



# **An Educational Unit for Junior Secondary Schools**

**Title: Sustainably and ethically produced  
and labelled eggs matter!**

**Level: Years Years 9 and 10**

**Curriculum area: Design and Technologies**

**The unit is targeted at Year 9 and 10 students. This is a suggested  
age range only and teachers are encouraged to modify activities to  
suit the needs of their students with whom they are working**

**AUSTRALIAN EGG**  
CORPORATION LIMITED





## Acknowledgements

This educational resource was produced for the Australian Egg Corporation Limited (AECL).

The resource is designed to introduce young people to egg production in Australia. Whilst not an exhaustive educational resource, it is intended to raise the awareness of school-aged students about the systems and practices used in egg production in Australia, and it supports investigations of the past and present and includes investigating a range of futures for the poultry industry.

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The materials in this educational resource have been developed by Angela Colliver from Angela Colliver Consulting Services Pty Ltd and Greg Mills from Food Integrity Solutions.

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Users should be aware that the figures for the number of companies and egg farms producing and supplying eggs to the Australian market may become out of date over time, as these figures change in line with market conditions.

Similarly, as contents of the websites used in this resource are updated or moved, hyperlinks may not always function.

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## Introduction

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### Rationale

This resource material aims to help teachers and students in junior secondary schools to investigate and make judgements about egg production and marketing in Australia.

Students are given an insight into the production systems and production system claims used by egg farmers in Australia and the words used to label eggs.

The objectives of the educational resources are to:

- Expand awareness about the egg industry in Australia by engaging and informing teachers and students about the role and importance of the industry in the Australian economy, environment and wider community.
- Engage and inform teachers and students about the role and importance of Australia's egg industry, and increase community understanding about best practice egg production.
- Provide resources which help build leadership skills amongst teachers and students so they can communicate about egg production and the industry in Australia.
- Increase knowledge and understanding about the complexity of Australia's egg industry.
- Provide practical teaching advice that supports teachers to educate their students about egg production and the egg industry.
- Educate school students on ways hens are raised and grown.
- Develop engaging learning programs using an inquiry process aligned with the Australian Curriculum.
- Facilitate school communities to develop integrated food production and science education programs which emphasise the relationship between the egg industry, scientists, individuals, communities and the environment.

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## Updates and Support

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Please register your contact details at [www.eggs.education/rego](http://www.eggs.education/rego) so that we can keep in touch and send you unit updates and supporting information as it becomes available.

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## The Learning Process in this Unit

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This educational resource is a unit of work that uses an inquiry-based and integrated approach to learning.

The unit uses Project Based Learning (PBL) as a way to engage students in secondary schools to learn about the Australian egg industry and investigate and make judgements about the production and marketing of eggs.

It uses a teaching and learning model based on the current philosophy that scientific knowledge is a social construction, highlighting how people's ideas and explanations create new knowledge. The teaching and learning model is also based on the idea that learning is a process of personal construction and reconstruction of ideas, rather than the absorption of a hierarchy of taught facts and concepts.

In practical terms, this means that teachers are not seeking to instil in students a selection of understandings, but are teaching and supporting them to experience and use creative ways of thinking to develop understandings of things around them.

Throughout this educational resource the emphasis is on providing teachers with suggestions and possibilities. The interactive teaching and learning approach uses the *solution fluency* through six phases: **Define; Discover; Dream; Design; Deliver** and **Debrief**. The phases of the model are based on the 21<sup>st</sup> Century Fluencies created by Crockett et al. (2011).

The 21<sup>st</sup> Century Fluencies are outlined extensively in the book '*Literacy Is Not Enough*' by Crockett et al. (2011). See <https://globaldigitalcitizen.org> and on the new Solution Fluency Planner at <http://www.solutionfluency.com>

These fluencies are:

- **Define:** The 'Define' phase begins with lessons that mentally engage students with a challenge, problem, question and task. This phase captures their interest, provides an opportunity for them to express what they know about the topic, share understandings being developed, and helps them to make connections between what they know and the new ideas.
- **Discover:** The 'Discover' phase includes activities in which they can explore, investigate, research, read, discuss, gather, organise and compare knowledge and data. They grapple with the challenge, problem, question or phenomenon and describe it in their own words. This phase provides a context and enables students to acquire a common set of experiences that they can use to help each other make sense of the new knowledge or understandings.
- **Dream:** The 'Dream' phase enables students to imagine and develop possible solutions and explanations for the challenge, problem, question and task they have experienced. The significant aspect of this phase is that the students' explanations follow substantive conversations and higher order thinking experiences.
- **Design:** The 'Design' phase provides opportunities for students to apply what they have learned to new situations, to map production processes and so develop a

deeper understanding of the challenge, problem, question or phenomenon. It is important for students to extend explanations and understandings using and integrating different modes such as diagrammatic images, written language and media.

- **Deliver:** The 'Deliver' phase has two stages – production and publication or presentation. In the production phase the task comes to life – this is the doing phase. At the end of this phase, the student task should be completed. Next, they present or publish their work sample to an audience.
- **Debrief:** The 'Debrief' phase provides an opportunity for students to revisit, review and reflect on their own learning and new understanding and skills. This is also when students provide evidence for changes to their understanding, beliefs and skills.

Source: *Solution Fluency* <https://globaldigitalcitizen.org>

Throughout this educational resource the emphasis is on providing teachers with ideas and activities that enable them to:

- Provide a supportive classroom environment by valuing what students already know; meeting individual and collective needs; providing scaffolding and supporting all students to be successful.
- Be a resource person by collecting resources and materials; and suggesting strategies for investigation.
- Be a fellow investigator by advising on appropriate investigations; modelling ways of learning and identifying learning opportunities.
- Challenge students' ideas and learning strategies by encouraging further inquiry; providing the stimulus for investigating real life situations, alternative viewpoints and empowering students to investigate and respond to a challenge, task or project (commonly called 'Project-Based Learning').
- Co-evaluate what students know, can do and understand; using a range of assessment strategies including self-assessment and peer assessment; negotiated assessment tasks, learning logs, observation and conferencing. (Note: The unit of work contains a 'Student Task' which is well suited for assessment, as it is the summation of the work undertaken by the students in the unit of work).

The unit of work can has been designed as a sustained sequence of activities based on the content descriptions of the Australian Curriculum identified in Year 9 and Year 10 in Technologies.

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## Teacher Notes

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### Resource description

This is a unit with five inquiry teaching sequences about egg production and marketing in Australia.

This unit encourages students to investigate and make judgements about the production and marketing of Australian eggs.

The unit explores the variety of production systems and production system claims used by egg farmers in Australia and the words used to label eggs.

Students examine and analyse key elements of each production system used to produce eggs, analyse the claims associated with each production system and explore labelling practices used to represent the different production systems.

As the unit progresses, students are tasked with creating a Newspapers in Education (NIE) feature to inform consumers about the true commercial free range, barn laid and cage systems used in the production and marketing of eggs.

Students also explain how labelling used on eggs might more accurately describe production systems that have been used by egg farmers and they propose 4-6 ways to improve the labelling of eggs sold at supermarkets and farmer's markets.

Having undertaken a production of a NIE feature, students share their feature article in a presentation to other classes. If deemed appropriate, students may submit their NIE feature to AECL for their consideration.

**Year levels:** Year 9 and 10



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# Australian Curriculum Content Descriptions

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## Design Technologies

Investigate and make judgments on the ethical and sustainable production and marketing of food and fibre [ACTDEK044](#)

Critically analyse factors, including social, ethical and sustainability considerations, that impact on designed solutions for global preferred futures and the complex design and production processes involved [ACTDEK040](#)

## Cross Curriculum Priorities: Sustainability

OI.2 All life forms, including human life, are connected through ecosystems on which they depend for their wellbeing and survival.

OI.3 Sustainable patterns of living rely on the interdependence of healthy social, economic and ecological systems.

OI.7 Actions for a more sustainable future reflect values of care, respect and responsibility, and require us to explore and understand environments.

OI.8 Designing action for sustainability requires an evaluation of past practices, the assessment of scientific and technological developments, and balanced judgments based on projected future economic, social and environmental impacts.

