

# PRIMARY INDUSTRIES Cluster C

Chemicals

# **Assessment Task**



# **Units of Competency:**

Student Name:

AHCCHM201 Apply Chemicals under supervision AHCPMG201 Treat weeds AHCPCM201 Recognise Plants

Date of Issue:	21-11-17	Due Date: 11-12-17	





# Ultimo RTO 90072 STUDENT ASSESSMENT TASK

STUDENT NAME:	Date of Issue:	21-11-2017	

Name of VET Course	PRIMARY INDUSTRIES
Qualification Code and Name	AHC20116 Certificate II in Agriculture
Assessor Name(s):	Dr. Asifo O. Ajuyah
Name of Task	Cluster C - Chemicals
Units of Competency Assessed	AHCCHM201 Apply Chemicals under supervision
	AHCPMG201 Treat weeds
	AHCPCM201 Recognise Plants
Pre-requisite units	Nil
Assessment Conditions	School Agricultural Farm
Resources and equipment required for	Livestock, Chemical spraying equipment, measuring equipment
Assessment	
Recognition of Prior Learning (RPL)	Credit Transfer
J	If you have already completed any of these Units of Competency you are eligible for credit
	transfer. Please advise your teacher.
or competency, product code four toderior	adiotor. I lodge davice jedi todeller.

Students must complete knowledge and skills development activities which prepare for and may contribute to assessment of competence.

Assessment method	Units of Competency	Duration	Due date
Part A: Written Task	AHCCHM201: Apply chemicals under supervision AHCPCM201: Recognise Plants AHCPMG201 Treat weeds	5 Weeks	
Part B: Practical	AHCCHM201: Apply chemicals under supervision AHCPCM201: Recognise Plants AHCPMG201 Treat weeds	3 Weeks	11-12-2017
Part C: Research	AHCCHM201: Apply chemicals under supervision AHCPCM201: Recognise Plants AHCPMG201 Treat weeds	2 Weeks	

Foundation Skills incorporating language, literacy, numeracy and employment skills required for competent performance are embedded in the units of competency.



# **Additional Requirements:**

Describ	be here how the task was modified for special needs and/or EAL/D e.g.
	Altering/simplifying the language used
	Providing support staff
	Providing tutorial sessions
	Providing additional time to complete the task
	Altering assessment methods used
	Please note, when altering an assessment method such as use of verbal questioning instead of written response teacher
	must indicate alteration on the task (e.g. <b>V</b> written next to question)
STUD	<b>PENT ACKNOWLEDGEMENT</b> (To be completed <u>before</u> student is assessed)
	I understand the requirements of the assessment task and assessment methods.
	I understand what is being assessed and can perform the tasks described in this assessment.
	I have been provided with information about RPL, Credit Transfer and Assessment Appeals.
	I have notified the assessor of any special needs to be considered during this assessment.
	I declare that the work submitted is my own and has not been copied from another person or source
Student	t's Signature: Date:



# **Task Description:**

Students are developing skills in recognising and identifying plants and weeds; applying treatment methods to animals and weeds through the application of chemicals; and applying knowledge of safe handling practices, usage and storage of chemical products.

# Part A: Written Task

# **Recognise Plants**

# 1. Recognise Plants: general plant identification

(a) In the table provided below, define the general plants listed and give an example of each type.

Meaning	Example

(b)	Identify <b>two</b> tools and/or equipment required for plant identification and collection of samples.
1	
2.	



2.	Tre	at	W	ee	ds	
----	-----	----	---	----	----	--

2			
۷٠			
3			
4			
<ul><li>following;</li><li>Scientific na</li><li>Common na</li><li>How is this v</li></ul>	me		formation on the
Scientific name	Common names	How is this weed most likely to be spread?	Why does this weed grow in the observed situation?
(b) Using the www.	<del>-</del>	arch answers to the following	
	ONS (Weed of National Sig	nificance)?	



	(ii) Select the strategies that would be most effective in controlling your weed.
(d)	Develop an IPM (Integrated Pest Management) plan for your identified weed that minimises the risk to humans, agricultural products and the environment whilst still being effective. Thought should also be given to IPM strategies to control the weed. (E.g. biological, cultural, physical and chemical)

(e) Complete a risk assessment for the planned weed control program, outlining the potential risks to humans and the environment.

Activity	Hazard Identification	Risk (High, Medium or Low)	Control Measures	Who / When?



