Wormforce – Propagation Activities

These activities can be implemented into classroom programs with the idea of specifically addressing areas of the Curriculum Framework and Progress Maps.

Learning Area	Progress Map Elaborations	Activities
SCIENCE	Life and Living: Level 1 • Students understand there are some differences between people's features and between the features of some other living things. Level 2 • They recognise that plants have different needs from animals and can describe a plant's need for light and water. • Students understand some of the functions related to the features of a living thing and can describe cause and effect related to their observations • They may explore the function of a plant's stem by observing how dye in a container will go up the stem, colouring the petals. • Students understand that living things change over time • They can explore seedling growth over a period of time.	Life and Living: Level 1 • Draw and label a variety of different types of plants. Trees, broad beans, strawberries, sunflowers. • Describe how each of these is different to themselves. • Discuss how a plant breathes compared to a human breathing. Complete a Venn diagram detailing the similarities and differences. Level 2 • List all of a plants needs to survive. • Write an explanation explaining why a plant needs light and why it needs water. • Experiment with two plants, one receiving appropriate light and water and the other not. Take photographic evidence week by week and describe the similarities and differences between the two. • Draw and label the parts of a typical vegetable plant such as a pea or bean plant. • Write an explanation of why plants have leaves and what their function is. Why do plants have a root system? How does a plants stem work?

	Level 3 • They also recognize the difference between how animals get their food and how plants make their own food from the sun. • Students make connections between living things and the environment. • They also describe the observable features of a root system that allow it to gather water from the soil (root hairs) and predict that similar plants will also have these features. • Students discriminate between and can classify animals and plants according to their features • They can also identify differences between grasses and trees in terms of the roots, stems and leaves, classify seed-producing plants and give examples from their local communities. • Students understand that plants and animals reproduce and that offspring resemble their parents • Students describe patterns of similarities and differences in the growth and reproduction of groups of familiar living things.	• Grow a variety of different seeds and describe how these seeds develop over time. Create an informational poster. Level 3 • Create a structured overview detailing the difference between how animals get their food and how plants make their food. • Construct an interactive PowerPoint that details the difference. • Describe the waste reduction process and how the plants benefit from composting and how they contribute to feeding worms, shading chickens, feeding chickens, adding to the compost. Draw the chain of waste reduction on A3 card as an informational poster highlighting how they can stop or reduce waste creation. • Write a scientific report on the purpose of the root system on a plant and describe how different environment conditions affect its functioning ability. Such as drought, floods, no nutrients in the soil or lack of light. • Create a classification chart ordering a variety of plant photographs into different categories. Such as roots, stems, leaves, seed pod producers, spore reproducers, vegetables, fruit, flowers, trees etc • Construct an informational poster highlighting the different ways plants reproduce, pollination, fire, seed droppings, bird assistance or runners.

	Investigating Scientifically • This is a series of investigation ideas specifically geared for the topic of propagation.	• Compare the growth of a fruit, vegetable and flower. Create an explosion chart of the differences and similarities between them. Investigating Scientifically Ideas for science investigations: • Monitor the growth of seedlings planted into garden beds. • Explain the change in the development of a seed. • Investigate the function of light and water and soil types on seed development. • Investigate the difference in winter vegetables and summer, spring and autumn. • Investigate the different methods of seed pollination. • Investigate the function of a stem through coloured dye water in white carnation flowers. • Investigate seed growth in different environments, plant in garden bed, in paper cup, in bucket etc. • Investigate the difference between a weed and a wanted plant. • Look at local declared weeds and what they are doing to our environment. • Can vegetable and fruit trees become a weed? • Photosynthesis – the function. • Investigate different land systems and the types of plants associated with

