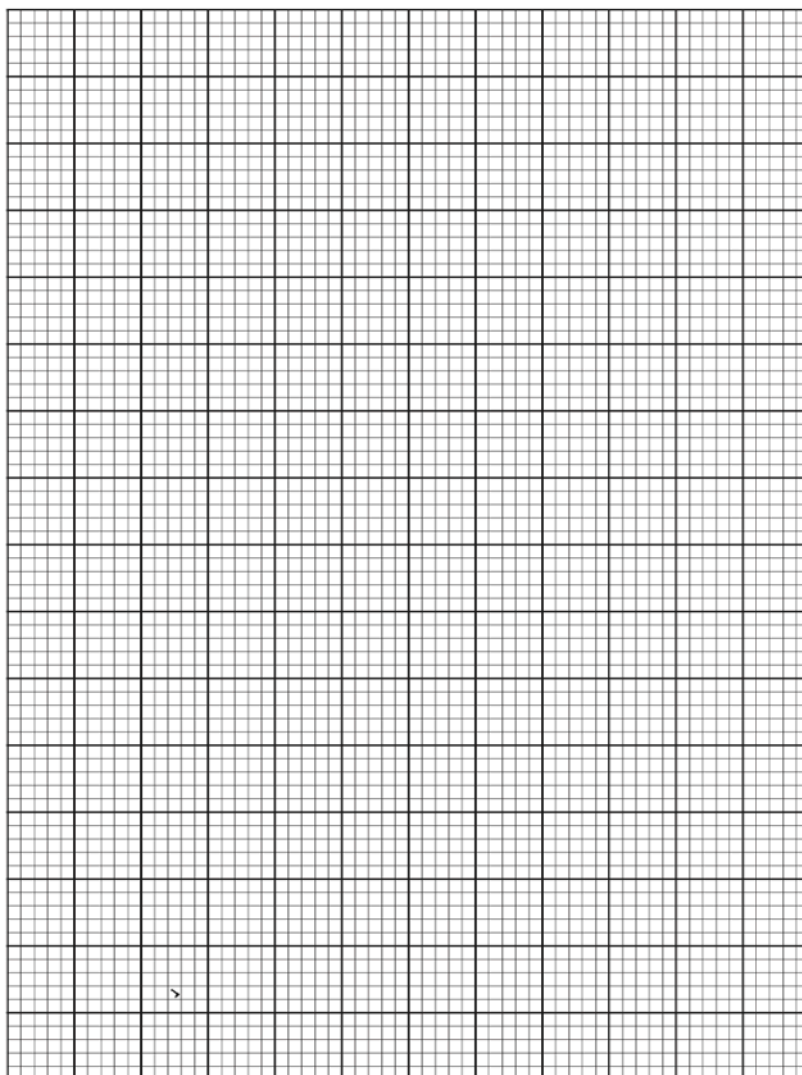
Part A Factors effecting plant growth (10 marks)

1. The table below shows data for the effect of moisture levels on the growth in height of corn (maize) over a number of days.

- (a) Draw a line graph of the data using the same axes for both lines. (3 marks)
- (b) Use the data to discuss the effect of moisture levels on the growth in height of corn (maize). (5 marks)
- (c) Identify two variables that would need to be controlled in this investigation. (1 marks)
- (d) Identify the independent and dependent variables in this investigation. (1 marks)