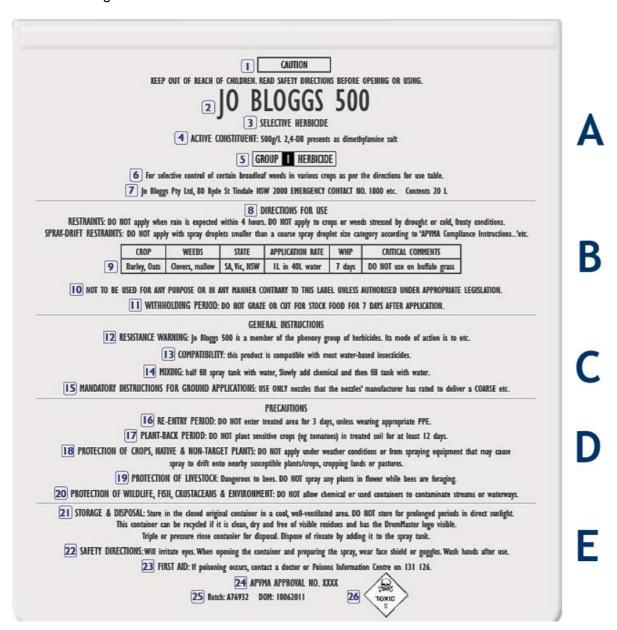
# 3. Read and interpret a Chemical Label and a Material Safety Data Sheet

(a) Choose a chemical product to research and use the following link to learn about how to read and interpret a MSDS and Chemical Label:

# How to understand a pesticide chemical label -

https://archive.apvma.gov.au/use\_safely/docs/understanding\_labels\_booklet.pdf

The Chemical Label contains information to allow chemicals to be used effectively and safely. The label must be read or be explained each time the chemical is used. The sample label on the next page has been numbered to identify the different sections of the label. It is based on a real label that has been changed to show all the information that can be included.





**For your chosen chemical product**: Identify the type of product and research the answer for each question in the tables provided below.

Chemical label: Product Type:

What do I want to know?	Where is it on the label?	Example
What is the name of this chemical?	Distinguishing product name-Front label panel	
What is the active constituent?	Front label beneath product name	
Is the chemical registered by the APVMA?	APVMA approval number (front panel or last label page)	
Is this chemical a scheduled poison?	Signal heading-front panel	
To what mode of action (MOA) group does this ag/vet chemical belong?	Mode of action identification symbols-front panel	
How big is the container?	Contents-front panel	
What crop/host/situations can this chemical be used on?	Statement of claims for use-front panel Directions for use panel	
What pests can this chemical be used to control?	Directions for use table	
How do I get an SDS for the chemical?	General instructions	
How should this chemical be stored before use?	Storage and disposal statements	
Are there limitations on how this chemical is used?	Restraints 'Not to be used' statement	
What application equipment can be used to apply this chemical?	Directions for use table. Application under general instructions.	
Does PPE have to be worn?	Safety directions	Circle Yes / No
What is the re-entry period after the chemical has been applied?	WHP	
How should the environment be protected from this chemical?	Protection statements	
If the chemical makes someone sick, what is the first thing to be done?	First aid	
For extra information about the chemical, who do you contact?	Name and address of registrant, formulator or distributor	



