

Exploring New Zealand Forestry

WHEN AND WHY DID NZ FORESTRY BECOME SO LARGE?

- Did students know that there are two main types of forests that cover vast amounts of New Zealand's landscape? Challenge students to find the meaning of indigenous and exotic – names given to these two types of forests. Introduce the word 'native' as another word used to describe our indigenous forests.
- As a class visit <https://teara.govt.nz/en/exotic-forestry> 'Story Summary' section of the above website to discover:
 - the reasons why we planted so many exotic forests
 - the effects forestry had on our native forests
 - the advantages of planting exotic trees – especially radiata pine
 - why the Kaiangaroa region was chosen for a large forest
 - who planted the forests and when they were planted
 - when they had grown big enough to be harvested.
- Assign one group to each of the 'Exotic Forestry' story 5 sections for detailed group research and have each group report back their findings to the class: **eg**
 - the advantages that radiata pine brought to forestry
 - the working conditions of the planters
 - what was discovered by the extensive forestry research
 - why there were conflicts about forestry ownership
 - how and why the government restructured the industry
 - current ownership and control of forestry today.
- Use Google Earth to 'fly to' several of the towns and forests.

UNDERSTANDING FORESTRY – AN OVERVIEW

www.mpi.govt.nz/about-mpi/corporate-publications/

- Use the (Situation and outlook for primary industries (SOPI) pdf for class discussion to help students discover the importance of the forestry industry to New Zealand – both now and in the future: Focus on:
 - how large the forestry industry is and the amount of money forestry exports make per year
 - what trends do the tables and graphs show?
 - what does 'forestry exports' mean and what products are we actually selling?
 - identify the countries we export our forestry products to
 - the predictions for our forestry industry in the future.

PRE FIELD TRIP RESEARCH – TAKE THE QUIZ

<http://www.learnz.org.nz/primaryindustries172/bg-standard-f/forestry>

- Have individual students (or groups) conduct more detailed research at the above website to discover:
 - the problems of using native trees for timber and the advantages of using exotic trees
 - reasons why pinus radiata make the best planted forests
 - the wood products New Zealand exports
 - the ways forestry researchers support the industry
 - environmental benefits of forestry.
- Have each student take the quiz at the bottom of the page and review their quiz answers after completion.

Technology, Science, Social Sciences, Health & English-based
Teaching Unit for Yrs 5-10 brought to you by ...

Ministry for Primary Industries
Manatū Ahu Matua



www.mpi.govt.nz

Indicative Learning Outcomes: Technology; Science; Social Sciences; Health

- understanding the history and importance of our forestry industry and the reasons why it makes such a large economic contribution to our economy.
- discovering why the majority of forests are planted in pinus radiata, the wood products we export, and the environmental contribution of forestry.
- identifying the advantages LVL has over other timber products, how it is made and why it is in such high demand in New Zealand and overseas.
- discovering why pine is mostly grown on steep land and the steps that are taken to keep our pine trees healthy.
- identifying the steps we take to keep our trees predator and disease free.
- understanding and identifying the hazards and risks of forestry and the steps that are being taken to build a safety culture for forestry workers.
- discovering the technology used in forestry, why it is used and how new technology is making forestry a safer more productive industry.

Most suitable to promote World Environment Day and Arbor Day/Week – 5 June



INTRODUCING THE LEARNZ MPI FIELD TRIP AT:

<http://www.learnz.org.nz/primaryindustries172/videos>

- Play and discuss the introduction to the Nelson primary industries virtual field trip to the class. Discover what primary industries are and which ones will be visited. Emphasise that when the four forestry videos are played, students should focus on how technology in this industry is used to help the New Zealand forestry keep up with the rest of the world, or in many cases, lead the rest of the world.

TAKING THE LEARNZ MPI FIELD TRIP

<http://www.learnz.org.nz/primaryindustries172/videos>

- As individuals, groups or full class shared reading, have students take one or more of the four forestry field trips and report findings back to the class. Prior to the trip, provide the following to focus main student learnings for each video.