## General Capabilities

### Literacy

Comprehending texts through listening, reading and viewing; Composing texts through speaking, writing and creating; Text Knowledge; Word Knowledge; Visual Knowledge

### Numeracy

Calculating and estimating; Using spatial reasoning; Interpreting and draw conclusions from statistical information

### ICT Capability

Applying social and ethical protocols and practices when using ICT; Investigating with ICT; Creating with ICT; Communicating with ICT; Managing and operating ICT

### Critical and Creative Thinking

Inquiring – identifying, exploring and clarifying information; Generating innovative ideas and possibilities; Reflecting on thinking, actions and processes; Analysing and synthesising and evaluating information

## **Personal and Social Capability**

Self-awareness; Self-Management; Social Awareness; Social Management

## **Ethical Behaviour**

Understanding ethical concepts and issues; Reflecting on personal ethics in experiences and decision making; Exploring values, rights and ethical principles

*Source: Australian Curriculum, Assessment and Reporting Authority (ACARA), downloaded from the Australian Curriculum website in April 2016.*

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## Implementing the unit and activities in the classroom

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### Using the unit

The unit can be used in a number of ways. It will be of most benefit to teachers who wish to implement a sustained sequence of activities in Year 9 & 10 in Technologies.

### Selecting activities

At each stage, several activities are suggested from which teachers are encouraged to select the most appropriate for their purposes. Not all activities in each stage of the unit need to be used. Alternatively, teachers may add to or complement the suggested activities with ideas of their own.

Teachers may like to consider creating a hyperlinked unit by organising the digital resources for use by the class on a shared website, Moodle or Wiki.

### Resourcing the unit

The resources suggested are on the whole, general rather than specific. Schools and the contexts in which they exist vary widely as does the availability of some resources – particularly in remote areas. There is a strong emphasis in the unit on gathering information and data, and research and observations feature strongly as these methods develop important skills and ensure that the exploration of the topics, are grounded in a relevant context.

Some YouTube and online videos in addition to Internet based resources are suggested in the unit. Investigate what is available in your school.

### Adapting the unit

The unit is targeted at Year 9 and 10 students. This is a suggested age range only and teachers are encouraged to modify activities to suit the needs of their students with whom they are working.

The unit's topics are based on content descriptions of the Australian Curriculum, on the key cross curriculum priority of sustainability and a number of 'General capabilities' as defined in the Australian Curriculum. Teachers are encouraged to explore ways in which the content can be adjusted to suit the context in which they are working.

Resource sheets are provided for some activities. Most are for photocopying or making available on a whiteboard, shared website, Moodle or Wiki for students.

They are identified within units by the following label: **Resource 1.1**, **Resource 1.2** etc.

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## Assessment

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The assessment rubrics provided in this resource, for Year 9 and Year 10 students are the summation of the student tasks. The rubrics provide:

- A common language for discussing student achievement in relation to the tasks undertaken, and
- A means of engaging with, and communicating student achievement, to the student and his/her parents or caregivers.

### **The rubric columns: levels**

Each of the rubrics is divided into four levels.

Level 1: Unacceptable

Level 2: Acceptable

Level 3: Very Good

Level 4: Excellent

### **The rubric rows: aspects of the task**

Each of the rubrics is divided into rows, with each row representing critical aspects of the student task.

In this learning sequence the Year 9 – Year 10 students are asked to:

Gather and analyse information about the three main production systems used by egg farmers in Australia, examine and critique the egg production systems, their ethical and sustainable practices, their claims and the tactics, wording and techniques used to market and label eggs and create a Newspapers in Education (NIE) feature article to develop other people's understanding about the true commercial free range, barn laid and cage systems used in the production and marketing of eggs.

Students also explain how labelling used on eggs might more accurately describe productions systems that have been used by egg farmers and they propose ways to improve the labelling of eggs sold at supermarkets and farmer's markets.

## OVERALL PROJECT RUBRIC:

This rubric is designed to specifically evaluate what has been asked of the students from the scenario presented to the class.

Level 4	Level 3	Level 2	Level 1
A NIE feature article has been created that shows evidence of extensive research on their subject matter.	A NIE feature article has been created that shows evidence of research on their subject matter.	A NIE feature article has been created that shows evidence of some research on their subject matter.	A NIE feature article has been created that shows evidence of little research on their subject matter.
The content showed clear evidence of research about three main production systems used by egg farmers in Australia, examining and critiquing the egg production systems, their ethical and sustainable practices, their claims and the tactics, wording and techniques used to market and label eggs and included 6 or more ways to improve the labelling of eggs sold at supermarkets and farmer's markets.	The content showed some evidence of research about three main production systems used by egg farmers in Australia, examining and critiquing the egg production systems, their ethical and sustainable practices, their claims and the tactics, wording and techniques used to market and label eggs and included 4-5 ways to improve the labelling of eggs sold at supermarkets and farmer's markets.	The content showed limited evidence of research about three main production systems used by egg farmers in Australia, examining and critiquing the egg production systems, their ethical and sustainable practices, their claims and the tactics, wording and techniques used to market and label eggs and included 3 ways to improve the labelling of eggs sold at supermarkets and farmer's markets.	The content showed little research about three main production systems used by egg farmers in Australia, examining and critiquing the egg production systems, their ethical and sustainable practices, their claims and the tactics, wording and techniques used to market and label eggs and included 2 ways to improve the labelling of eggs sold at supermarkets and farmer's markets.
The overall NIE feature article flowed well and was structured well.	The overall NIE feature article flowed and was structured well.	The overall NIE feature article struggled in its flow and structure.	The overall NIE feature article lacked flow and was loosely structured.
The NIE feature article was well written and illustrated the subject.	The NIE feature article was mostly well written and illustrated the subject.	The NIE feature article was somewhat well written and briefly illustrated the subject.	The NIE feature article was poorly written and vaguely illustrated the subject.
The NIE feature article showed clear evidence in the acknowledgements of sources used.	The NIE feature article showed some evidence in the acknowledgements of sources used.	The NIE feature article showed limited evidence in the acknowledgements of sources used.	The NIE feature article showed little evidence in the acknowledgements of sources used.
The presentation of the NIE feature article flowed well and was structured well.	The presentation of the NIE feature article flowed and was structured well.	The presentation of the NIE feature article struggled in its flow and structure.	The presentation of the NIE feature article lacked flow and was loosely structured.
The group answered all questions clearly and accurately.	The group answered most questions clearly and accurately.	The group answered some questions clearly and accurately.	The group answered a few questions clearly and accurately.

## LEARNING PROCESS RUBRIC

Each of the learning progressions in the learning sequence has a prerequisite for progression – a list of what the student needs to accomplish in order to proceed to the next step in the process. The text from those areas is duplicated in this rubric and can be used with students to guide their progress with feedback, in a mini-debrief, helping them to refine their process and product at critical points throughout the learning sequence.

Level 4	Level 3	Level 2	Level 1
A clear definition of the task was provided.	A somewhat clear definition of the task was provided.	A rather ordinary definition of the task was provided.	A definition of the task could not be provided.
Research was completed with no prompting	Research was completed with minimal prompting.	Research was completed with some prompting.	Research was completed with significant prompting.
A clear visualisation of the NIE feature article was provided.	A mostly clear visualisation of the NIE feature article was provided.	A somewhat clear visualisation of the NIE feature article was provided.	No clear visualisation of the NIE feature article was provided.
An extremely clear plan of what the NIE feature article will contain was provided.	A very clear plan of what the NIE feature article will contain was provided.	A mostly clear plan of what the NIE feature article will contain was provided.	A somewhat unclear plan of what the NIE feature article will contain was provided.
The NIE feature article was produced exceeding the required elements and with a logical flow with clear illustrations.	The NIE feature article was produced all of the required elements and with a mostly logical flow with mostly clear illustrations.	The NIE feature article was produced with the minimum number of required elements and with a somewhat logical flow and some illustrations.	The NIE feature article was produced with less than the minimum number of required elements and with little logic and minimal illustrations.

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## Questions and Answers

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*Should I do all the activities?*

At each stage of a unit, a number of activities are listed. Teachers are not expected to do them all. Instead, the unit is designed so that a selection of activities can be made at each stage. Teachers should select the activities according to the needs and interests of their students and the time, relevance to the existing school curriculum and resources available to them.