# Material Safety Data Sheet.

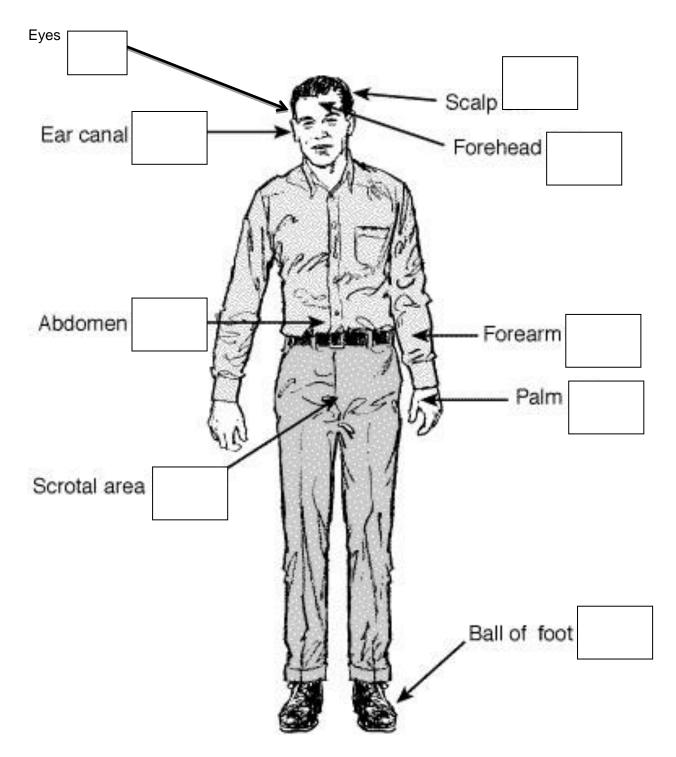
What do I want to know?	Where is it on the SDS?	Example
Is this the right SDS for the chemical?	Identification of material	
Is the SDS current?	Other Information	
Is the chemical a hazardous substance or Dangerous Good?	Hazards identification	
What else is in the formulation apart from the active ingredient?	Composition	
Is the chemical dangerous to transport?	Transport information	Circle Yes / No
How should this chemical be transported?	Transport information	
How should the chemical be stored?	Handling and storage	
Is the chemical compatible with other chemicals?	Stability and reactivity	
What do you do in case of fire?	Fire fighting	
What PPE should be worn if the chemical spills?	Accidental release	
In what ways can the chemical harm you?	Toxicological information	
What do you do if someone swallows the chemical?	First aid	



# 4. The Paths of Entry of Poisons into the Body

The picture below shows how chemicals get through the skin at different rates, For example, the abdomen absorbs chemicals 2.1 times more quickly than the forearm.

Indicate on the diagram below the rate that chemicals can be absorbed into the different parts of the body.





# 5. Pests and Their Control

(a) In the table below, identify **two** pests which impact livestock in the local region / school community.

Name of Pest	Host / Situation	Damage Caused	Chemical Used	Alternative Methods				
1.								
2.								
2.								
	(b) Select <b>one</b> of the pests identified in part (a).  Design a simple IPM plan for this pest and base it on the school farm.							
6. Using Chemicals on the Farm  (a) Signal Headings and What They Mean								

(a) Signal Headings and What They Mean.

Complete the table below to identify the signal headings located on chemical labels.

Signal Headings Words	How Poisonous is the Chemical?



(b) Dangerous Goods

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	(i) Outline what makes a chemical classifie	d as a Dangerous Good.
	<ul><li>(ii) List five different types of Dangerous G- related diamond.</li></ul>	oods related to Primary Industries and include the
	Type of Dangerous Goods	Related Diamond
1.		
2.		
3.		
4.		
5.		

(c) Locate and access the labels of **five** chemical products used on the farm and identify the active ingredient, mode of action symbol, type of chemical (e.g. fungicide) and its use.

Use the information from the label (and perhaps internet sources) to complete the table below.

Chemical Name	Active Ingredient	Type of chemical	Mode of Action Symbol	Uses / Description
1.				
2.				
3.				
4.				
5.				



# **Part B: Practical Task**

# 1. Using Chemicals Under supervision

(a) Apply the following method to calibrate a knapsack sprayer and record your answers on the form. Report any operational deficiencies to your teacher if evident.

