Primary Industries

**Mandatory Focus Area: Sustainability**

Welcome.

This module will assist you to review and revise content in the area of ‘Sustainability’ in the NSW HSC Primary Industries syllabus.

You will have studied either:   
[AHCWRK209 Participate in environmentally sustainable work practices](http://training.gov.au/Training/Details/AHCWRK209) **or**   
[AHCWRK309 Apply environmentally sustainable work practices](http://training.gov.au/Training/Details/AHCWRK309) both of which address the scope of learning (at the end of this document).

This module is broken up into:

* Important notes
* Key terms and concepts
* Activities
* Putting the theory into practice
* HSC Focus Areas

How to use the resource

Work through the notes and the suggested activities in any order. Great revision techniques include working through how a problem is solved, explaining the concept, testing yourself and retrieving information from your memory. Spread your revision over a number of sessions rather than sitting at one subject for lengthy periods.

Discuss your responses with your teacher, fellow students or an interested family member.

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# Important Notes

You should use the information in this module as a prompt and guide when revising your **study notes** or **text-book information** or **other resources** provided by your teacher. You can also access industry specific information at [SafeWork NSW](https://www.safework.nsw.gov.au/your-industry/), [Farmsafe Australia](https://www.farmsafe.org.au/) (National Farmers Federation) or [NSW Department of Primary Industries,](https://www.dpi.nsw.gov.au/)

The unit [AHCWRK209 Participate in environmentally sustainable work practices](http://training.gov.au/Training/Details/AHCWRK209) describes the skills and knowledge required to follow workplace procedures and instructions and to participate in environmentally sustainable work practices.

The unit [AHCWRK309 Apply environmentally sustainable work practices](http://training.gov.au/Training/Details/AHCWRK309) describes the skills and knowledge required to apply environmentally sustainable work practices

The outcomes of the HSC Primary Industries mandatory focus area ‘Sustainability’ require that the student:

* explains the fundamental principles of sustainability
* understands environmental hazard identification and risk control
* analyses resource consumption in the primary industries workplace
* evaluates the workplace in relation to environmentally sustainable work practices
* proposes improvements for resource efficiency and sustainability in a primary industries workplace.

# Key terms and concepts

You can use the following information to revise the key terms and concepts from this unit of competency. Perhaps you could:

* Copy the table into your own file, remove all the key terms, then fill in the blanks (without peeking at the original file) with your own answers.
* Copy the table into your own file and remove the definitions. Write a definition in your own words – it doesn’t have to word perfect but should show you understand the concept.

You could add an example of this term or concept relevant to the Primary Industries environment. If the key term was ‘environmental hazard’ your PI example might be ‘Fumes, emissions and spills from chemicals must be managed so as to avoid an environmental hazard’.

|  |  |
| --- | --- |
| Key term or concept | and Definition |
| Abiotic | Non-living factors in an ecosystem such as rocks, topography and climate |
| Best practice | A method or technique that has been generally accepted as superior to any alternatives because it produces best results |
| Bio-degradable | Able to break down in the environment. |
| Biodiversity | The variety of all life forms, their genes and the ecosystems they make up |
| Biosecurity | A set of measures aimed at preventing the introduction and/or spread of harmful organisms, in order to minimise the risk of transmission of infectious diseases to people, animals and plants caused by viruses, bacteria or other microorganisms. |
| Biotic | Living factors in an ecosystem including plants and animals, together with important micro-organisms, such as fungi and bacteria. |
| Compliance | Compliance means conforming to a rule, such as a specification, policy, standard or law. |
| Conservation | The protection, preservation, management or restoration of wildlife and natural resources such as forests, soil and water. |
| Ecology | The science that deals with the life-sustaining systems on earth |
| Ecosystem | Ecological community, together with its environment, functioning as a unit. |
| Environment | Everything that affects an organism during its lifetime. |
| EPA | Environmental Protection Agency |
| Habitat | The area or environment where an organism or ecological community normally lives or occurs. |
| Hazardous waste | Any material containing significant quantities of a substance that may present a danger to the life or health of living organisms when released into the environment. |
| Land degradation | Can take many forms and leads to a reduction in the productive capacity of the land. Results from poor land management practices. |
| Limiting factors | Physical or biological factors that control the growth or species within the ecosystem. |
| Pollution | Contamination of soil, water of the atmosphere by the discharge of harmful substances. |
| Recycle | Extract and reconstitute raw materials in discarded items, for example glass, some plastics and paper. |
| Reuse | Use single items more than once for the same or a different purpose. |
| Riparian vegetation | Vegetation found in riparian zones, usually includes different species on the upper, middle and lower areas of the bank and may include aquatic plants. |
| Riparian zone | The transition areas between land and water, including the banks of creeks, rivers or dams and mangrove tidal areas. |
| Salinity | The presence of soluble salts in soil or water. |
| Scheduled or intractable waste | Waste that cannot be destroyed, such as certain heavy metals or material for which there is no suitable disposal technique, such as certain pesticides and radioactive waste. |
| Soil erosion | The wearing away of topsoil by the physical forces of water and wind or through forces associated with farming activities such as cultivation. |
| Sustainability | The ability of an ecosystem to continuously support the life forms within it. |