Video One - Pine – a Versatile Timber Product

- reasons why people are wearing hi-vis jackets and helmets
- reasons pine is so popular for forestry in New Zealand
- advantages that LVL (Laminated Veneer Lumber) has over other timber products.

Our Third Largest Primary Industry

Video Two - Maintaining a Productive Forest

- why pine trees are grown on steep land
- steps taken to ensure pine trees are kept healthy
- how technology is used to manage the forests and how technology has made it safer for forestry workers.

Video Three - Making LVL – Laminated Veneer Lumber

- the steps taken for making LVL
- what makes LVL much stronger than other timber products
- reasons why and how LVL is being used in schools.

Biosecurity for Timber Exports

- other timber products exported from Nelson and to where?
- reasons why care is taken to keep all exports clean/safe
- why there is such a high demand for LVL and how strong it is compared to steel
- what is the future for LVL and MDF products.

HEALTH AND SAFETY IN THE OUR FORESTRY INDUSTRY

<http://www.mpi.govt.nz/growing-and-harvesting/forestry/taking-care-of-your-forest/forestry-health-and-safety/>

- How safe do the students think working in forestry is compared to other industries? What injuries could a forestry worker sustain and what could cause these injuries? Visit the above website to confirm that forestry is one of our most dangerous industries. Discuss figure and trends at:

<https://safetree.nz/wp-content/uploads/2017/12/Sep-17-Dashboard.pdf>

- Work through the seven sections of the 'Management of risks and hazards' at ...

<http://www.nzffa.org.nz/farm-forestry-model/the-essentials/health-and-safety/small-scale-forestry-safety-guidelines/>

to discover the health and safety hazards and risks that need to be controlled and managed when working in a forest. Have groups discuss and choose between 5-7 of the risks or hazards they believe are the most serious and report back with justification for their choices. Include steps workers/managers can take to help prevent injuries happening.

<https://safetree.nz/resources/safety-culture-resources/>

- Have the class visit the above website to discover how forestry company Blakely Pacific has really improved their safety record. Have students discuss the 12 essential elements in the poster, then read watch what they say about the importance of building about safety culture.
- Introduce the idea that displaying posters with safety messages in their meeting areas, would be a good way to get these messages out to the forest workers.



Keeping workers inside machines dramatically improves their safety

- Have groups design 'posters with impact' for several of the risks or hazards previously identified. Students evaluate effectiveness of their posters (**eg** 1 message, high contrast; few colours...). Display posters in classroom/around school.

Use the two following Youtube videos to teach students about the 'Whats and Hows' of effective poster making.
<https://www.youtube.com/watch?v=wNS2RXqFlrI>
<https://www.youtube.com/watch?v=f72e4GT6QqM>

FURTHER RESEARCH TOPICS AND ACTIVITIES

- Celebrate UN International Day of Forests on **21 March**. Visit: www.un.org/en/events/forestryday to discover what makes forestry important world-wide and different from country to country
- Discover benefits and safety features of a new machine built for 'steepland' harvesting: Visit: www.mpi.govt.nz Type **steeplands harvesting** into Search Box. Watch/ videos of the ClimbMAX Steep Slope Harvester in action at: <http://www.climbmax.co.nz>
- Conduct research on forestry pests and diseases at: www.mpi.govt.nz Type **'forestry pest and disease management'** into Search Box. Groups report back on effects of and methods of control of one or more pests and diseases that can affect our forests, **eg** myrtle rust, eucalyptus beetle ...
- Introduce the idea that pest plants (weeds), many escaping from gardens, farmed lands and forests, are a major problem. To identify these weeds and how we can help, Visit: www.weedbusters.org.nz/get-involved Involve a local DOC ranger in planning regular visits to local forest, bush & park areas to identify pest plants. Sign your class up to <http://naturewatch.org.nz> to help them collect more data on where these weeds are and discover actions we can take to control them.

Te Ao Tūroa

Bring key primary sector systems alive in your classroom

Te Ao Tūroa provides information, virtual experiences and activities focussed on three systems that underpin the primary sector:

- Animal Welfare
- Biosecurity
- Food Production

Resources are linked to social studies, science, and technology.

<https://www.mpi.govt.nz/news-and-resources/teacher-resources>

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