While teachers are encouraged to follow the suggested inquiry sequence for the unit, it is quite possible to pick and choose from the range of activity ideas throughout the unit. It may also be used in conjunction with other programs teachers use.

*How long should the unit run?*

This will of course depend on particular circumstances but generally, a few weeks to a term are suggested.

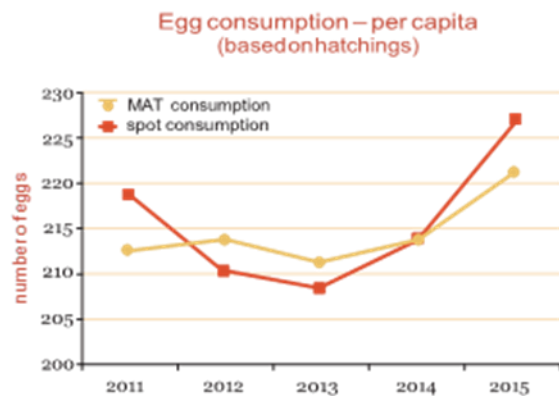
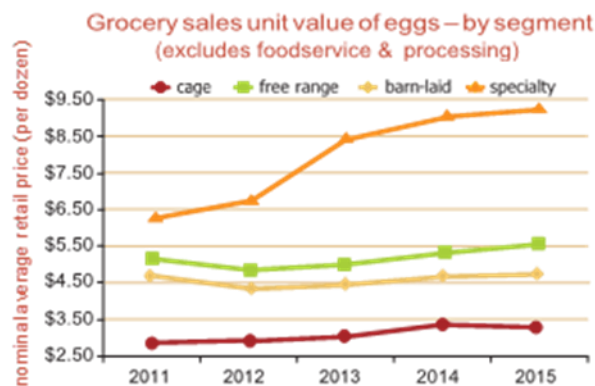
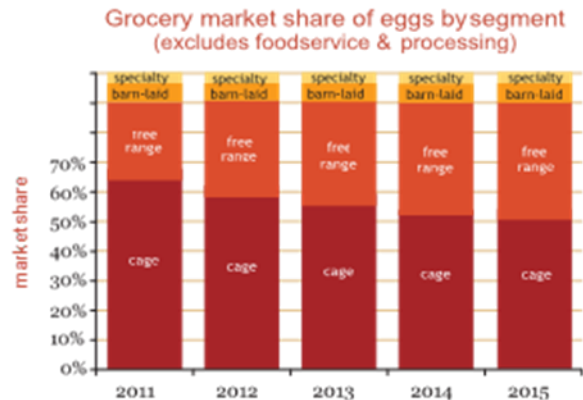
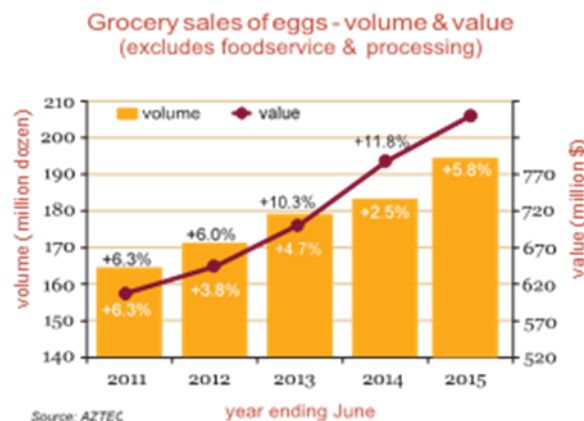
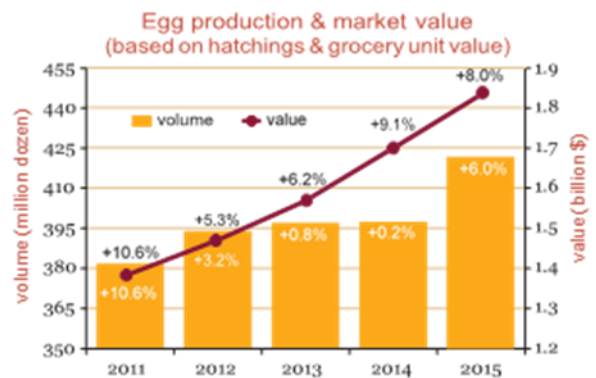
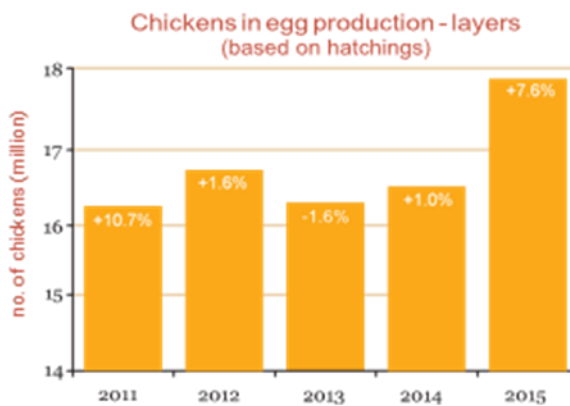
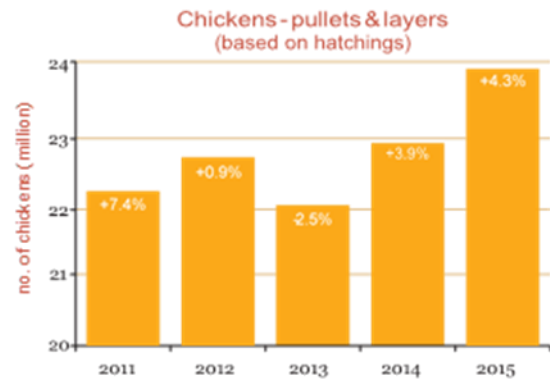
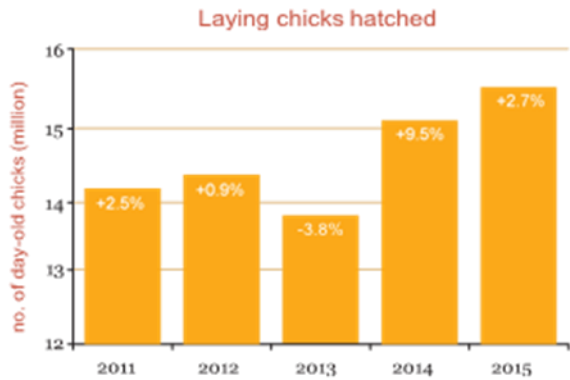
*I don't know much about Australia's egg industry myself – will I be able to teach it effectively?*

Yes! The unit is designed in such a way that the teacher is a co-learner and teachers are provided with teacher notes, plus the resources are mainly web-based and are readily available. Most importantly, teachers will find that they learn with their students and make discoveries with them.

