

# Kea Unit Levels 1 - 4

## Values to be encouraged, modelled and explored.

Inquiry, curiosity, community and participation, ecological sustainability, integrity, respect

## Key Competencies

Thinking, Participating and contributing, using language, symbols and texts.

## Key Ideas Overview

*(These ideas could be linked to levels 1, 2, 3 and 4 in progression, or entered at any level if used in progression. They are guidelines; it is up to the teacher to decide where their class would best fit and which activities to use. There may be duplication of activities: these can be adapted according to curriculum emphasis desired).*

## Themes

### **I am unique. (L.1)**

Kea biology, including physical features and adaptation to environment, breeding.

### **This is my home - my ideal home. (L.2)**

Biodiversity of mountain to sea, interdependence of species, kea place in food chain (e.g. predators of shearwaters)

### **People came with unfriendly friends. (L.3)**

Kea issues - sheep, lead, 1080/toxins, feeding, human persecution, negative perceptions, predation.

### **Now you need to help me because I can't help myself any more (L.4)**

Mitigation measures; how children can help.

# Level 1: Getting to know Kwizzy and Zea Kea

Curriculum Area	Learning Outcomes	Activities
<b>English</b> LRV	<p><b>Processes and Strategies:</b> Acquire and begin to use sources of information, processes and strategies to identify, form and express ideas.</p> <p><i>Indicators: Uses sources of information and prior knowledge to make sense of a range of texts.</i></p> <p><i>Is developing the ability to think critically about texts.</i></p>	<p>Listening to stories such as Mia the Kea, Charlie the Cheeky Kea.; watching videos of kea from KCT website.</p> <p>Listing kea characteristics from what they have heard/seen.</p> <p>Introduce Kwizzy and Zea kea. Listing words to describe their appearance.</p>
<b>The Arts</b>	<p><b>Drama:</b> Contribute and develop ideas in drama, using personal experience and imagination..</p> <p>Share drama through informal presentation and respond to ways in which drama tells stories and conveys ideas in their own and others work.</p>	<p>Acting out being Kwizzy and Zea individually and in pairs doing kea things - flying, pulling up roots, finding grubs in logs, playing, hopping, jumping,</p> <p>Make sound pictures of the mountain environment: wind, streams, rain, snow, sunshine, people recreating.</p>
<b>Maths and Stats</b>	<p><b>Geometry:</b> Shape - sort objects by their appearance</p> <p><b>Statistics:</b> Investigation - conduct investigations using the statistical enquiry cycle:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Posing and answering questions</li> <li><input type="checkbox"/> Gathering, sorting and counting, and displaying category data</li> <li><input type="checkbox"/> Discussing the results.</li> </ul> <p><b>Life Processes:</b></p> <p>Recognise that all living things have certain requirements so they can stay alive.</p> <p><b>Ecology:</b></p> <p>Recognise that living things are suited to their habitat.</p>	<p>Series of birds - pick out kea and count (<i>Worksheet # 1</i>)</p> <p>Match pairs of kea in variety of actions - flying, playing, feeding. (<i>Worksheet # 2</i>)</p> <p>Simple graph - cut and stick identical kea in circles and/or bar graph (<i>Worksheet # 3</i>)</p>
<b>Science</b> Living World:	<p><b>Life Processes:</b></p> <p>Recognise that all living things have certain requirements so they can stay alive.</p> <p><b>Ecology:</b></p> <p>Recognise that living things are suited to their habitat.</p>	<p>Select what would be in a kea home. Cut and stick onto forest/mountain background.</p> <p>Choose from set of small pictures. (<i>W/S # 4</i>) Select from a range of food pictures which would be good food for kea (<i>W/S # 5</i>)</p> <p>Watch video on KCT website.</p>