# Activities

1. Match each of the terms below to the most appropriate definition from the list.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Use these words |  |  |  |  |
| Water quality | Suspended solids and turbidity | Nutrient enrichment | Chemical contamination | Groundwater pollution |

|  |  |  |
| --- | --- | --- |
| Term/concept | and Definition | |
|  | increased nitrogen and phosphorous concentrations from storm water, fertiliser and effluent |
|  | organic and inorganic compounds such as pesticide spray drift, run off or spillage |
|  | physical, chemical, biological and aesthetic characteristics of surface and ground water |
|  | microbial organisms, organic and inorganic compounds |
|  | soil and organic matter from soil erosion |

1. [NSW Department of Primary Industries](https://www.dpi.nsw.gov.au/) is a great source of information. Enter ‘sustainability’ into the search engine on this site and locate three articles that apply to your area of study. Note down:
   1. the current environmental issue,
   2. any legislative requirements affecting this issue and
   3. strategies and procedures that enhance working in an environmentally sustainable manner in a primary industries setting.
2. Read the following case studies and identify the environmentally sustainable work practices in each. Consider how you could use these in an HSC response.
3. Case Study: [Solar pumping system switched on at NSW farm](https://www.sustainabilitymatters.net.au/content/energy/news/solar-pumping-system-switched-on-at-nsw-farm-554617769)
4. Case Study: [Soil moisture monitoring for better irrigation and crop nutrition](https://www.sustainabilitymatters.net.au/content/water/case-study/soil-moisture-monitoring-for-better-irrigation-and-crop-nutrition-620790527)
5. Case study: [Milk bottles turned into fence posts for farmers](https://www.sustainabilitymatters.net.au/content/waste/news/milk-bottles-turned-into-fence-posts-for-farmers-52083905)
6. You have received substantial funding from the Local Land Services (LLS) for a sustainable land practices grant on your farm. One of the requirements is that you keep environmental data for soil nutrient levels, rainfall, erosion progress, vegetative groundcover and tree health. Use the table following to complete your answer.
   * What types of records will you keep?
   * What measurements will you make?
   * Where will you keep them?
   * How can you map progress?
   * Time requirement is 15 years.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Environmental data | Types of records | Types of measurements | Where to store | How to map progress |
| Soil nutrient levels |  |  |  |  |
| Rainfall |  |  |  |  |
| Erosion progress |  |  |  |  |
| Vegetative ground cover |  |  |  |  |
| Tree health |  |  |  |  |

1. Complete the information in the table below.

|  |  |  |
| --- | --- | --- |
| Environmental Threat/Hazard | How might you recognise this threat/hazard?  What evidence do you see? | How might it be addressed? |
| Example: Planned and unplanned emissions | Black smoke/exhaust fumes from machinery – tractor, ute, pump | Address cause ie find problem and fix it – mechanics  Replace faulty item  Attach exhaust pipe  Use alternative equipment |
| Spills and leaks |  |  |
| Faulty equipment/machinery |  |  |
| Pollution |  |  |
| Soil compaction |  |  |
| Soil disturbance and erosion |  |  |
| Accidents and disposal of waste |  |  |
| Damage to ecosystem |  |  |
| Animal and plant diseases |  |  |
| Unauthorised land use |  |  |
| Inappropriate human interaction in environment |  |  |

1. Environmental hazard identification and risk control
   1. What is the difference between a hazard and a risk?

* 1. Name the five hierarchies of control to reduce a hazard.