		them – desert/Spinifex and low lying shrubbery etc.
Mathematics	Measurement: Level 1 • Students are aware of the attributes of length, mass, capacity and time as attributes of objects/events and use them to put two or three obviously different things in order. • They also respond appropriately to and use the everyday language forms of their communities associated with length, mass, capacity and time. • Students respond appropriately to and use the comparative and descriptive language of time of their local community, describing such things as 'longer'/'shorter', 'day'/'night', 'high tide', 'summer' and 'the Wet'. • Students respond appropriately to and use comparative language such as 'shorter', 'tallest', 'longer', 'same length', 'near', 'far', 'higher', 'lower' to describe the attribute of length. • When describing the attribute of mass, students respond appropriately to, and use for themselves, comparative language such as 'heavier-lighter', 'weighs more-weighs less' and 'too heavy'. Level 2 • Students understand that comparing different attributes may produce different orders and are able to focus on a particular attribute in familiar	Measurement Level 1 • Measure the growth of different seedlings. • Order seedlings according to different attributes – height, width, length, weight. • Measure seedlings in hand spans or informal units. • Describe seedlings using maths language such as bigger, wider, taller, heavier etc. • Draw and label seedlings in a particular attribute order. • Measure the weight of seedlings in pots using a balance beam. • Compare seedlings using terms, heavier/lighter, taller/shorter, and fatter/thinner. Level 2 • Students choose an attribute that they will measure on a variety of seedlings. They then need to order it according to that attribute.

	practical situations • Thus they can compare the two glasses by capacity or height. • They also know that different things may be compared or measured according to the same physical attributes. • Students choose an appropriate unit that relates to the attribute to be measured. • They now see why it is important to count uniform units of length and that using multiple copies of a unit of length and using a single object repeatedly achieves the same purpose if the unit is repeated carefully without overlaps or gaps. • They have a growing sense of the passage of time and of the cycles of events.	• From a variety of seedlings students form as many questions associated with different attributes that they could measure (formally and informally). Height, weight, width, circumference, colour, leaf length, stem length, canopy size etc. • Students measure these attributes in mm, cm and m as well as g and kg. • Create a pictorial poster based on the development of the seedling over time. Describe and measure its growth as well as registering the associated time.
	Level 3 • Students choose a common unit, such as a cup, when comparing two containers and allow the measurements to override their perception • They also realise the necessity of selecting the same unit when comparing two things, as the comparison could be misleading if the unit they use is different • Unprompted, they attempt to alter one or both of the regions to enable a direct comparison of area to be made • Students can determine length in metres and centimetres • They make numerical measurements of objects to order them	Level 3 • Students measure area of garden beds and draw a plan outline of plant seedlings to be planted. • Calculate the distance required for different plant seedlings and mark out appropriate areas. • Refer to the season when choosing seedlings and seeds to plant. • Register weather conditions when choosing to plant seedlings directly into garden beds or leave them in the propagation green house. • Create a watering schedule and follow its guidelines when caring for the seedlings. • Calculate the difference in seedling

	• Students understand key elapsed time intervals, working with intervals in multiples of quarter-hours. • They use their knowledge of time to read and make straightforward schedules • Students add length, capacity and mass measurements in order to calculate the total size of something that cannot be measured directly.	growth from week to week and record into a table. • Draw a scaled diagram of garden beds that deal with plant space and area.
Technology and Enterprise	Technology Process: Ideas for technology projects that address, investigating, devising, producing and evaluating. Change to suit level of students.	Ideas for Technology and Enterprise Activities: • Grow and sell small seedlings in pots. • Develop a packaging and marketing system to sell the fruit and vegetables gained from the plants. • Make jams and sauces from fruit and vegetables harvested. • Harvest seeds and runners from mature plants and sell to local businesses/parents. • Create a fruit and vegetable mobile. • Create fruit and vegetable creatures. • Construct an informational pamphlet listing the benefits of home grown fruit and vegetables. • Create a brochure explaining why non

		sprayed or chemically enhanced food is better for you. • Set up a fruit and veg stall outside IGA on a Saturday. • Travel to a farmers market and sell produce from the area. • Create a healthy lunch for the class using just the produce from the school garden.
English	Writing: Level 1 • They usually write about their own experiences and attempt texts such as lists, greeting cards, messages or explanations to accompany their drawings. • They discuss the purposes of familiar written texts: for example, signs provide direction. • Students explore ways of representing ideas and information using written symbols. • They use a range of strategies to help them produce words when they are writing: for example, they say words aloud and sound them slowly as they write, use alphabet charts, use their knowledge of letter names and sounds, copy environmental print, and ask others for help.	Writing Level 1 • Write a list of all the seeds they have planted. • Write a message to other students explaining when their seeds need to be watered and fertilised. • Make gift cards using plants and seed themes. • Design and write informational signs showing and describing how to plant and care for seeds. • Create seed flags using symbols for the different seed classification – fruit, vegetables, bulbs etc. • Create word walls in the classroom related to plants. • Story map 'Jack and the Beanstalk'.