## Teacher Notes: Egg Industry Profile (as at 30 June 2015)

Egg production – Australia: (Source: AECL)	421.3m dozen eggs – 2014/15 FY		
Flock size: (Source: AECL)	23.935m (pullets & layers) – as at June, 2015 17.820m (layers) – as at June, 2015		
State flock percentage as at June 2014: (Source: ABS, cat. no. 7121)	NSW/ACT:	31%	WA: 8%
	Queensland:	29%	SA/NT: 8%
	Victoria:	24%	Tasmania: 2%
Number of egg farms: (Source: ABS)	277 – as at June, 2013		
Gross value of egg production (farm gate equivalent): (Source: ABS, cat. no. 7503)	\$625.5m – 2013/14 FY		
Gross value of egg production (wholesale equivalent): (Source: ABS, cat. no. 7503)	\$709.6m – 2013/14 FY		
Gross value of egg production (grocery equivalent): (Source: AECL)	\$1.836b – 2014/15 FY		
Egg consumption: (Source: AECL)	221.3 eggs per capita (MAT) – 2014/15 FY 226.8 eggs per capita (spot) – as at June, 2015		
Grocery egg sales value: (Source: AZTEC)	\$846.1m – 2014/15 FY		
Grocery egg sales volume: (Source: AZTEC)	194.2m dozen – 2014/15 FY		
Grocery egg price (average): (Source: AZTEC)	Cage eggs:	\$3.31 per dozen – 2014/15 FY	
	Free Range eggs:	\$5.49 per dozen – 2014/15 FY	
	Barn-Laid eggs:	\$4.81 per dozen – 2014/15 FY	
	Specialty eggs:	\$9.22 per dozen – 2014/15 FY	
Grocery sales farming system market share: 2014/15 FY (Source: AZTEC)		Volume	Value
	Cage eggs	51%	39%
	Free Range eggs	39%	49%
	Barn-Laid eggs	8%	9%
	Specialty eggs	1%	3%
Grocery sales branding market share: 2014/15 FY (Source: AZTEC)		Volume	Value
	Private-label/generic labels	33%	28%
	Proprietary labels	67%	72%
Grocery sales pack size market share: 2014/15 FY (Source: AZTEC)		Volume	Value
	6 (half dozen) pack	6%	9%
	10 pack	2%	3%
	12 (dozen) pack	83%	79%
	15 pack	2%	2%
	18 pack	5%	6%
	30 (tray) pack	3%	2%
Grocery sales pack weight market share: 2014/15 FY (Source: AZTEC)		Volume	Value
	<= 350g	5%	8%
	351g – 600g	22%	21%
	601g – 700g	58%	54%
	701g – 800g	6%	7%
	>= 801g	10%	10%
Egg Product exports: (FOB equivalent) 2014/15 FY (Source: ABS)		Volume	Value
	Shell eggs	168mt	A\$0.588m
	Egg pulp/liquid	140mt	A\$0.398m
	Egg powder	3mt	A\$0.048m
Egg Product imports: (CIF equivalent) 2014/15 FY (Source: ABS)		Volume	Value
	Eggs preserved/cooked	233mt	A\$0.725m
	Egg pulp/liquid	485mt	A\$1.958m
	Egg powder	1,087mt	A\$10.630m





CY = Calendar Year (Jan to Dec)  
FY = Fiscal Year (Jul to Jun)  
b = billion

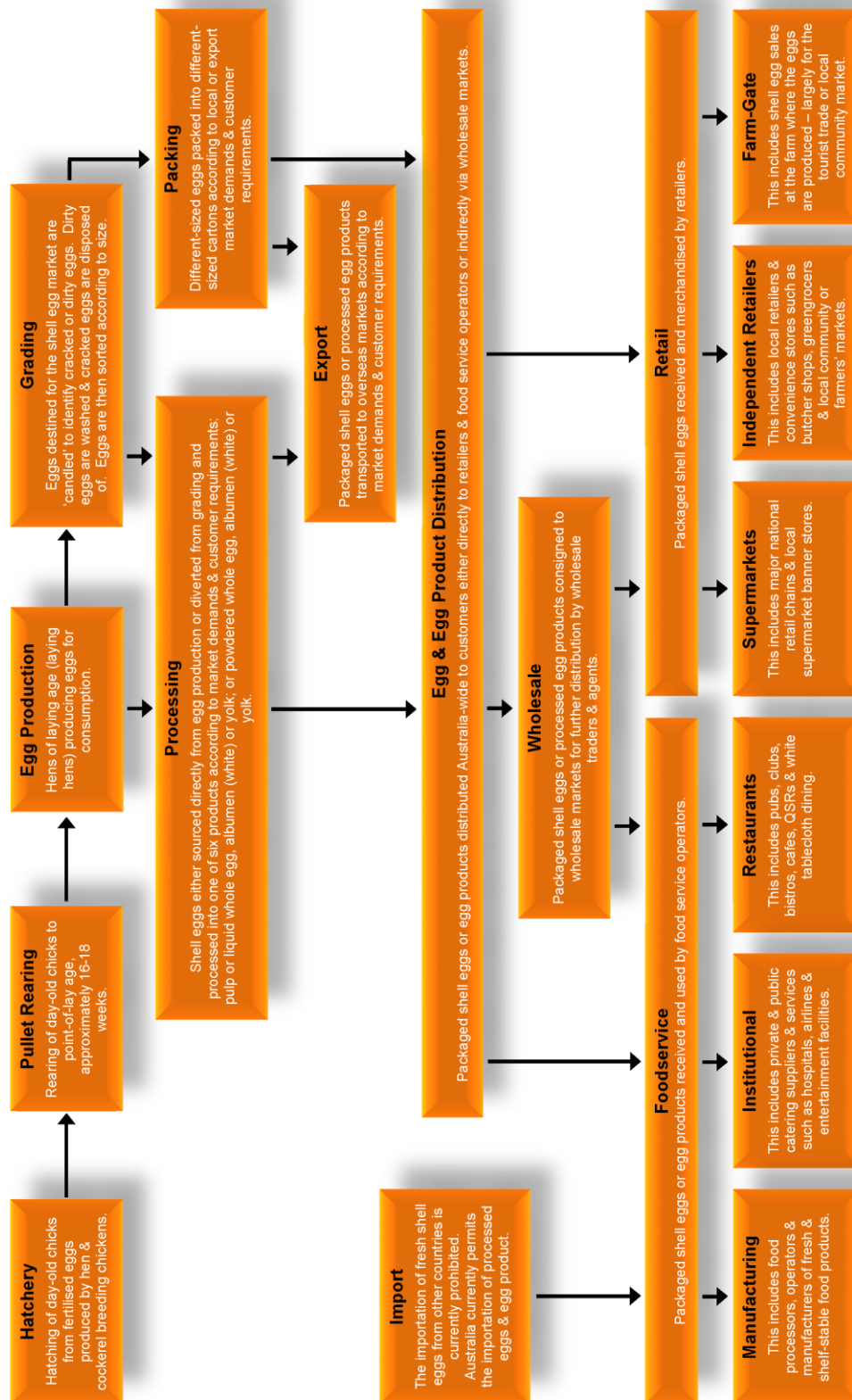
MAT = Moving Annual Total  
p = preliminary  
A\$ = Australian dollars

FOB = Free On Board  
CIF = Cost Insurance Freight  
g = grams

m = million  
mt = metric tonne  
% = percent

# Teacher Notes: Egg Industry Supply & Values Chain

## Egg industry supply & value chain



Source: AECL <https://www.aecl.org/dmsdocument/468>

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## Step 1: The essential question and scenario

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This learning sequence is underpinned by the work of Lee Crockett. It uses the *solution fluency* through six phases: Define; Discover; Dream; Design; Deliver and Debrief. The phases of the model are based on the 21<sup>st</sup> Century Fluencies created by Crockett *et al.* (2011).

The 21<sup>st</sup> Century Fluencies are outlined extensively in the book '*Literacy Is Not Enough*' by Crockett *et al.* (2011). See <https://globaldigitalcitizen.org/> and <https://www.youtube.com/watch?v=N8DEeR1sraA>

### The essential question:

What are the issues about sustainably and ethically produced and marketed eggs?

### The scenario:

The Australian Egg Industry is searching for schools to inform consumers about the production systems and production system claims used by egg farmers in Australia and the words used to label eggs.

Supermarket shelves have labels that represent eggs as produced by hens that are everything from 'caged', 'cage free', 'barn laid', 'organic' 'happy hens', 'free to roam', 'farm fresh' and 'free range' on their shelves.

Some packaging also shows images of hens roaming in open, unfenced pastures instead of, or in addition to a 'free range' label. These eggs are not observably different and all carry an egg stamp, typically a number or code so they can be traced back to the farm that produced them.

Small boutique farms, farmer's markets, community markets and roadside stalls typically have free range labelled eggs. These free range eggs are not observably different from cage or barn laid eggs. Sometimes these eggs may not carry an egg stamp and are sold in recycled cartons making it difficult to trace eggs back to the farm that produced them.

Overall all eggs, be they from a cage, free range or barn laid production system look the same yet they have been produced by vastly different systems and each has both advantages and disadvantages in relation to hen welfare, costs, efficiencies, environmental management and disease and predator management. Whilst the eggs may appear the same, some consumers are prepared to pay extra for how their eggs are produced. It is therefore important if egg farmers are charging more for their eggs that the eggs are produced in the way they are represented to the consumer.

Labels used on egg cartons can be confusing for consumers who are not familiar with how eggs are produced. While eggs are represented as being produced a certain way, they may be farmed under conditions that a consumer may not expect when they purchase them.

You're tasked with examining and critiquing the egg production systems, their ethical and sustainable practices, their claims and the tactics, wording and techniques used to market and label eggs and create a Newspaper in Education (NIE) feature article to educate consumers about the true commercial free range, barn laid and cage systems used in the production and marketing of eggs. You are also challenged with proposing at least 6 tips on ways to improve the labelling of eggs sold at supermarkets and farmer's markets.