# Level 2: Meet Kwizzy and Zea Kea's friends and home

Curriculum Area	Learning Outcomes	Activities
<p><b>English</b> LRV</p>	<p><b>Processes and Strategies: Select and use sources of information, processes and strategies to identify, form and express ideas.</b> <i>Indicators: Thinks critically about texts with some confidence</i></p> <p><b>Ideas: Show some understanding of ideas within, across, and beyond texts:</b> <i>Indicators: Uses their personal experience and world and literacy knowledge to make meaning from texts.</i></p>	<p>Introduce Kwizzy and Zea kea or refresh knowledge of them. Listing words to describe their appearance.</p> <p>Revisit the stories of Level 1, looking at the environment around the kea - class list things they can see in the pictures. Follow-up with the video, and write a list of words to describe the kea environment.</p>
<p><b>SWP</b></p>	<p><b>Processes and Strategies: Select and use sources of information, processes and strategies with some confidence to identify form and express ideas.</b> <i>Indicators: Shows some understanding of the connections between oral, written, and visual language when creating texts.</i></p> <p><b>Ideas: Select, form and express ideas on a range of topics.</b> <i>Indicators: Forms and expresses ideas and information with reasonable clarity, often drawing on personal experience and knowledge</i></p>	<p>Compare their home with the kea home, and discuss why they are different. Make a class comparison chart and illustrate.</p> <p>Making diamond poem about kea, focusing on descriptive words for its home. (W/s # 6)</p> <p>Write own stories with kea as central characters.</p> <p>Make expressive words like <b>snow, mountain, cold, fly, wing</b> look like what they describe.</p> <p>Write a letter to Kwizzy or Zea about their mountain home asking questions.</p> <p>Write stories about being a kea and what they need to live in their home.</p> <p>Wordsearch (W/s # 7)</p>

<p><b>The Arts</b></p>	<p><b>Drama:</b> Explore and use elements of drama for different purposes.</p> <p>Develop and sustain ideas in drama, based on personal experience and imagination.</p> <p><b>Visual Arts:</b> Investigate and develop visual ideas in response to a variety of motivations, observations and imagination.</p>	<p>Build on the activities at Level 1: Make plays of conversations between kea who want to find a place for a nest, or share a game, or find a good food source such as a celmisia field, or drive away an annoying seagull.</p> <p>Introduce other forest dwellers interacting with kea - making stories of their 'conversations.'</p> <p>Discuss what is in the kea forest home and create a class or group mobile of flying creatures poised above a table with model forest and mountains; kea dominating.</p>
<p><b>Maths and Stats</b></p>	<p><b>Numbers and Algebra:</b> Patterns and relationships.</p> <p>Find rules for the next member in a sequential pattern.</p> <p><b>Statistics:</b> Statistical Investigation</p> <p>Conduct investigations using the statistical enquiry cycle:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Posing and answering questions</li> <li><input type="checkbox"/> Gathering, sorting and displaying category and whole-number data</li> <li><input type="checkbox"/> Communicating findings based on the data</li> </ul>	<p>Anticipate the next native bird or other forest dweller in a repeated sequence, or the next action a kea will be doing. (<i>Worksheets # 8</i> )</p> <p>From a w/s selection, make a Venn diagram of kea food, human food.</p> <p>Discuss any overlap. (<i>W/s # 9</i> )</p> <p>Similarly with what would be in the forest compared to what would be in town. (<i>W/s # 10</i>)</p>
<p><b>Science</b></p> <p><b>Living World:</b></p>	<p><b>Life Processes:</b> Recognise that all living things have certain requirements so they can stay alive.</p> <p><b>Ecology:</b> Recognise that living things are suited to their habitat.</p>	<p>Build on the activities in Level 1: Make a class mural of the mountain environment.</p> <p>Add captions that outline features that enable the kea to live in the mountains - curiosity, beak, claws, feathers, intelligence, sociability. Compare with a kiwi and its needs and environment. Could they share an environment? (Research should reveal that some kiwi do share the kea environment at places such as Arthurs Pass, Okarito, Haast). What other birds and insects can survive in the mountains?</p> <p>Unique Kea (W/s # 11) True or False (W/s # 12)</p>

<b>Social Studies</b>	Understand that people have social, cultural and economic roles, rights and responsibilities as part.	Update the class code of kea care on template provided - individual or small group projects, illustrated. Send to Kea Conservation Trust to be put online. (W/S # 13 ) Extend it to the flora and fauna of the kea habitat.
<b>Technology</b>	<p><b>Nature of Technology: Characteristics of Technology:</b></p> <p>Understand that technology both reflects and changes society and the environment and increases people's capability.</p>	<p>How high do kea live? Look at simple altitude measures - e.g. sea level to mountain.</p> <p>Where do the children live on the scale? Do their vehicles have altimeters on them? Why?</p> <p>What other transport systems rely on altimeters? (aviation)</p> <p>What would they need to live at the kea altitude?</p>