* 1. Complete the table below.

|  |  |  |
| --- | --- | --- |
| Environmental hazard | Example or how it occurs | Risk control possibilities |
| Pollution |  |  |
| Soil erosion |  |  |
| Natural disasters |  |  |
| Discharge into waterways |  |  |
| Wildlife habitat destruction |  |  |
| Inappropriate human interaction |  |  |
| Faulty tools and equipment |  |  |

* 1. Which personnel are responsible for environmental hazards in the workplace?
  2. What legislation exists to protect these types of hazards in the environment?
  3. Describe the lines of reporting hazards in the workplace.

1. Complete the sentences below. You can draw a line or correctly rewrite (or cut and paste) the sentences, in full, below the table.

|  |  |
| --- | --- |
| Matching sentence parts |  |
| Decline in water quality and an increase in nutrient levels and sunlight can lead to | managing effluent, monitoring and limiting fertiliser and chemical use. |
| Algal growth can be toxic to | using riparian vegetation to slow wind evaporation and constructing contour banks and filtration by riparian vegetation |
| Water quality can be managed by | algal growth. |
| Pollution can be limited at the source by | limiting pollution at the source. |
| Sediment entering water ways can be minimised by | humans, stock and wildlife |
| Algal growth can be limited by | constructing contour banks and filtration by riparian vegetation. |

1. List at least five items of waste that can be generated in Agriculture.

Next to each item, write whether it is:

* + Toxic or nontoxic
  + Reusable
  + Recyclable
  + Biodegradable
  + Non-biodegradable
  + Green waste

When you have finished your list, find out what happens to each type of waste produced. Where does it go? Does it all go into landfill or is it disposed of responsibly?

|  |  |  |
| --- | --- | --- |
| Waste item | Type | Disposal |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

1. What categories of pollution can be generated in Agriculture? List the main types (for example, water, air, noise) and alongside each, state the source (for example, fertiliser, herbicide use and so on).

|  |  |
| --- | --- |
| Pollution types | Source |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

1. Read the following case study then working in chronological order, list the actions that you would take to minimise the impact of the incident on the environment.

Add rows if necessary.

**Case study**

You have been working as a farm manager for a pastoral company in western NSW for only two weeks.

You have instructed one of the farm hands to carry out some spraying for insect pests in an area near the local creek using Carbaryl. She will be using a boom spray with a 1000 litre tank attached to the tractor. The tractor breaks down early in the operation, so she has to leave it while a part is found to make the repair. She reports the situation immediately to you and you give her another job while you wait for the mechanic to fix the tractor.

When you return to the site two days later with the mechanic, you find that the contents of your spray tank have leaked out onto the creek bank. Some of it has already reached the creek and there are dead fish floating on the surface. You don’t worry about the incident as it appears minor and the tractor and spray unit are fixed and back in operation.

A week later the local council contacts you as the source of a major water-pollution incident. A major clean-up gets underway, including the removal of the contaminated soil by bulldozer and the notification to other water users further downstream that the water in the creek is unsafe for use.

Environmental officers from the local council and the Department of Environment and Conservation (DEC) continue to monitor the pollution levels in the creek water for several months. The case goes to the Land and Environment Court. The pastoral company is charged with the cost of the clean-up and ongoing monitoring and fined $200 000. They also have to pay costs incurred by other farms downstream of the spill.

You are fined $50 000 and you lose your job. The farm hand is not considered liable as she fulfilled her responsibilities by reporting the breakdown to you.

1

2

3

4

5

6

7

8

9

10

1. Using the headings listed, write the details of the incident above as you would report them to an appropriate authority. You may have to use some imagination as the scenarios are only indicative.

|  |  |
| --- | --- |
| Incident management |  |
| Exact location of the incident |  |
| Whether anyone has been injured |  |
| The nature of the incident |  |
| The estimated time of the occurrence; size and extent of the incident |  |
| Who currently has control of the site |  |

Putting the theory into practice

The following questions are from [past years’ NSW HSC examination papers](https://educationstandards.nsw.edu.au/wps/portal/nesa/11-12/resources/hsc-exam-papers) for this subject. HSC exams are intended to be rigorous and to challenge students of all abilities. To better understand a question, you should look for key words and identify the aspect of the course to which these relate. You are then in a position to formulate your answer from relevant knowledge, understanding and skills.