You are required to share and explain their NIE feature article as part of an 'Ag Show', in which you explain the ways eggs are produced and marketed in supermarkets and farmer's markets, with 6 or more tips on ways to improve the labelling of eggs.

High, low and no tech options are available.

**High Tech:** You can write, produce and digitally create the Newspaper in Education (NIE) feature article using digital apps.

**Low Tech:** You can write, produce and create the Newspaper in Education (NIE) feature article using a standard computer, graphics and editing software.

**No Tech:** You can write, produce and create the Newspaper in Education (NIE) feature article using art materials, poster board and hand written information and drawings.

What kind of researcher will you be? What research can assist you develop deep understandings about how egg farmers produce, label and market eggs? What research can inform you about the advantages and disadvantages of each production system? What investigations can you undertake to discover more about how the production systems and labelling used, that could make greater distinctions between the types of production systems actually used to produce eggs?

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## Step 2: Define understandings

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**Objective:** Have students illustrate their understanding of the challenges set out in the scenario by providing an oral definition of the task.

**Capture student interest** and find out what they know about the way eggs are produced, marketed and labelled.

**Find out** what they know about what every hen needs in order to produce eggs. For example, all hens need to be of the appropriate age; adequate food, adequate water, adequate ventilation, stable social interaction, be free of pests and diseases, and be protected from predators etc.

**Talk** with students about Australian commercial egg farmers who supply eggs for domestic consumption and export, and small scale egg farmers who produce eggs for personal eating, recreation and some egg sales.

**Introduce** the term 'small scale egg farms' that typically are defined as producing less than 20 dozen of eggs a week for sale.

**Discuss** the three main production systems used by egg farmers in Australia, namely cage systems, barn systems and free range systems.

**Ask** students to source definitions of these terms.

**Introduce** new terms like 'furnished cages'/'enriched cages' and 'modified cages'.

**Create a Wordle** summarising what is known about types of egg production systems used by egg farmers in Australia. See <http://www.wordle.net/>

**Talk** with students about egg production in more detail. Discuss the many aspects involved including raising hens and producing eggs – providing them with food, water and shelter – looking after any health needs – managing nutrition – managing the behavioural needs of hens – managing breeding cycles – managing housing – managing water access – providing adequate ventilation – managing pests and diseases – managing the egg collecting, washing, grading, stamping and packing processes – managing food safety risks -reducing any bio-security risks – managing hen mortalities – maintaining healthy ground surfaces, nest and perches – maintaining the farm and its natural assets and managing the business.

**Form groups** and ask students brainstorm what is involved in producing, collecting, washing, grading, stamping, processing, packaging, distributing, marketing and retailing of eggs. Share the groups' ideas.

**Talk** about how Australian industries spend millions of dollars each year promoting their products. Often campaigns and programs are conducted in the belief that raising awareness of products, providing information about them and educating people to make informed decisions about their preferred choices will lead to increasing the demand for that product.

**Ask** students to discuss an advertisement, brand or label used to promote the consumption of a food type produced in Australia. Talk about the wording, tactics and techniques used by the producer, manufacturer or creative agency that may have been involved in creating the ad, brand or label.

**Delve deeper** and ask questions like:

- How was it marketed and made to look irresistible?
- What type of language was used to engage you in considering buying the product?
- What made it distinctive?
- Was it simple or complicated?
- Was its labelling important? Why or why not?
- Did it mention any nutritional value, and was this important?
- Did it include any mention of any environmental credentials, and was this important?
- Did it mention any ethical or animal welfare credentials?
- Did it make you feel something?
- Did it create an emotional connection?

**Ask** students to identify and record what facts they ‘read’ from the ad, brand or label and what ‘wider messages’ they might have conveyed.

**Ask** students to list 5 food related advertisements, brands or labels and describe the message that is being ‘sold’, identify the target audience for the ad, brand or label and analyse the strategies employed to deliver the message to that audience.

Ask students to record ideas in a table. For example:

What is being advertised?	What is the key message?	Who is the target audience?	What techniques are used?	Do you like the ad, brand or label? Why? / Why not?	Is the advertisement, brand or label effective?

**Ask** students to consider and discuss whether they think labelling that describes how eggs are farmed and produced is important? Why? or Why not? Does it matter?

**Talk** with students about responsible digital citizenship in online environments. Work with students to have them understand that during this unit they will be using a range of websites, gathering a range of opinions, so students need to continuously check that the research is correct by using reliable sites. Similarly discuss the use of free and open sources for images, and videos and the need to request the use of software and media others produce.

**Remind** students that there are high-tech; low-tech and no-tech options that they can consider when designing and creating their Newspaper in Education (NIE) feature article to educate consumers about the true commercial free range, barn laid and cage systems used in the production and marketing of eggs.

**Explore** a range of NIE feature articles for inspiration at <http://www.mercurynie.com.au/> and focus on their use of catchy titles, images and narratives. Select the 'Learning Posters' tab on the homepage toolbar to see a full suite of NIE features from 2009 - 2015.

**Invite** students to recall the focus of the task that the Australian egg farmers has invited them to undertake. See **Resource 1.1**

**Ask students** what they might need to know more about, in order to undertake the task set by the Australian Egg Corporation. Might they need to know something about the different production systems used by egg farmers? Might they need to know more about how each production system presents advantages and disadvantages? Might they need to research and evaluate the reasons for scientists, researchers and producers making claims about these advantages and disadvantages? Might they need to know something about the labelling used to market eggs? Might they need to know where to find information about the egg productions systems, egg labelling and whether claims are misleading or accurate? Might they need to know where to find information about each system's advantages and disadvantages? Might they need to understand something about consumer health preferences and their perceptions relating to hen welfare and hen health and environmental management? What might they have to do to create an accurate and educational NIE feature article? What tools, equipment and procedures might be needed? How might they evaluate their NIE feature article, its design and the information it communicates?

*Prerequisite for progression:*

Ask students to articulate their understanding of the task/challenge through oral conversation and if appropriate a written (scribed) statement. See Resource 1.2

Note: The Prerequisite for Progression are the checkpoints that occur at the end of each stage of the learning sequence. This is the time at which formative feedback is given to the students about what they have accomplished in that stage. It describes what the students must complete before they move onto the next phase of the unit. (Crockett, et, al, 2011)



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## Step 3: Discover

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**Objective:** Have students research, read, view, listen to, discuss, gather, organise ideas about egg production systems, their ethical and sustainable practices, their claims and the tactics, wording and techniques used to market and label eggs.

**Ask students** to consider the questions ‘What do all hens need to be productive?’; ‘What might the three main production systems used by Australian egg farmers include?’; ‘What might the advantages and disadvantages of each production system be in relation to ethical and sustainable practices?’; ‘How might production claims for eggs sometimes mislead consumers?’; ‘How might producers ensure they do not make misleading claims about the production system they use?’ and ‘How might the ways eggs are labelled and marketed become more accurate?’

**Capture students’ interest** and view a sample of website materials, videos, print materials and social media tools that cover various egg production systems, marketing and labelling topics.

**Examples** include: Pace Farms <http://www.pacefarm.com/index.php/our-products/egg-production-definitions> ; Sunny Queen Farms at <http://www.sunnyqueen.com.au/> ; Manning Valley Eggs at <http://www.manningvalleyeggs.com.au/> ; Ecoeggs at <http://www.ecoeggs.com.au/> ; Rohde’s Free Range Eggs <http://www.rohdesfreerangeeggs.com.au/>

**View** videos about the three main production systems used by egg farmers in Australia. See <http://csef.org.au/> > Resources > Videos > Production Systems

**Discuss** the three egg production systems and their individual features.

**Read** for information about each one. Locate the Australian Egg Corporation’s definition of each system on page 7 of its Strategic Plan at <https://www.aecl.org/assets/www.aecl.org/docs/AECL-Strategic-Plan-2012-2.pdf>

**Find** more detail on free range guidelines at the Australian Competition and Consumer Commission website. See [https://www.accc.gov.au/system/files/1029\\_Free%20range%20Eggs%20guidelines\\_FA.pdf](https://www.accc.gov.au/system/files/1029_Free%20range%20Eggs%20guidelines_FA.pdf) and <http://www.treasury.gov.au/ConsultationsandReviews/Consultations/2015/Free-range-egg-labelling>

**Discover** more about each system by reading the NSW poultry egg industry overview for 2015 at [http://www.dpi.nsw.gov.au/\\_data/assets/pdf\\_file/0010/578422/poultry-egg-industry-overview-2015.pdf](http://www.dpi.nsw.gov.au/_data/assets/pdf_file/0010/578422/poultry-egg-industry-overview-2015.pdf)

**Using** page 4 of the NSW poultry egg industry overview, find out about cage regulations and mandatory requirements to ensure cages comply with animal welfare standards.