## Level 3: Kwizzy and Zea Kea have things to deal with that are not friendly.

Curriculum Area	Learning Outcomes	Activities
<p><b>English LRV</b></p> <p><b>Processes and Strategies:</b>  <b>Integrate sources of information, processes and strategies to identify, form and express ideas.</b>  <i>Indicators: Thinks critically about texts with some confidence</i></p> <p><b>Purposes and Audiences:</b>  <b>Show a developing understanding of how texts are shaped for different purposes and audiences.</b>  <i>Indicators: recognises and understands how texts are constructed for a range of purposes, audiences and situations.</i>  <i>Identifies particular points of view and begins to recognise that texts can position a reader.</i>  <i>Values the reliability and usefulness of texts with increasing confidence.</i></p> <p><b>SWP</b>  <b>Integrate sources of information, processes and strategies with developing confidence to identify, form and express ideas.</b></p>	<p>Field trip to a kea environment if possible. Use digital photos to create class story on return, focussing on the kea natural environment and interactions with humans children observed.</p> <p>AND/OR</p> <p>Visit wildlife park with kea in captivity. Compare its captive environment with their natural one. How have the keepers tried to make it like their natural home? Why? Photo board at school as above.</p> <p>Write letters to the park or kea about how the children feel about seeing them in captivity.</p> <p>AND/OR</p> <p>Invite a DOC or KCT person who works with/for kea to talk to class. Have questions prepared to ask them (including Social Science below).</p> <p>Make a presentation to the class or other classes or other audiences about the kea, background, and the human impacts on the population.</p> <p>Research and discuss material that deals with: (would form the basis of questions for visiting expert)</p> <p><input type="checkbox"/> The introduction of pests to NZ and their impact on the native species and</p>	

	<p><i>Indicators: Uses a developing understanding of the connections between oral, written, and visual language when creating texts</i></p> <p><i>Creates a range to texts by integrating sources of information and processing strategies.</i></p> <p><b>Ideas</b></p> <p><b>Select, form and communicate ideas on a range of topics.</b></p> <p><i>Indicators: Forms and expresses ideas and information with reasonable clarity, often drawing on personal experience and knowledge</i></p> <p><i>Adds or changes details and comments to support ideas showing some selectivity in the process.</i></p> <p><i>Ideas suggest awareness of a range of dimensions or viewpoints.</i></p>	<ul style="list-style-type: none"> <li>□ kea particularly, and breeding threats specifically.</li> <li>□ The implications of 1080 and other human attempts to deal with pests.</li> <li>□ Other human impacts on kea - lead, food, perceptions, sheep (historical bounty).</li> <li>□ The kea place in the food chain - e.g. predating on shearwaters in Kaikoura</li> </ul> <p>Range, or possums predating their nests.</p> <p>(Other sources would include online videos and information from KCT, wider research material, and texts that are available. - see list included at end of this material)</p> <p>Write pretend letters to the people who introduced stoats and possums to NZ outlining the problems they brought.</p> <p>Write own stories with kea as central characters: share with other classes. Send to KCT.</p> <p>Matching Vocabulary (W/s # 14)</p>
<p><b>The Arts</b></p>	<p><b>Drama: Developing ideas</b></p> <p>Initiate and develop ideas with others to create drama.</p> <p><b>Visual Arts: Developing Practical Knowledge</b></p> <p>Explore some art-making conventions, applying knowledge of elements and selected principles through the use of materials and processes.</p>	<p>Dramas about kea life including: nesting, predator attack, interactions with humans - cars, food, boots, tents, lead threats.</p> <p>e.g.</p> <ul style="list-style-type: none"> <li>• Take roles of humans and kea - members of public, DOC Ranger, trumper, etc.</li> <li>• Set up imaginary campsite, and make role play of kea visiting: how to kea proof tent, car etc.</li> <li>• Tell a kea not to eat lead on roof, or kea telling house owner to get rid of the lead.</li> <li>• 'Interview' each other taking on the various roles</li> </ul> <p>Researching and making a kea kite, keeping colours true to nature.</p>