	<u>Calibration Metl</u>	nod for Knapsa	ck and Hand-Held Pr	eumatic :	Sprayers	
Equipn	nent needed					
	sack or pneumatic sprayer	• tape measure		• measur	ing cylinder	
• chem	nical label	• line marking p	aint or timber pegs	• stopwa	tch	
• nozzl	le chart	• container				
Туре о	of equipment:		Make and model:			
Chemi	cal product name:					
PART A	A: Recording (refer to the equip	ment manufactur	er's charts and the prod	uct label)		
Step		nstructions			Details	
1	What should the water applica	ation rate be (from	the product label)?			L per
2	Select the correct chemical ap	plication rate (fror	n the label). This will		m	Ls per
	usually be in mL (millilitres). T	nere are 1000 mL i	in a L.			
3	Record the nozzle type and siz	e (from the equip	ment).	Туре:		
				Size:		
4	Is there a required operating p	ressure (from the	label and using nozzle			
	charts)? If so, what is it? Write the pressure in kPa (kilopascals) or bar					kPa oi
	(barometric pressure).			bai		
5	What is the tank size of the equipment?					ı
6	Record how high you should hold the equipment above the target.				n	ı (above target)
PART	B: Calculating the water applica	tion rate				
7	Measure out an area 10 m x 1	m. This is 10 m <sup>2</sup> . T	his area is 1/1000 of a he	ectare (1 ha	= 100 m x 10	0 m = 10 000
	m²). Use line marking paint or	timber pegs to iso	late the area.			
8	Measure the time that it takes to spray this area with water. Use the					
	correct operating pressure (see step 4). Walk at a comfortable speed					seconds
	and make sure you cover the whole area evenly.					
9	Spray into a container for the	same amount of se	econds you took in step			
	8. Record how much is in the	ontainer by pouri	ng the liquid into a			l
	measuring cylinder. This is the	output.				
10a	Multiply the number of litres (	step 9) by 10 to gi	ve a water application	10 x	L =	L per 100 m <sup>2</sup>
	rate per 100 m2.					
10b	OR, you can multiply the number of litres in step 9 by 1000 to give a				L =	L per
	water application rate per hectare.					
PART	C: Checking the calculations					
12	Does the water application ra	e comply with the	product label?			Circle: Yes/No
13	If not, suggest a way to chang	e this rate to achie	ve the required rate.			



# 2. Part A - Treating Animals

(a) Complete the SOP – Standard Operating Procedure - for treating animals with chemicals.

Task	Identify hazards	PPE / Equipment	Procedure (including safety considerations)
Calibration of equipment			
Drenching the livestock			
Cleaning up equipment			

- (b) Select an animal (sheep / cattle / goats / alpacas) and carry out appropriate drenching using the following information.
- Read the appropriate chemical label and calculate the amount of chemical to administer by learning about the calibration process below.

#### **Calibration for Animal Treatments**

- Regular and accurate calibration of application equipment is important to make sure that the right amount of chemical is being applied to the post, according to the label directions.
- Calibration methods will vary according to the type of application equipment being used.
- There may be different ways of calibrating a piece of equipment. The important point is that the correct amount of chemical must be applied to the pest.

**Remember:** Using a higher rate of chemical will not do a better job. Calibrate and use only the amount of chemical specified on the label.

# **Animal Treatment Method**

Read the case study about treating ewes and use the animal treatment method to set the drench gun to deliver the right dose for each sheep.

A faecal egg count on a mob of ewes shows that they are carrying large numbers of roundworm eggs. The local vet recommends drenching them with a broad spectrum oral drench. From the label the oral dose rate is 1 mL per 5 kg bodyweight. A selection of sheep from the mob is weighed and the heaviest one weighs 60 kg.



# Apply Animal Treatment Method Process (Complete the table below)

- Use steps 1 to 6 when calibrating equipment such as a drench gun that applies a dose rate based on the animals body weight.
- Steps 2 to 6 should be used to check the output of equipment, such as a vaccinator, that applies a set dose with no differences for body weight.

Steps	What to do?	Answer
1	What is the bodyweight of the animal?	kg
2	From the product label, what is the <i>dose rate?</i> (Labels have a table, giving the dose rate for different bodyweight ranges, such as 5 mL/41-50 kg.)	mL/kg
3	Set drench gun (or vaccinator) to give the right dose for the bodyweight of the animal – See Step 2.	mL
4	Squirt 10 shots into a measuring cylinder or jug. Measure total volume of 10 squirts.	mL
5	Find the average of the 10 squirts. (Step 4 ÷10)	mL
6	If this average is higher or lower than the desired dose rate, adjust the setting on the drench gun (or vaccinator) down or up, and repeat steps (4) and (5) until the correct dose rate is delivered from the gun.	

- o Confirm chemical amount with teacher and administer the chemical.
- o Complete the required chemical records.

Animal	Drench Type	Drench Amount	Date	Date for Next Treatment	Comments

Clean up area and equipment.



# 2. Part B - Treat Weeds

(a) Select an area within the school / school farm that is to be sprayed using a selected herbicide.
o Identify and name the target weed
Select the appropriate chemical to control the weed
<ul> <li>Select and use the appropriate equipment and PPE for this task.</li> </ul>
(b) From the calibration activity in <b>Question 2 – Part A</b> , calculate the amount of chemical to be used for your chosen area. Record your answer below.
(c) Spray the selected area and monitor the effectiveness of the spray treatment by taking a <b>video</b> of you undertaking this process. Use photographic evidence to show its effectiveness. Save to the Class USB, upload to Google Drive or Google classroom.
(d) Complete the chemical application record on the next page.