**Go further** on page 5 and read about egg stamping and animal welfare issues and requirements.



**Discover** more information about the systems used by NSW largest poultry egg facility on page 11 and uncover details about each egg production system's requirements in NSW.

**Introduce** the *Model Code of Practice for the Welfare of Animals — Domestic Poultry 4<sup>th</sup> Edition* (Model Code) is a national code endorsed in 2002 by the Australian Commonwealth, state and territory, and New Zealand ministers for primary industries. Talk about the objective of the Model Code of Practice which aims to detail minimum standards for the welfare and production of layer hens in cage, barn and free range systems. Explain how the focus is on production systems and the needs of poultry rather than consumer expectations. Go further and outline how the code is only voluntary and states take key parts of the code and incorporate these into state laws and regulations. Discuss the implications of only these parts of the code being enforceable.

**Discuss** the recent changes to 'cage systems' introduced in the industry. Discuss how a new model code was introduced in 2007 and this was implemented into state welfare laws.

**Highlight** to the class that animal welfare is state responsibility and how the model code was developed nationally and then states and territories implemented it into state animal welfare laws. Talk about how this means some slight differences between states. For example, Queensland allows 10,000birds/ha for free range and ACT 1,500birds/ha in their regulations where other states do not have any stocking density regulations.

**Discuss** how cage space also changed with the introduction of the new model code. Talk about how cage space went from 450cm<sup>2</sup> to 550cm<sup>2</sup>, and how door sizes and cage height also changed making many older cages illegal.

**Introduce** production systems that use 'furnished cages' or 'modified cages' where cages have extra equipment for the hens including perches, nest boxes, a litter area and extra space to assist hens follow some of their natural instincts. Furnished cages are sometimes referred to as enriched cages. Read about them at <http://csef.org.au/> >Publications > Snapshots.

**Sketch and label** what a possible 'furnished cage' or 'modified cage' production system might look like.

**Talk** about whether labelling eggs produced in furnished and modified cages as 'caged' is an appropriate label and give reasons about why and why not.

**Reflect** on barn laid production methods where the barns in which hens are housed cater for all the hen's behavioural needs and also have climate controlled air conditioning, heating and misting devices to cater for all weather events. Talk with the students about whether the label 'barn laid' is adequate for these types of custom built barns.

**Investigate** how the changes the new model code influenced in industry. For example, most of the cages in the industry had to be replaced. Many producers moved to barn & free range at this time rather than replacing cages. Many cage producers also built climate controlled sheds when they replaced their cages.

**Ask** students to brainstorm and list the implications of these changes and discuss whether the new code would greatly improved hen welfare.

**Extend understandings** and explore the RSPCA standards for hens at <http://www.rspca.org.au/what-we-do/rspca-approved-farming-scheme/rspca-standards-layer-hens>

**Collate** ideas about the industry, its production methods and standards, and how these have changed over time using iThoughts, a mind mapping app or map ideas using a concept mapping technique.

**Discuss** the current definition of free range eggs as defined by law. For example; 'Eggs should only be labelled free range when eggs were produced by hens that have meaningful and regular access to an outdoor range, with an outdoor stocking density of 10,000 hens per hectare or fewer'. See <http://www.treasury.gov.au/ConsultationsandReviews/Consultations/2015/Free-range-egg-labelling>

**Analyse** the meaning of 'Meaningful access to the outdoors' and deconstruct and explain what this might mean.

**Talk** about situations where hens have access to outdoor open areas but choose not to go outside. Hens may also move in and out a number of times in a day. This means that a large number of birds access the range, but only a small number are on the range at any one time. Discuss whether this method of production could be described as free range.

**Introduce** a SWOT analysis. Talk about 'SWOT' being an acronym for **S**trengths, **W**eaknesses, **O**pportunities and **T**hreats and how a SWOT analysis can help identify vital areas to either emphasise or improve.

**Model** the use of a SWOT analysis using a locally relevant example.

**View** a range of videos about egg production systems and read a website report and a number of fact sheets to analyse whether the egg production system portrayed are committed to producing sustainable and ethically produced eggs using a SWOT analysis.

**Video 1** is about cage and free range systems <http://eggs.education/CageFR> .

**Video 2** is about a South Australian egg farmer and how he farms 1,500 hens per hectare <http://eggs.education/FR1500>

**Video 3 explores** more about the features of a free range production system that stocks 10,000 hens per hectare <http://eggs.education/FR10000>

**The Poultry CRC website** enables students to delve deeper into the options for housing and managing hens and read information about housing and managing hens sustainably. <http://eggs.education/CRCHousEnv>

**Fact sheets** located at <http://csef.org.au/> enable students to understand more about:

- Barn and Aviary Housing
- Free Range
- Furnished Cages
- Conventional Cages
- Hen Welfare

**Using Resource 1.3**, ask students to undertake a SWOT analysis and:

- Identify the strengths of the production processes.
- Identify the weaknesses of the production processes.
- Identify real opportunities that the production processes offer in terms of sustainable and ethically produced eggs.
- Identify real threats that might impact on industry's suggestions that they are committed to producing sustainable and ethically farmed eggs.

**Ask** students to clarify ideas and explanations and summarise these in written form.

**Go further** and read about how one producer who says cage-free systems are not the picture perfect that consumers might think at <http://www.abc.net.au/news/2015-10-05/eggs-chickens-free-range-national-standard-hens/6828532>

**Discuss** the points made by the producer and examine the challenges he describes that come with managing 36,000 free range hens including feather pecking, the inability to control diet and temperature, exposure to predators and diseases brought by other birds.

**Talk** about the word 'ethical'. How might the students describe an ethical way to raise hens and produce eggs? What might hens need to be raised ethically?

**Talk** about the word 'sustainability.' As a class, consider the differences between 'environmental sustainability', 'economic sustainability' and 'social sustainability'.

*For example: When an egg producer thinks of being economically sustainable, they might ask themselves a question like 'Are we sustainably profitable?'*

*When an egg producer thinks of being socially sustainable, they might ask themselves a question like 'Are we behaving in a way that the community supports us into the future?'*

*When an egg producer thinks of being environmentally sustainable, they might ask themselves a question like 'Are we maintaining our farms and the natural assets for future generations?'*

**Expand** the topic and talk about ethical marketing and labelling on eggs. Consider possibilities like small scale, large scale and commercial scale egg production. What might ethical and sustainable production look like, sound like and feel like?

**Delve deeper** and ask students to consider that building modern housing for hens is very expensive. It may take an egg farmer many years to get a return on this investment. If consumer expectations are changing quickly how can a farmer invest in new infrastructure and technology if they are not certain consumers will pay a premium for their eggs in the future.

**Ask** students to develop criteria explaining the standards they feel describe 'ethical and sustainable' production. Share these as a class.

**Build understanding** by sharing ideas and record things that the class would like to know more about on how egg farmers might address ethical and sustainable production on their farm and in their business.

**Encourage** students to revisit earlier videos or find additional examples of what actual egg farmers are doing to address ethical and sustainable production methods and bring their findings back to class. Share these to build a bigger picture of what is happening in the industry.

**Look** at the way eggs are labelled. Ask students to locate a range of labels. Examine and analyse these and talk about ‘truth in labelling’.

**Examine** which production claims are potentially the most ambiguous for consumers; ‘free range, barn laid or caged’?

**Discuss** whether any of the labels might mislead consumers? If so, how do they mislead the consumer? What tactics, tools, wording or imaging is used? What might be omitted?