<p><b>Maths and Stats</b></p>	<p><b>Number and Algebra; Number Knowledge</b> Know fractions and percentages in everyday use.</p> <p><b>Statistics: Statistical Investigation</b> Conduct investigations using the statistical enquiry cycle:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Gathering, sorting, and displaying multivariate category and whole-number data, and simple time-series data to answer questions:</li> <li><input type="checkbox"/> Identifying patterns and trends in context, within and between data sets;</li> <li><input type="checkbox"/> Communicating findings, using data displays</li> </ul>	<p>Gather research statistics from DOC or KCT staff and website and make presentations to class to show data indicating trends ( using %, graphs, etc.) of kea populations. Make projections of what will happen in the future if the trends continue.</p>
<p><b>Science Living World</b></p>	<p><b>Ecology:</b> Explain how living things are suited to their particular habitat and how they respond to environmental changes, both natural and human-induced.</p>	<p>Consider data as in statistics above, and draw conclusions as to what is effecting the kea population. Discuss what needs to change to help the kea.</p> <p>Board Games 1 and 2 The Truth About Kea (W/s # 15)</p>
<p><b>Social Studies</b></p>	<p>Understand how people view and use places differently. Understand how people make decisions about access to and use of resources.</p>	<p>Ensure when KCT field worker etc. comes in to talk that children question about their work. (see English, maths and stats above) Take photos and make a power point or other digital presentation to show other classes.</p> <p>Talk to DOC ranger about how they make sure that the environment is protected. What other species need special attention? Access DOC websites for further information.</p>

## Technology

### Nature of Technology:

#### *Characteristics of Technology*

Understand how society and environments impact on and are influenced by technology in historical and contemporary contexts and that technological knowledge is validated by successful function.

#### *Characteristics of technological outcomes*

Understand that technological outcomes are recognisable as fit for purpose by the relationship between their physical and functional natures.

Above KCT visitor introduces children to a GPS and are shown how it is used in kea and other wildlife conservation work.

Revisit altimeters - investigate as a class how altitude is measured.

Use maps to work out where the kea live and their altitude range

Investigate what special adaptations technology has made to allow people to live, work and play in the kea environment (Arthurs Pass Village, Skifields) - buildings, clothing, heating, transport, including how to kea proof their gear.

# Level 4: Kwizzy and Zea Kea need our help

Curriculum Area	Learning Outcomes	Activities
<p><b>English LRV</b></p> <p><b>Processes and Strategies</b>            Integrate sources of information, processes and strategies confidently to identify, form and express ideas.  <i>Indicators: integrates sources of information and prior knowledge confidently to make sense of increasingly varied and complex texts.</i></p> <p><b>Purposes and audiences:</b>            Show an increasing understanding of how texts are shaped for different purposes and audiences.  <i>Indicators: recognises and understands how texts are constructed for a range of purposes, audiences and situations.</i>  <i>Identifies particular points of view and recognises that texts can position a reader.</i>  <i>Evaluates the reliability and usefulness of texts with increasing confidence.</i></p> <p><b>SWP</b></p>	<p>Revise and discuss material that deals with:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> The introduction of pests to NZ and their impact on the native species and kea particularly.</li> <li><input type="checkbox"/> The implications of 1080 and other human attempts to deal with pests</li> <li><input type="checkbox"/> Other human impacts on kea - lead, food, perceptions, sheep (historical bounty).</li> <li><input type="checkbox"/> The kea place in the food chain - e.g. predating on shearwaters in Kaikoura Range, or possums predating their nests.</li> </ul> <p>(Sources would include online videos and information from KCT, wider research material, and texts that are available. - see list included at end of this material)</p> <p>An <b>alternative or additional</b> field trip to Level 3, to a kea environment if possible, or captive kea. Talk to DOC, KCT or keeper staff about issues and what is happening to mitigate the problems (education, signs, trapping etc.) Use digital photos to create class story on return, focussing on the kea natural environment and interactions with humans children observed, the problems of that, and what is being done to help.</p> <p>OR</p> <p>Invite a DOC or KCT person who works with/for kea to talk to class. Have questions prepared to ask them focussing on what is happening to help kea and what the children can do to assist.            *Make a factual video about kea - in the style of David Attenborough, to present to the class or other classes or other audiences. Background, the human impacts on the</p>	