All questions in ‘Putting the theory into practice’ are acknowledged © [2019 NSW Education Standards Authority (NESA) for and on behalf of the Crown in right of the State of New South Wales.](https://educationstandards.nsw.edu.au/wps/portal/nesa/mini-footer/copyright)

## Multiple Choice

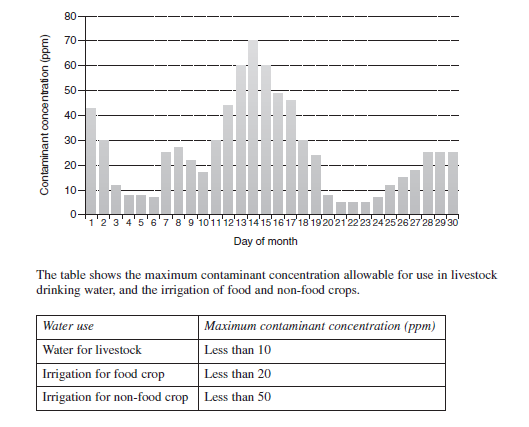
1. Which of the following is an example of a natural disaster?
   1. Tractor roll-over on a soft steep slope
   2. Road closure as a result of chemical spillage
   3. Major crop damage arising from torrential rainfall
   4. Water contamination from a construction worksite
2. Which of the following is NOT a potential environmental consequence of removing trees?
   1. Increased soil erosion
   2. Wildlife habitat destruction
   3. A decrease in levels of soil salinity
   4. Increased discharge into waterways
3. Ceramic mugs have replaced plastic cups in your primary industries workplace.

This is a method of using resources that are

* 1. recoverable.
  2. recyclable.
  3. renewable.
  4. reusable.

1. Implementing a new procedure to meet government regulations in relation to waste products is an example of
   1. compliance.
   2. best practice.
   3. sustainable use of resources.
   4. efficient use of energy and resources.
2. The concentration of a contaminant in a stream is monitored over 30 days. The results

are graphed below.



Which option correctly shows the number of days that water was available for each specific use?

|  |  |  |  |
| --- | --- | --- | --- |
|  | Livestock drinking water | Irrigation for food crop | Irrigation for non-food crop |
|  | 8 | 14 | 24 |
|  | 27 | 15 | 8 |
|  | 8 | 13 | 27 |
|  | 22 | 17 | 3 |

1. Monitoring resource usage is an important part of sustainable work practices. Which of the following would NOT be useful in monitoring resource usage?
   1. Databases
   2. Spreadsheets
   3. Stocktake tools
   4. Bank statements
2. Which of the following correctly matches an environmental hazard with an appropriate risk control?

|  | Environmental hazard | Risk control |
| --- | --- | --- |
|  | Drought | Sale of all feed reserves |
|  | Wildlife habitat destruction | Removal of trees |
|  | Soil erosion | Ploughing in a clockwise direction |
|  | Water pollution | Use of bunded chemical stores |

1. Which of the following best describes the presence of a large range of plant and animal species in an environment?
   1. Biodiversity
   2. Conservation
   3. Sustainability
   4. Natural resource management
2. How could a primary industries workplace implement environmentally sustainable work practices when purchasing resources?
   1. Buy low-cost inputs
   2. Source all inputs locally
   3. Purchase recyclable inputs
   4. Produce profitable outputs
3. ‘The responsible interaction with the environment to avoid depletion or degradation of natural resources and allow for long-term environmental quality.’   
   Which term best matches this definition?
   1. Environmental ethics
   2. Environmental justice
   3. Environmental stability
   4. Environmental sustainability
4. Legislation relating to the protection, restoration and enhancement of the quality of the environment is the responsibility of the
   1. Clean Energy Regulator.
   2. NSW Environment Protection Authority.
   3. NSW Office of Environment and Heritage.
   4. Department of the Environment and Energy.
5. Which of the following do NOT generate renewable energy?
   1. Solar panels
   2. Wind turbines
   3. Hydro-electric turbines
   4. Coal-fired power stations
6. The varroa mite has the potential to devastate the Australian beekeeping industry. The awareness and reporting of exotic pests such as the varroa mite is an example of
   1. biodiversity.
   2. biosecurity.
   3. productivity.
   4. sustainability.
7. When preparing soil to sow a crop on sloping land, what is the best strategy to minimise the risk of sedimentation in waterways?
   1. Plough along contours.
   2. Cover the ground with black plastic.
   3. Fill gullies and depressions with rocks.
   4. Maintain good ground cover with vegetation