**Consider** whether consumers have suffered any detriment due to any misleading production system claims for eggs. Similarly, consider any detriment producers and retailers may have suffered due to any misleading production system claims made by competitors. Delve deeper and consider if consumers buy cheaper eggs at a supermarket can expect the same production standards of high priced eggs at a farmers’ market.

**Revisit** the meaning of ‘truth in labelling’ and talk about whether the class thinks egg farmers would mislead consumers on purpose. If so, why might they do this?

**Talk** about the fact that no single definition of free range in relation to the labelling of eggs currently exists. Ask students to think about other products that they may buy at supermarkets and which terms may be legally defined and those that are not, e.g. fresh, lean, organic, grass fed, grain fed, wild caught, low fat, all natural, GMO Free, low carbon footprint, Australian made, hormone free, antibiotic free, fair trade, ethical, high welfare, and sustainable. Encourage students to think about and discuss why the term free range is receiving considerable community and government interest.

**Be informed by** what influences some consumers when they buy eggs. View the video ‘Your Eggs, Your Choice-Consumers have their say’ at <http://eggs.education/Choices>

**As a class**, consider if consumer expectations might have become impractical for large scale modern egg farming to produce eggs at the price consumers are prepared to pay.

**Ask each student** to share what their research has told them and what they still have to accomplish within the task with their peers, the teacher and family.

**Explore** issues raised using De Bono’s “Six Thinking Hats”. See **Resource 1.3.1**.

*Prerequisite for progression:*

Students have worked as a class, individually and in their groups and collected research on egg production systems; their ethical and sustainable practices; their claims; and the tactics, wording and images used to market and label eggs.

Websites, videos, images and stories are used to contextualise understanding. Students will share their ideas with peers, the teacher and family.



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## Step 4: Dream

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**Objective:** Have students imagine how they are going to design and create an NIE feature article to educate consumers about the true commercial free range, barn laid and cage systems used in the production and marketing of eggs, with at least 6 tips on ways to improve the labelling of eggs.

**Ask students** to form into their groups and visualise and discuss how they want to represent the material they have gathered from a visual and expository writing perspective. See **Resource 1.4**

**Ask questions** to stimulate the possible ways of designing and creating NIE feature. For example:

So what do you want to make the NIE feature article about?

How will you bring the topic alive for the readers?

How will you grab their attention?

What is it about this topic that you want everyone to know?

How will you use your ideas?

How will you approach writing feature article?

How will your feature inform and educate others about the true commercial free range, barn laid and cage systems used in the production and marketing of eggs?

**Develop possible solutions** by brainstorming all possible solutions.

**Invite** students to begin visualising their own work sample.

**Brainstorm the Web 2.0 tools** available today that might assist in creating the newspaper feature. Check out:

- Flickr [www.flickr.com](http://www.flickr.com) a database for images and videos
- PicArtia [www.makeuseof.com/dir/picartia](http://www.makeuseof.com/dir/picartia) where they can create photo mosaics
- NewsCred <http://www.newscred.com/> where an online newspaper can be created
- Fodey <http://www.fodey.com/generators/newspaper/snippet.asp> where a newspaper can be created and then downloaded to print out or place on a blog or site

**Encourage** the students to refine their next steps and clarify how their investigations will be conducted. For example:

In pairs, formulate possible lines of inquiry or investigation by:

- Listing and categorising all information related to their investigation under headings
- Producing a storyboard to draft ideas on
- Preparing a table to outline information that needs to be gathered, who is responsible, where they will seek information, and how it will be gathered.

**Challenge students** to think about the materials, tools, and equipment they will need to design to create a NIE feature to educate consumers about the true commercial free range, barn laid and cage systems used in the production and marketing of eggs, with at least 6 tips on ways to improve the labelling of eggs. Will they use digital or non-digital equipment and tools? How might they work safely and cooperatively? How might they appropriately source their images and information that are used to create the NIE feature article?

**Ask students** how they might evaluate whether their ideas for the NIE feature article and meet the original criteria of their task?

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*Progression for Learning:*

The students in their groups have chosen their key ideas for their NIE feature article. They have visualised and discussed how they want to represent the material from a visual and written perspective; and have answered the questions posed in the dream phase.

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## Step 5: Design

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**Objective:** Have students explain, prepare and action how they are going to design and create a NIE feature article to educate consumers about the true commercial free range, barn laid and cage systems used in the production and marketing of eggs, with at least 6 tips on ways to improve the labelling of eggs.

**Ask students** to decide on the type of topics they will bring to the forefront of the reader's attention.

**Invite students** to think about developing a project plan outlining the planning and production steps required to produce their NIE feature article.

**Talk** about the importance of a clear layout and design that makes it easy for an audience to understand and interpret the information given.

**Talk** about the importance of sourcing digital photos and information correctly.

**Talk about** ethical and respectful behaviour when using digital media in an online environment.

**Work with** students to help them understand appropriate digital citizenship and online behaviour and seek commitments to respecting themselves, others and intellectual property.

**Ask students** to draft the steps involved in making their chosen digital or non-digital work samples.

**Ask students** to gather the materials, tools, and equipment needed and then plan each step involved in creating the digital and/or non-digital work samples.

**Invite students to start creating** the documentary and accompanying script.

**Talk** with students about how they might share and present their NIE feature to an audience?

**Ask students** to explain how they plan to finalise and create their work samples to another peer in the class and seek feedback on their ideas.

### Progression for Learning:

Students are able to document in oral or written/digital forms how this project is to occur. The understanding is demonstrated by the students explaining their thinking to a peer in the class.



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## Step 6: Deliver - produce

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**Objective:** Have students deliver their NIE feature article to educate consumers about the true commercial free range, barn laid and cage systems used in the production and marketing of eggs, with at least 6 tips on ways to improve the labelling of eggs.

The Delivery phase has two stages – production and publication. In the production stage the project comes to life – this is the doing phase. At the end of this phase the publication/presentation of the design and create a NIE feature article to educate consumers about the true commercial free range, barn laid and cage systems used in the production and marketing of eggs, with at least 6 tips on ways to improve the labelling of eggs should be completed.

**Ask students to design and create** their NIE feature article to educate consumers about the true commercial free range, barn laid and cage systems used in the production and marketing of eggs, with at least 6 tips on ways to improve the labelling of eggs.

In the Publish phase, students get to showcase all of their thinking and planning. This is the time when students deliver their NIE feature articles to each other or an audience. This is a good time for peer or self-assessment.

**Ask students to share their** NIE feature article to educate consumers about the true commercial free range, barn laid and cage systems used in the production and marketing of eggs, with at least 6 tips on ways to improve the labelling of eggs to others for critique and assessment.

The following are suggested points to consider in each presentation:

- How much do the students know about the subject matter?
- How well have they used their chosen medium?
- What is unique or eye catching about their visual style?
- What concepts about the subject matter have they chosen to emphasize?
- Have they missed anything out?

**View** presentations of the students' NIE feature articles and enjoy a day of showcasing what has been discovered about commercial free range, barn laid and cage systems used in the production and marketing of eggs, and ways to improve the labelling of eggs.

### Progression for Learning:

Each student has produced a NIE feature article to educate consumers about the true commercial free range, barn laid and cage systems used in the production and marketing of eggs, with at least 6 tips on ways to improve the labelling of eggs. They have presented it to the class and have been given feedback.

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## Step 7: Debrief

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Objective: Assess the results of the research undertaken to produce the NIE feature article to educate consumers about the true commercial free range, barn laid and cage systems used in the production and marketing of eggs, with at least 6 tips on ways to improve the labelling of eggs.

Ask students to:

**Reflect** on their learning and all aspects involved in making the NIE feature article. Was it informative and educational? How do they feel they represented their research?

**Identify and describe** what the most surprising thing they learned about.

**Evaluate** their NIE feature and write about whether their work:

- matched the definition of the task
- used a clear layout and design, and
- informed others about the true commercial free range, barn laid and cage systems used in the production and marketing of eggs, with at least 6 tips on ways to improve the labelling of eggs.

**Ask questions** like “what would you do differently next time?”

**Write** about the quality of their planning, their finished article and whether they enjoyed the task.

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## Resource Pages for Students

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## Resource 1.1. Student Task Sheet

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### The essential question:

What are the issues about sustainably and ethically produced and marketed eggs?