Chemical application record

			of Application				
Property/Holding(residential address):							Date:
Applicator's Full Name:				Owner (if not applicator):			
Address:				Address:			
			Phone:		-0		Phone:
Mobile:	Fax:		Email:	Mobile:	Fax:		Email:
Sensitive Areas	including	g distance	s, buffers):	Comments (incl		control r	neasures for
	1	N		sensitive areas):			
W	Treat	ed Area	E				
		S					
Host/Pest							
Paddock Number	r/Name:		Paddock Area:		Order o	f paddoc	ks sprayed:
Crop/Situation:				Type of Animal	s:		
Crop/Pasture/Va	riety:			Age/Growth Stage:			
Growth Stage:				Mob/Paddock/Shed:			
Pest/Disease/We	ed:			Animals-Number	er Treated	:	
1				Pest Density/Inc			
				Heavy	Mediu	n 🗆	Light
Application Data Full Label Product Name:			Rate/Dose:		Water	Pata @ I /har	
Full Label Produ	ct Name:			Rate/Dose:		water	Rate @ L/ha:
Permit No:		Expiry	Date:	Additive/Wetter	s:		
Total L/kg:		WHP:		ESI:		Date su	itable for sale:
Equipment Type	:			Nozzle Type:	Nozzle	Angle:	Pressure:
Date Last Calibra	ated:	Water (	Quality (pH or desc	cription):			
Weather							
Showers	Overd		☐ Light Cloud	□ Clear	Sky 🗆		
Rainfall (24 hour Before: mi		and after)	During: mm		After:	mm	
Time:	Temperature Relative  OC Humidity (%)		Wind Speed	Dire	ction	Variability (e.g. gusting)	
Start							
Finish					-		
Comments:	L						I
Comments							



# 3. Recognise Plants

- (a) Walk around the school environment and recognise/find **ten** significant plants within the school environment, including **three** weeds. Record the Common Name, Scientific Name and Characteristics and Significant Features.
- (b) Collect samples from the identified plants, label and take photos to create an identification portfolio. Save to a USB or upload to Google Drive or Google Classroom.

Common Name	Scientific name	Characteristics and Significant Features
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		



# Part C: Research

# For the activity outlined below, record your work in a Microsoft Word document.

- 1. Below is a list of chemical application equipment that is used in Primary Industries enterprises.
- knapsacks
- hand-held pneumatic sprayers
- drench guns
- spot-on and pour-on applicators

- syringes
- · wiper application
- boom spray

**Activity -** For <u>each piece of equipment,</u> you are to address the following points using the table format provided:

- 1. How it operates/works
- 2. Situations it would be commonly used in
- 3. Storage requirements
- 4. Maintenance procedures
- 5. The cost of the equipment
- 6. Include a diagram or photo of each piece of equipment

Equipment Item	How does it work?	Situations Used	Storage Method	Maintenance process	Cost	Diagram/Photo
Drench Gun						

- 2. (a) Legislation for Agricultural/Veterinary Chemicals
  - i) What legislation governs the use of chemicals in primary industries?
  - ii) What is the purpose and intent of this legislation?
  - iii) Why is it important to follow the manufacturer's guidelines when using chemicals?
  - iv) Why is it important to follow enterprise policies and procedures when using chemicals?
  - v) What licence do you need to use chemicals and who issues it?
  - (b) The following activity describes a spraying operation where the person applying the spray ("The Applicator") does many things wrong. The product being used is classified as a hazardous substance and a Dangerous Good. Research the actions taken by "The Applicator" outlined in the table below by naming the legislation and responsible authority for each type of action.

