









Moo to You

Learning Outcomes and Curriculum Links

Levels 1 and 2







Nature of Science
<p>Understanding about science Students appreciate that scientists ask questions about our world that lead to investigations and that open-mindedness is important because there may be more than one explanation. In this kit students discuss a variety of dairy science concepts; they find relevant evidence to analyse data and think logically.</p> <p>Investigating in science Students extend their experiences and personal explanations of the natural world through exploration, play, asking questions, and discussing simple models. Specifically, in this kit, students collect data using different forms of measurement, organise data using tables and recognize patterns in their data.</p> <p>Communicating in science Students build their language and develop their understandings of the many ways the natural world can be represented. In this kit students communicate science knowledge using scientific diagrams (with direction).</p> <p>Participating and contributing Students are encouraged to explore and act on issues and questions that link their science learning to their daily living. In the supermarket scavenger hunt activity, students are given the opportunity to work cooperatively, share their findings and ask curious questions.</p>
Living World and Material World
<p>Living world concepts. See 'Science ideas' below for specific learning outcomes related to this kit.</p> <ul style="list-style-type: none">• Life processes: Recognise that all living things have certain requirements so they can stay alive.• Evolution: Recognise that there are lots of different living things in the world and that they can be grouped in different ways. <p>Material world concepts. See 'Science ideas' below for specific learning outcomes related to this kit.</p> <ul style="list-style-type: none">• Properties and changes of matter: Observe, describe, and compare physical and chemical properties of common materials and changes that occur when materials are mixed, heated, or cooled.

Moo to You

Science Capability (L1&2)	Science ideas (Learning Outcome)	Activities in this kit
<p>Students gather and interpret data by:</p> <ul style="list-style-type: none"> • Ask questions and making observations • Make comparisons and predictions • Look for patterns • Ask questions and make inferences 	<ul style="list-style-type: none"> ★ Systems have been devised to classify living things according to their similarities and differences. ★ Pastures are fields of plants grown for grazing animals, are made up of many different plants, not just grass and must be of good quality to produce worthwhile quantities of milk from livestock. ★ All living things need nutrients to survive; digestion is the process which allows a body to get the nutrients and energy it needs from the food it eats; monogastric animals have a single chambered stomach. ★ Difference between a mixture and solution ★ Explore the number and variety of milk products available for sale on shelves in New Zealand supermarkets. 	<p> How are we related?</p> <p> Pasture Pick and Mix</p> <p> Digestion</p> <p> Mixture or Solution?</p> <p> Supermarket Scavenger Hunt</p>
<p>Students use evidence to:</p> <ul style="list-style-type: none"> • Use relevant evidence to support an idea or explanation 	<ul style="list-style-type: none"> ★ Systems have been devised to classify living things according to their similarities and differences. 	<p> How are we related?</p>
<p>Students interpret representations and communicate science knowledge by:</p> <ul style="list-style-type: none"> • communicate science knowledge using a model 	<ul style="list-style-type: none"> ★ Pastures are fields of plants grown for grazing animals, are made up of many different plants, not just grass and must be of good quality to produce worthwhile quantities of milk from livestock. ★ All living things need nutrients to survive; digestion is the process which allows a body to get the nutrients and energy it needs from the food it eats; monogastric animals have a single chambered stomach. 	<p> Pasture Pick and Mix</p> <p> Digestion</p>

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Science Capability (L1&2)	Science ideas (Learning Outcome)	Activities in this kit
<p>Students critique evidence by:</p> <ul style="list-style-type: none"> ★ Compare and contrast findings 	<ul style="list-style-type: none"> ★ Mammals are the only group of animals that produce milk for their young; the composition of milk varies depending on species; milk provides many of the essential nutrients for a balanced diet in an easily digestible form. 	<ul style="list-style-type: none">  Is all milk created equal?
<p>Students engage with science through:</p> <ul style="list-style-type: none"> • Working cooperatively • Sharing their findings • Asking curious questions. • Engage in discussion and link science to everyday life • critique reports of science- related issues. 	<ul style="list-style-type: none"> ★ Pastures are fields of plants grown for grazing animals, are made up of many different plants, not just grass and must be of good quality to produce worthwhile quantities of milk from livestock. ★ All living things need nutrients to survive; digestion is the process which allows a body to get the nutrients and energy it needs from the food it eats; monogastric animals have a single chambered stomach ★ Difference between a mixture and solution ★ Mammals are the only group of animals that produce milk for their young; the composition of milk varies depending on species; milk provides many of the essential nutrients for a balanced diet in an easily digestible form. ★ Explore the number and variety of milk products available for sale on shelves in New Zealand supermarkets. 	<ul style="list-style-type: none">  Pasture Pick and Mix  Digestion  Mixture or Solution?  Is all milk created equal?  Supermarket Scavenger Hunt

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Levels 3 and 4

Nature of Science

Understanding about science

Students appreciate that science is a way of explaining the world and that science knowledge changes over time, and identify ways in which scientists work together and provide evidence to support their ideas. In this kit students discuss a variety of dairy science concepts; they find relevant evidence to analyse data and think logically.