## Questions from Section II

These questions should be answered in the suggested number of lines (handwritten) as it gives a guide to the length of your response.  
  
Plan out your answer and key points before you commence writing. You may need to bring together knowledge from several areas of study/competencies to do justice to the answer.

Question 1

* 1. Outline the impacts of a natural disaster on primary industries. (3 marks)

* 1. Explain TWO work practices that could minimise the impact of wildlife habitat destruction. (3 marks)

Question 2

* 1. Discuss ONE current environmental issue affecting primary industries. (2 marks)

* 1. Name ONE government agency and outline its role in ensuring that primary industries comply with environmental legislation. (3 marks)

* 1. Explain the difference between environmental compliance and environmental best practice, giving an example of each. (3 marks)

Question 3

A bulldozer is required to clear a patch of vegetation on a primary industries site.

In the table, identify THREE environmental risks associated with the clearing of the

land. For each risk, identify a potential environmental impact and propose a solution

to reduce the risk. (9 marks)

| Associated environmental risk | Potential environmental impact on the primary industries workplace | Proposed solution to reduce the risk |
| --- | --- | --- |
|  |  |  |
| Associated environmental risk | Potential environmental impact on the primary industries workplace | Proposed solution to reduce the risk |
|  |  |  |
| Associated environmental risk | Potential environmental impact on the primary industries workplace | Proposed solution to reduce the risk |
|  |  |  |

Question 4

The supervisor at your primary industries workplace has proposed building a new dam to catch surface run-off on the property. The work team is concerned about the consequences of this proposal given that the property operates on environmentally sustainable principles.

* 1. Explain the term environmental sustainability. (3 marks)

* 1. Complete the table below to show the negative potential environmental impacts

of building the dam and the actions that can be taken to reduce these impacts. (6 marks)

| *Negative potential environmental impact  of building the dam* | *Action to reduce the environmental impact* |
| --- | --- |
| 1 |  |
| 2 |  |
| 3 |  |

Question 5

The Biosecurity Act 2015 (NSW) is designed to protect the environment, primary producers and consumers.

* 1. Identify a biosecurity risk and outline its potential effect on a primary industries enterprise. (2 marks)

* 1. Identify TWO pieces of information that primary producers should record in relation to biosecurity. (2 marks)

* 1. What actions can primary producers take to prevent threats to biosecurity?   
     (3 marks)

Question 6

Identify TWO emerging technologies and describe the effects of each technology on the primary industries sector. (6 marks)

| Emerging technology | Effects |
| --- | --- |
| 1 |  |
| 2 |  |

## Questions from Section III

In the HSC –

* there will be one structured extended response question (15 marks)
* the question will have an expected length of response of around four pages of an examination writing booklet (approximately 600 words)

Your answer will provide you with the opportunity to:

* demonstrate knowledge and understanding relevant to the question
* communicate ideas and information using relevant workplace examples and industry terminology
* present a logical and cohesive response

You will note that these questions usually require you to bring together knowledge from several areas of study/competencies to do justice to the answer. You should allow about 25-30 minutes for a question in Section III of the exam.

In each of the following, map out your answer using post-it notes or a sheet of paper.   
Pay particular attention to incorporating a variety of aspects of your Primary Industries curriculum into the plan. Consider why we have included this question within this **Sustainability** module and what other areas of study you would need to draw upon.

Question 1

Evaluate a range of environmentally sustainable workplace practices that are used to manage current environmental issues affecting primary industries. (15 marks)

Question 2

Explain how the use of an Integrated Pest Management (IPM) program maximises production and ensures environmental sustainability. (15 marks)

Question 3

Name a primary industries enterprise.