	<p><i>Indicators: Uses an increasing understanding of the connections between oral, written, and visual language when creating texts</i></p> <p><i>Creates a range of texts by integrating sources of information and processing strategies with increasing confidence.</i></p> <p><b>Ideas:</b></p> <p><b>Select, form and communicate ideas on a range of topics.</b></p> <p><i>Indicators: Forms and expresses ideas and information clearly, drawing on a range of sources.</i></p>	<p>population, and how we can help. Send to Kea Conservation Trust for the website.</p> <p>Write letters to the historical people who introduced stoats and possums to NZ outlining the problems they brought, and how people are trying to address the issues.</p> <p>Write letters to people with huts and buildings in kea territory (research) telling them about lead and how to mitigate the problem.</p> <p>Write letters to people making predator traps and ask how they can help.</p>
<p><b>The Arts</b></p>	<p><b>Drama: Developing ideas</b></p> <p>Initiate and refine ideas with others to create drama.</p> <p><b>Visual Arts: Developing Practical Knowledge</b></p> <p>Explore and use art-making conventions, applying knowledge of elements and selected principles through the use of materials and processes.</p>	<p>Prepare plays that could be presented to other age ranges telling the kea story. Video to be send to KCT.</p> <p>Design effective posters or signs that can be sent to villages, ski fields, etc. with kea care code messages, educating people about kea.</p>
<p><b>Maths and Stats</b></p>	<p><b>Statistics: Statistical Investigation –</b></p> <p>Plan and conduct investigations using the statistical enquiry cycle:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Determining appropriate variables and data collection methods data to answer questions:</li> <li><input type="checkbox"/> Gathering, sorting and displaying multivariate category, measurement and time-series data to detect patterns, variations, relationships and trends.</li> <li><input type="checkbox"/> Comparing distributions visually</li> <li><input type="checkbox"/> Communicating findings using appropriate displays.</li> </ul>	<p>Add to research statistics from DOC or KCT staff and website additional to Level 3 research, and make presentations to class to show data indicating trends ( using %, graphs, etc.) of kea populations.</p> <p>Make projections of what will happen in the future if the trends continue; compare with work done at Level 3 if possible, as 2/3 years have passed since. Make projections of what would happen if all predators and threats were removed. (in conjunction with science suggestions below)</p>
<p><b>Science</b></p>	<p><b>Ecology</b></p> <p>Explain how living things are suited to their particular</p>	<p>Consider data as in statistics above, and draw conclusions as to what is effecting the kea population. .eg showing the effects as numbers of possums increase,</p>

	<p>habitat and how they respond to environmental changes, both natural and human-induced.</p>	<p>(increased failure of nests.) ; the results of putting out traps for possums and stoats ( possums and stoats decrease and kea chicks produced increases per year) Discuss what needs to change to help the kea, and why the kea cannot protect itself.</p> <p>Do a sound log (W/s # ) (see bird survey in Social Sciences below)</p> <p>Research animal learning (particularly in parrots) and think about ways to teach animals to learn. Refer to KCT website re research re teaching captive kea geometric shapes, and video of experiments to investigate kea learning and intelligence.</p>
<p><b>Social Science</b></p>	<p>Understand how people pass on and sustain culture and heritage for different reasons and that this has consequences for people. Understand that events have causes and effects. Understand how people participate individually and collectively in response to community challenges..</p>	<p>Talk or write to a DOC or KCT worker about their work: Ask what its good and not so good aspects are, and why they do it.</p> <p>Go outside and do a bird survey: how many birds were seen as opposed to how many they hear in the playground/park/forest (if on a camp or field trip)</p>
<p><b>Technology</b></p>	<p><b>Nature of Technology:</b> <i>Characteristics of technology:</i> Understand how technological development expands human possibilities and how technology draws on knowledge from a wide range of disciplines, <i>Characteristics of technological outcomes:</i> Understand that technological outcomes can be interpreted in terms of how they might be used and by whom and that each has a proper function as well as possible alternative functions.</p>	<p>When making field trip, arrange for field workers to demonstrate GPS, and how it assists them in their work.</p> <p><b>OR</b></p> <p>Invite Search and Rescue or DOC staff in to train children in GPS work. Use their assistance to help the class or group find their way around a trail (whether in the school grounds, neighbouring park or local streets for a fun run), Setting up a mock 'forest' where there are several 'nests' with chicks. Find the nests on GPS readings and make survey of chicks. Record on chart at school.</p> <p>Another group, or class, rechecks 'nests' to do a count (some have been removed and children will debate about what has happened to them), and compare statistics. An ideal activity to do on a school camp.</p> <p>Investigate other ways people use GPS in their jobs (surveyors etc.)</p> <p>Look at trapping systems being used to remove predators such as the DOC 200 trap, and Good Nature self setting traps (Check Good Nature website). Get someone to bring one to school and demonstrate. Investigate the closest trap line to the school</p>

and investigate the practicalities of going out to watch someone checking it.

Inventing a new trap to deal to predators. Demonstrating it to class.

Invent new experiments to test a kea intelligence as per those referred to in Science above. Take to the mountains or wildlife park to let kea 'test'. Draw conclusions as to what happened revealed about kea learning.

Further investigate the technology that allows people to live in the mountains as per Level 3. Invent new ways to kea proof cars, roofs, rubbish bins.