Investigating in science

Students build on prior experiences, working together to share and examine their own and others' knowledge, they ask questions, find evidence, explore simple models, and carry out appropriate investigations to develop simple explanations. Specifically, in this kit, students collect data using different forms of measurement, organise data using tables and recognize patterns in their data.

Communicating in science

Students begin to use a range of scientific symbols, conventions, and vocabulary, they engage with a range of science texts and begin to question the purposes for which these texts are constructed. In this kit students communicate science knowledge using scientific diagrams (with direction).

Participating and contributing

Students use their growing science knowledge when considering issues of concern to them and explore various aspects of an issue and make decisions about possible actions. In both the supermarket scavenger hunt and environmental hoofprint activities, students are given the opportunity to work cooperatively, share their findings and ask curious questions.

Living World and Material World

Living world concepts. See 'Science ideas' below for specific learning outcomes related to this kit.

- Life processes: Recognise that there are life processes common to all living things and that these occur in different ways
- Evolution: Begin to group plants, animals, and other living things into science-based classifications.









Material world concepts. See 'Science ideas' below for specific learning outcomes related to this kit.

- Properties and changes of matter: Group materials in different ways, based on the observations and measurements of the characteristic chemical and physical properties of a range of different materials.

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Science Capability (L3&4)	Science ideas (Learning Outcome)	Activities in this kit
<p>Students gather and interpret data by:</p> <ul style="list-style-type: none"> • Ask questions and making observations • Make comparisons and predictions • Look for patterns • Ask questions and make inferences 	<ul style="list-style-type: none"> ★ Systems have been devised to classify living things according to their similarities and differences. ★ Pastures are fields of plants grown for grazing animals, are made up of many different plants, not just grass and must be of good quality to produce worthwhile quantities of milk from livestock. ★ All living things need nutrients to survive; digestion is the process which allows a body to get the nutrients and energy it needs from the food it eats; monogastric animals have a single chambered stomach. ★ Difference between a mixture and solution ★ Explore the number and variety of milk products available for sale on shelves in New Zealand supermarkets. 	<p>Ⓣ How are we related?</p> <p>■ Pasture Pick and Mix</p> <p>Ⓣ Digestion</p> <p>■ Mixture or Solution? Supermarket Scavenger Hunt</p>
<p>Students use evidence to:</p> <ul style="list-style-type: none"> • Use relevant evidence to support an idea or explanation 	<ul style="list-style-type: none"> ★ Systems have been devised to classify living things according to their similarities and differences. 	<p>Ⓣ How are we related?</p>
<p>Students interpret representations and communicate science knowledge by:</p> <ul style="list-style-type: none"> • communicate science knowledge using a model 	<ul style="list-style-type: none"> ★ Pastures are fields of plants grown for grazing animals, are made up of many different plants, not just grass and must be of good quality to produce worthwhile quantities of milk from livestock. ★ All living things need nutrients to survive; digestion is the process which allows a body to get the nutrients and energy it needs from the food it eats; monogastric animals have a single chambered stomach. 	<p>■ Pasture Pick and Mix</p> <p>Ⓣ Digestion</p>

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Science Capability (L3&4)	Science ideas (Learning Outcome)	Activities in this kit
<p>Students critique evidence by:</p> <ul style="list-style-type: none"> ★ Compare and contrast findings ★ Think critically and use correlation and causation. 	<ul style="list-style-type: none"> ★ Mammals are the only group of animals that produce milk for their young; the composition of milk varies depending on species; milk provides many of the essential nutrients for a balanced diet in an easily digestible form. ★ A growing global population needs access to nutritious food; food production has an impact on the environment; the dairy industry is an important contributor to the global food supply. 	<ul style="list-style-type: none">  Is all milk created equal?  Environmental Hoofprint
<p>Students engage with science through:</p> <ul style="list-style-type: none"> • Working cooperatively • Sharing their findings • Asking curious questions. • Engage in discussion and link science to everyday life • critique reports of science- related issues. 	<ul style="list-style-type: none"> ★ Pastures are fields of plants grown for grazing animals, are made up of many different plants, not just grass and must be of good quality to produce worthwhile quantities of milk from livestock. ★ All living things need nutrients to survive; digestion is the process which allows a body to get the nutrients and energy it needs from the food it eats; monogastric animals have a single chambered stomach ★ Difference between a mixture and solution ★ Mammals are the only group of animals that produce milk for their young; the composition of milk varies depending on species; milk provides many of the essential nutrients for a balanced diet in an easily digestible form. ★ Explore the number and variety of milk products available for sale on shelves in New Zealand supermarkets. ★ A growing global population needs access to nutritious food; food production has an impact on the environment; the dairy industry is an important contributor to the global food supply. 	<ul style="list-style-type: none">  Pasture Pick and Mix  Digestion  Mixture or Solution?  Is all milk created equal?  Supermarket Scavenger Hunt  Environmental Hoofprint