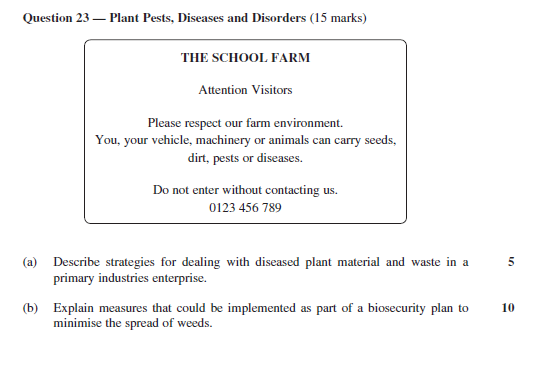
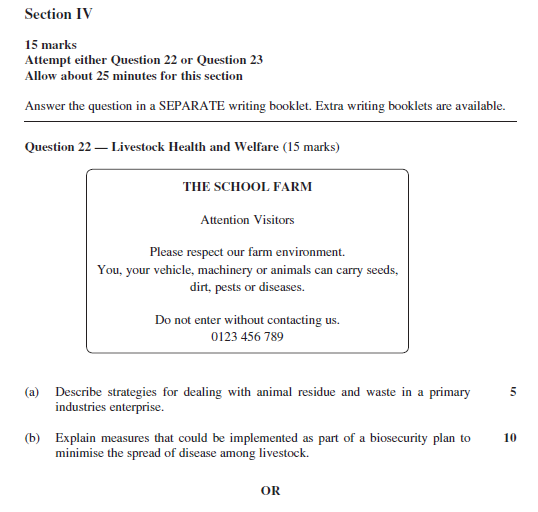
Identify the types of resources used in this enterprise and analyse strategies that could be implemented to improve the efficient use of those resources, including methods of measuring and monitoring. (15 marks)

## Questions from Section IV

In the HSC –

* there will be two structured extended response question in Section IV, one for each of the stream focus areas (15 marks).
* you will answer the question on the stream you have studied
* each question will have two or three parts, with one part worth at least 8 marks
* the question will have an expected length of response of around four pages of an examination writing booklet (approximately 600 words) in total. Allow about 25-30 minutes for this question.

Section IV is based on the stream focus areas (*Livestock health and welfare,* and *Plant pests, diseases and disorders*) and **can also draw from the mandatory focus areas**.



# HSC Focus Areas

For the purposes of the HSC, all students undertaking the 240 HSC indicative hours course in Primary Industries must address **all of the focus areas plus one stream focus area.**

The scope of learning describes the breadth and depth of the HSC Content, the minimum content that must be addressed, and the underpinning knowledge drawn from the associated unit(s) of competency.

Primary Industries **Mandatory** Focus areas

* Chemicals
* Safety
* **Sustainability**
* Weather
* Working in the industry

Primary Industries **Stream** focus areas (you will study one of the following)

* Livestock health and welfare
* Plant pests, diseases and disorders

The units of competency associated with the mandatory focus area ‘Sustainability’ in Primary Industries are [AHCWRK209 Participate in environmentally sustainable work practices](http://training.gov.au/Training/Details/AHCWRK209) **or** [AHCWRK309 Apply environmentally sustainable work practices](http://training.gov.au/Training/Details/AHCWRK309).

**How to use the scope of learning for ‘Sustainability’**

* draw up your own mind map showing the connection between the various concepts listed; examples appear on the last page of this module
* use the key terms and concepts to add to your mind map
* add examples or case study prompts to show how the concept is applied in the Primary Industries working environment