Use the following websites to support your research:

https://www.epa.nsw.gov.au/

https://www.dpi.nsw.gov.au/about-us/legislation

http://www.safework.nsw.gov.au/law-and-policy/legislation-and-codes



Action	Legislation	Responsible Authority
a. A farmer/applicator notices that		
Paterson's curse (a noxious weed) has		
started to grow on the farm (which is		
private property).		
b. The applicator heads to the nearest		
rural supplies shop and purchases		
some herbicide. The applicator loads		
the drums into the ute, but a drum falls		
off on the way home spilling the		
pesticide.		
c. When the applicator gets home the		
remaining drums are stored in the shed		
with fertiliser, stockfeed and chlorine.		
d. The applicator doesn't bother reading		
the label because they have used this		
pesticide before.		
e. During mixing and loading,		
concentrate spills onto an employee		
who is helping. The employee gets sick		
and is taken to the emergency		
department of hospital.		
f. The applicator wears a t-shirt, shorts		
and thongs rather than the PPE		
(personal protective equipment)		
recommended on the label because it's		
a hot day.		
g. Down the paddock while spraying is		
taking place, wind direction and wind		
strength changes but the applicator		
continues spraying and pesticides drifts		
onto a neighbours cattle.		
h. After finishing the spraying, the		
applicator cleans up by flushing the		
tank into a nearby wetland where		
protected birds breed and also dumps		
the empty drums there.		



Describe here how the task was modified for special needs and/or EAL/D e.g.

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	I have been provided with information about RPL, Credit Transfer and Assessment Appeals.
	I have notified the assessor of any special needs to be considered during this assessment.
	I declare that the work submitted is my own and has not been copied from another person or source
Ctudoct	o Cignoturo: Namo Deta
Studelit	's Signature: Date:



# **ASSESSOR FEEDBACK TO STUDENTS:**

ent Name:	
ssor's Name:	Final Assessment Date:
Cluster C Student Skills and Knowledge Checklist	Assessor must comment on the students' skills and knowledge for each part of the assessment. Comment could include:  • What happened during the assessment?  • How well was the task performed?  • How to improve future performance  If multiple observations are necessary insert the date in the comments column.
Part A: Written	□ Satisfactory □ More Evidence Required
Recognises plants and pests to be able to identify the appropriate chemical to be applied when required  Understands how weeds and pests are spread and can describe common control strategies to manage their environmental impact  Can read and interpret a Chemical Label, MSDS, Signal Headings and Dangerous Goods symbols to apply correct storage, handling and use of chemical products  Selects, designs and applies an Integrated Pest Management (IPM) plan to identify hazards and minimise risks to humans, agricultural products and the environment  Understands the impact of chemical exposure and the importance of applying correct PPE	□ Satisfactory
Part B: Practical	□ More Evidence Required
Correctly mixes and calculates the amount of chemicals required for treatment of plants and animals through the application of calibration techniques  Selects, cleans and maintains appropriate tools/equipment and PPE for the treatment or plants and animals  Applies accurate record management and monitoring processes for plants and animals  Identifies, describes and records a range of desirable and non-desirable plants	
Part C: Research	<ul><li>□ Satisfactory</li><li>□ More Evidence Required</li></ul>
Correctly identifies and outlines a range of chemical application equipment and their functions Identifies the legislation associated with chemical use and its purpose Understands the policies and procedures that are in place and can apply them to common scenarios	

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List below if supplementary evidence was req employer report, photographs), school events				al questioning;	third party evidence (e.g	. work placement	
Unit of Competency			description				
AHCCHM201 Apply Chemicals under supervision							
AHCPMG201 Treat weeds							
AHCPCM201 Recognise Plants							
Assessment Outcome:							
AHCCHM201 Apply Chemicals under supervision		□ Competent			□ Not yet competent		
AHCPMG201 Treat weeds			Competent		□ Not yet competent		
AHCPCM201 Recognise Plants			Competent		□ Not yet co	mpetent	
If you have been deemed NOT In order for you to be deemed competent for the				e Further .	Action Required		
Unit of Competency		Action required if More Evidence is Required			equired	Date of Reassessment/ Date Competent	
AHCCHM201 Apply chemicals under supervision							
AHCPMG201 Treat Weeds							
AHCPCM201 Recognise Plants							
Teacher's general comment							
I declare that I have conducted a fair, valid, re	eliable and fle	exible as	sessment with this st	udent and I hav	ve provided appropriate	feedback	
Teacher's Signature							
STUDENT FEEDBACK							
Please provide feedback to your teacher rega	arding this as	sessmer	nt task e.g. I enjoyed	this task becau	se or This task can be	e improved by	
If you do not agree with the assessment outcome	ome, please	ask your	teacher about the a	ppeals process			
Student's Signature:				Da	te:		

PRIN 2017 Teachers: The completed student assessment task and the Evidence and Answer guide must be securely retained on QMS for six months after the completion of the course. Also retain any other evidence that demonstrated how the student was deemed competent e.g. written tasks, photographs, videos.