### The scenario:

The Australian Egg Industry is searching for schools to inform consumers about the production systems and production system claims used by egg farmers in Australia and the words used to label eggs.

Supermarket shelves have labels that represent eggs as produced by hens that are everything from 'caged', 'cage free', 'barn laid', 'organic' 'happy hens', 'free to roam', 'farm fresh' and 'free range' on their shelves.

Some packaging also shows images of hens roaming in open, unfenced pastures instead of, or in addition to a 'free range' label. These eggs are not observably different and all carry an egg stamp, typically a number or code so they can be traced back to the farm that produced them.

Small boutique farms, farmer's markets, community markets and roadside stalls typically have free range labelled eggs. These free range eggs are not observably different from cage or barn laid eggs. Sometimes these eggs may not carry an egg stamp and are sold in recycled cartons making it difficult to trace eggs back to the farm that produced them.

Overall all eggs, be they from a cage, free range or barn laid production system look the same yet they have been produced by vastly different systems and each has both advantages and disadvantages in relation to hen welfare, costs, efficiencies, environmental management and disease and predator management. Whilst the eggs may appear the same, some consumers are prepared to pay extra for how their eggs are produced. It is therefore important if egg farmers are charging more for their eggs that the eggs are produced in the way they are represented to the consumer.

Labels used on egg cartons can be confusing for consumers who are not familiar with how eggs are produced. While eggs are represented as being produced a certain way, they may be farmed under conditions that a consumer may not expect when they purchase them.

You're tasked with examining and critiquing the egg production systems, their ethical and sustainable practices, their claims and the tactics, wording and techniques used to market and label eggs and create a Newspaper in Education (NIE) feature article to educate consumers about the true commercial free range, barn laid and cage systems used in the production and marketing of eggs. You are also challenged with proposing at least 6 tips on ways to improve the labelling of eggs sold at supermarkets and farmer's markets.

You are required to share and explain their NIE feature article as part of an 'Ag Show', in which you explain the ways eggs are produced and marketed in supermarkets and farmer's markets, with 6 or more tips on ways to improve the labelling of eggs.

High, low and no tech options are available.

**High Tech:** You can write, produce and digitally create the Newspaper in Education (NIE) feature article using digital apps.

**Low Tech:** You can write, produce and create the Newspaper in Education (NIE) feature article using a standard computer, graphics and editing software.

**No Tech:** You can write, produce and create the Newspaper in Education (NIE) feature article using art materials, poster board and hand written information and drawings.

What kind of researcher will you be? What research can assist you develop deep understandings about how egg farmers produce, label and market eggs? What research can inform you about the advantages and disadvantages of each production system? What investigations can you undertake to discover more about how the production systems and labelling used, that could make greater distinctions between the types of production systems actually used to produce eggs?

## Resource 1.2. Define

Submit a written definition of the challenges you are to undertake.

This image shows a full page of white paper with horizontal dotted lines. The lines are evenly spaced and run across the width of the page, providing a guide for handwriting practice. There are no margins, text, or other markings on the page.



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## Resource 1.3. Discover

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In this stage, the research and digging begins. This involves obtaining the background information that gives the problem its context, and identifying what you need to know and what you need to be able to do to solve the problem.

### Links for Research and Reference

Australian Egg Corporation Strategic Plan

<https://www.aecl.org/assets/www.aecl.org/docs/AECL-Strategic-Plan-2012-2.pdf>

Australian Competition and Consumer Commission Enforcement Guidelines – free range hen claims

[https://www.accc.gov.au/system/files/1029\\_Free%20range%20Eggs%20guidelines\\_FA.pdf](https://www.accc.gov.au/system/files/1029_Free%20range%20Eggs%20guidelines_FA.pdf)

NSW Poultry Egg Industry Overview for 2015

[http://www.dpi.nsw.gov.au/\\_data/assets/pdf\\_file/0010/578422/poultry-egg-industry-overview-2015.pdf](http://www.dpi.nsw.gov.au/_data/assets/pdf_file/0010/578422/poultry-egg-industry-overview-2015.pdf)

Council for Sustainable Egg Farming <http://csef.org.au/> > Resources > Videos > Production Systems and <http://csef.org.au/> > Publications > Snapshots

Picture – perfect images of ‘free range’ hindering creation of realistic national egg standard, says egg producer

<http://www.abc.net.au/news/2015-10-05/eggs-chickens-free-range-national-standard-hens/6828532>

RSPCA Standards <http://www.rspca.org.au/what-we-do/rspca-approved-farming-scheme/rspca-standards-layer-hens>

### Links for the SWOT Analysis

Egg Corporation YouTube Channel, Cage eggs or free range?

<https://www.youtube.com/watch?v=jsJzU3-q0VM>

Australian egg farmer profile: John Rohde <https://www.youtube.com/watch?v=5NRZaiZ9EnM>

Australian egg farmer profile: Dion Andary

<https://www.youtube.com/watch?v=BQDZJ679PNE>

Poultry CRC <http://www.poultryhub.org/production/husbandry-management/housing-environment/>

Council for Sustainable Egg Farming <http://csef.org.au/>

## SWOT Analysis

What do you think are:

- The strengths of the production processes used by egg farmers in Australia.
- The weaknesses of the production processes.
- The real opportunities that the production processes offer in terms of sustainable and ethically produced eggs.
- The real threats that might impact on industry's suggestions that they are committed to producing sustainable and ethically farmed eggs.

## Resource 1.3.1. De Bono's Six Thinking Hats

Explore the issues you uncovered about the ethical and sustainable production and marketing of eggs. Use the six thinking hats below to think through the issues according to each coloured hat and the question asked.

<p><i>Red Hat</i></p> <p><b>Feelings</b>  <i>What are the emotions and feelings associated with how eggs are produced and marketed? How do you feel about this?</i></p>	<p><i>White Hat</i></p> <p><b>Information</b>  <i>List the facts that you know about with how eggs are produced and marketed?</i></p>
<p><i>Blue Hat</i></p> <p><b>What thinking is needed</b>  <i>What has happened so far?</i>  <i>What should happen next?</i>  <i>What questions should we consider?</i></p>	<p><i>Green Hat</i></p> <p><b>New ideas</b>  <i>How could the problems related to egg production and marketing systems be solved? What needs to be done?</i></p>
<p><i>Black Hat</i></p> <p><b>Weaknesses</b>  <i>What are some of the negative aspects and outcomes of seeking new ways to produce and market eggs?</i></p>	<p><i>Yellow Hat</i></p> <p><b>Strengths</b>  <i>What are some of the positive aspects and outcomes of seeking new ways to produce and market eggs?</i></p>

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## Resource 1.4. Dream

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This is where you use the knowledge you've gathered to visualize a creative and appropriate solution. This is a whole-mind process where we imagine what the solution will appear like as it would in the future. Instead of asking "why" we ask "why not." The question of "what's the worst that could happen" becomes "what's the best that could happen."

Consider the many possible ways egg farmers produce eggs; how each production system has advantages and disadvantages in relation to hen health and well-being; the environment; social perceptions and values about egg production; sustainability; and practical and economic considerations; and how the production systems and management techniques used can become more sustainable.

What will you make your NIE feature article about?

How will you bring the topic alive for readers?

How will you grab their attention?

What is it about this topic that you want everyone to know?

How will you use your ideas?

How will you approach writing your draft feature article?

How will your feature article inform, educate, inspire thought and perhaps action?

*This is your chance to make a truly educate consumers about the way eggs are produced and marketed!*

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## Resource 1.5. Design

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Commence by establishing your desired outcome; then visualise the various steps necessary to achieve the visualized solution in measurable, achievable steps.

Prepare a project plan to outline information that needs to be gathered, who is responsible, and where they will seek information from, how it will be gathered. The plan should also include identifying the materials, tools and equipment and planning and production steps required for making the NIE feature article. For example:

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## Resource 1.6. Deliver

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This stage is the process by which the dream becomes a reality. It's where you actually implement the design to complete the solution to the problem in two separate steps: Produce (actually creating the solution in its working format), and Publish (applying the NIE feature article in an effort to solve the problem).

Write the introduction:

Write the body:

Write the conclusion:

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## Resource 1.7. Debrief

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### Self-Assessment – Things to improve

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## Resource 1.8. Egg Carton Label Guidelines