The following information is taken directly from page 41 ff ‘[Primary Industries Curriculum Framework Stage 6 Syllabus for implementation from 2020](https://educationstandards.nsw.edu.au/wps/wcm/connect/fa79abd8-9e46-43ce-822f-2700d4de40e7/primary-industries-curriculum-framework-syllabus-ahcv4.pdf?MOD=AJPERES&CVID=)’ © [2019 NSW Education Standards Authority (NESA) for and on behalf of the Crown in right of the State of New South Wales.](https://educationstandards.nsw.edu.au/wps/portal/nesa/mini-footer/copyright)

|  |
| --- |
| environment |
| * current environmental issues affecting primary industries:   biodiversity  biosecurity  conservation  energy use and efficiency  fire management  natural resource management  recycling/re-use  resource use and efficiency  salinity  sustainability  waste management  water resource management |
| * concept of sustainability in the workplace and environmentally sustainable work practices |
| * potential impact of primary industries workplace practices on the environment |
| * consequences of poor environmental work practices on:   waterways  wildlife habitats  neighbouring properties |
| * environmental responsibilities of employees in a primary industries workplace:   following work instructions, standard operating procedures (SOPs) and inspection processes  reporting and communicating environmental issues  maintaining environmental records:   * incident and accident reports * inspection reports |
| environmental hazard identification and risk control |
| * a range of environmental hazards and risks typical to a primary industries workplace, including:   chemical/gas spillage/leakage  discharge into waterways  faulty tools, equipment and machinery  inappropriate human interaction  natural disasters  pollution  soil erosion  wildlife habitat destruction |

|  |
| --- |
| environmental hazard identification and risk control cont/d |
| * personnel responsible for environmental hazard identification and risk control in a primary industries workplace |
| * reporting environmental hazards and risks in a primary industries workplace:   to appropriate person(s)  verbal and written reporting |
| environmental compliance |
| * purpose and intent of environmental legislation and its application to primary industries and a primary industries workplace and job role |
| * definition of:   ‘compliance’  ‘best practice’ |
| * levels of compliance in relation to environmental requirements:   workplace  industry  government (local, State/Territory and Commonwealth)  international |
| * consequences of failure to comply with environmental requirements |
| * workplace policy and procedures relating to environmental compliance |
| * individual worker and workplace responsibilities in relation to the environment |
| * industry and workplace requirements for monitoring and reporting in relation to the environment |
| * describing how, when and to whom to report:   types of reports:   * formal and informal * written * verbal   reporting to appropriate person(s) |
| * primary role/function of key environmental bodies:   NSW Environment Protection Authority (EPA)  NSW Department of Planning, Industry and Environment  Clean Energy Regulator (Australian Government)  Department of the Environment and Energy (Australian Government)  local councils |
| resources |
| * definition of ‘resource’ |
| resources cont/d |
| * resources used in primary industries and in a workplace and job role: * energy * human * infrastructure * materials * natural * stock and supply * technology and associated consumables |
| * concept of ‘resource efficiency’ in a primary industries work environment |
| * measuring and monitoring resource consumption within a primary industries workplace:   sources of data, including:   * resources in work area * material use analysis * invoices from suppliers * stocktake   techniques to collect and measure resource consumption, including:   * examination, measurement and documentation of resources, materials and products on the worksite and from suppliers * measuring resource usage under different conditions * monitoring and examination of data on efficiency and resource reduction * instructions and reports from other parties involved in the process of identifying and reporting on improvements   electronic and manual tools to measure and document resource use, including:   * checklists * software: * spreadsheets * databases * graphs * stocktake tools |
| * opportunities for improved resource efficiency in a primary industries work environment |
| environmentally sustainable work practices |
| * strategies and procedures to work in an environmentally sustainable manner in a primary industries workplace and job role:   identification of environmental hazards and risks  use of renewable, recyclable, reusable and recoverable resources  efficient use of energy and resources   * use of alternative forms of energy or energy conservation * reducing emissions of greenhouse gases   regular maintenance of tools, equipment and machinery  soil conservation  habitat protection |
| environmentally sustainable work practices cont/d |
| revegetation and stabilisation  waste management systems |
| * workplace policy and procedures for environmentally sustainable work practices |
| * examples of best practice in relation to sustainability in primary industries |
| * propose improvements for environmentally sustainable work practices for the workplace, team and individual worker |

Creating a mind map is a great way to organise your knowledge and understanding of the content of a topic.

You could use software such as a hierarchy chart, download ‘MindNode’ or similar or use a large sheet of paper (or several A4 sheets taped together)!

It is important to try to include all the detail you can, so add definitions, case studies or examples to prompt your memory. Include the information downloaded from the [unit of competency](#competency) and also from the [Scope of Learning](#Scope) and [Key Terms and Concepts](#terms).   
  
Example of mind map being developed