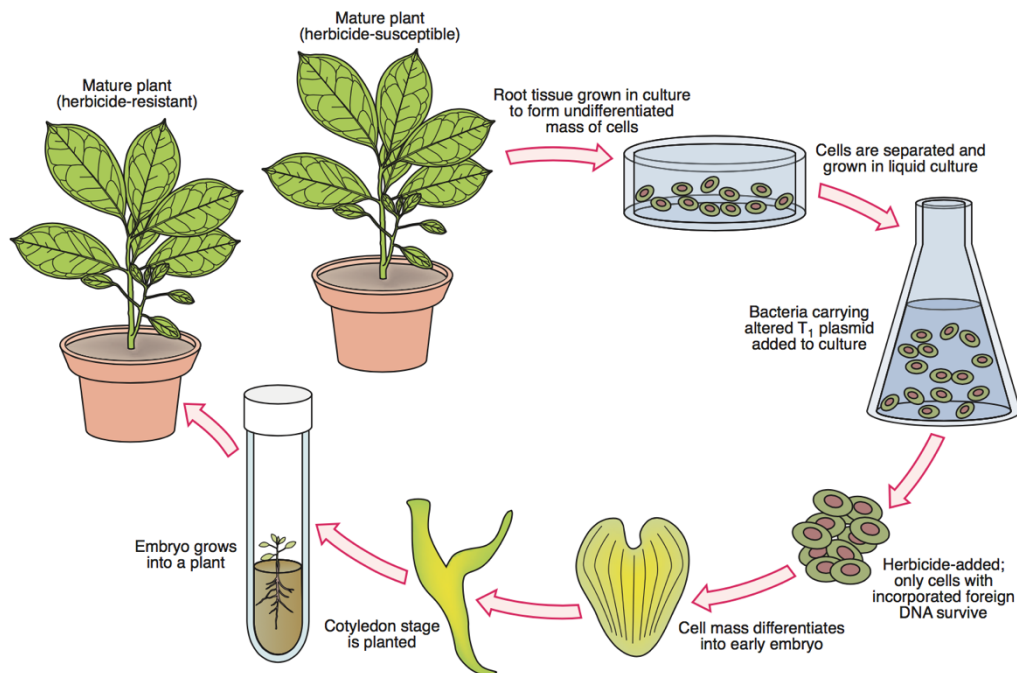
Table Effect of moisture levels on the growth of corn (maize)

Day	Height (cm) at high moisture levels	Height (cm) at low moisture levels
0	0	0
3	0.9	0.3
6	2.1	0.7
9	3.5	1.2
12	4.9	1.6
15	7.7	2.6
18	10.2	3.4
21	13.5	4.5



Part B Secondary sources investigation - cloning and tissue culture

Using resources like current scientific magazines, journals, newspaper articles, text books and the Internet, undertake research that focusses on plant cloning. Examine the diagram below that outlines the process of cloning plants. Gather and process information to answer the following questions.



1. Ensure that Part B is written in your **own words**, using **correct scientific terminology** in a **clear and concise** way. Include at least one of **each** of the following: a text book, a journal article and a reputable website. (15 marks)
2. Describe the processes of tissue culture used to cultivate plants. (5 marks)
3. Identify the purposes of and reasons for applying cloning technology to plants. (5 marks)
4. Discuss the genetic advantages and disadvantages of cloning plants. (10 marks)
5. Identify Australian research that has involved cloning and tissue culture of plants in order to protect one rare Australian species. Outline how tissue culture has been used to ensure survival of the plant species identified. (10 marks)

Part C Secondary sources documentation

1. Complete a bibliography for the sources used in Part B. (3 marks)
2. Use a **range** of sources in gathering information for Part B. (2 marks)

Marking Criteria: Total Marks For Assessment: 60 Name: _____

Knowledge and Understanding (10%) P4 P5

Criteria	Maximum Marks 20
<ul style="list-style-type: none"> • Describes the processes of tissue culture 	5
<ul style="list-style-type: none"> • Identifies the purposes and reasons for applying cloning technology to plants 	5
<ul style="list-style-type: none"> • Discusses genetic advantages and disadvantages of cloning 	5
<ul style="list-style-type: none"> • Identifies Australian research involved in cloning a rare Australian species and how cloning ensures its survival 	5

Practical Skills and Gathering Data (5%) P12, P13, P14

Criteria	Maximum Marks 10
<ul style="list-style-type: none"> • Graph constructed appropriately 	3
<ul style="list-style-type: none"> • Variables identified correctly 	2
<ul style="list-style-type: none"> • Uses a range of resources including at least ONE of each of the following: textbook or other similar material, journal article and reputable website 	2
<ul style="list-style-type: none"> • Reference list is constructed correctly. 	3

Scientific Thinking and Communication (15%) P4, P5, P14

Criteria	Maximum Marks 30
<ul style="list-style-type: none"> • Correct analysis of graphed data 	5
<ul style="list-style-type: none"> • Assessment is the students own work 	5
<ul style="list-style-type: none"> • Explanations use correct scientific terminology 	5
<ul style="list-style-type: none"> • Information is presented in a clear and concise way. . 	5
<ul style="list-style-type: none"> • Discussion of advantages and disadvantages of cloning is coherent 	5
<ul style="list-style-type: none"> • Outline of how tissue culture ensures the survival of a plant species is coherent and of sufficient depth 	5