	Level 2 • Students write simple imaginative and informative texts that include some related ideas about familiar topics. • They attempt texts such as lists, letters, recounts, narratives, procedures, instructions, messages, rhymes and simple descriptions • Students recognise some of the purposes and advantages of writing. • They recognise that writing can record information and ideas. • Their writing shows some understanding of the requirements of the task.	Level 2 • Create a seed diary showing the progression and growth of the seed. Include illustrations and diagrams. • Write a narrative from the point of view of a plant and how it experiences the world. • Create poems using the theme of plants – haiku, acrostic, cinquains, limericks, ballads, odes etc. • Create informational sticky labels to place on the plant pots when selling to show growing and caring requirements. • Write a recount using the work they have done growing and caring for their plants. • Research the difference in growing styles and methods between two different types of plants such as a fruit and a vegetable.
	Level 3 • Students experiment with interrelating ideas and information when writing about familiar topics. • They are developing control over a small range of texts in which they combine ideas in a logical sequence • Students recognise that certain text types and features are associated with particular audiences and purposes. • They select an appropriate text type from a small range for a particular writing purpose. • They consider some needs and	Level 3 • Write a narrative based on a large tree and describe the changes to the environment around him that he sees over a hundred years. Read 'The Window' by Nadia Wheatley. • Write an ode to a tree or plant. • Research sustainable gardens and write a report on what is required to create a sustainable garden. • Create poster and multimedia advertisements to sell either the plant stock or produce from what they have grown. • Create a gardeners manual detailing the

	expectations of readers before writing and can explain some purposes for writing.	best times and conditions to grow a range of fruit and vegetable seeds. • Write an exposition on the question, 'What is better for human consumption, home or locally grown fruit and vegetable produce or large commercial store produce' Research the situations that arise. • Create a vegetarian cookbook. Use own recipes (Procedures). • Write newspaper articles telling of their work in the 'Site A' propagation and their desires to create a sustainable garden. • Research permaculture and present to class as an oral presentation.

Wormforce – Propagation Assessment

FAIR: Assessment should be demonstrably fair to all students and not discriminate on grounds that are irrelevant to the achievement of the outcome.

Learning Area	Progress Map Elaborations	Assessment Types
Science	Life and Living: Level 1 • Students understand there are some differences between people's features and between the features of some other living things. Level 2 • They recognise that plants have different needs from animals and can describe a plant's need for light and water. • Students understand some of the functions related to the features of a living thing and can describe cause and effect related to their observations • They may explore the function of a plant's stem by observing how dye in a container will go up the stem, colouring the petals. • Students understand that living things change over time • They can explore seedling growth over a period of time. Level 3 • They also recognize the difference between how animals get their food and how plants make their own food from the sun. • Students make connections	Work Sample Types Life and Living: Level 1 • Drawn and labelled variety of different types of plants. • Description of how each plant is different to them. • Discussion on how a plant breathes compared to a human breathing. Venn diagram detailing the similarities and differences. Level 2 • List of all a plants needs to survive. • Explanation explaining why a plant needs light and why it needs water. • Plant experiment diary and scientific report. • Drawn and labelled parts of a typical vegetable plant. • Explanation of why plants have leaves and what their function is. Why do plants have a root system? How does a plants stem work? • Description of how different seed germinate and develop. • Informational poster on seed germination and development. Level 3 • Structured overview detailing the difference between how animals get their food and how plants make their food. • Interactive PowerPoint that details the difference

	between living things and the environment. • They also describe the observable features of a root system that allow it to gather water from the soil (root hairs) and predict that similar plants will also have these features. • Students discriminate between and can classify animals and plants according to their features • They can also identify differences between grasses and trees in terms of the roots, stems and leaves, classify seed-producing plants and give examples from their local communities. • Students understand that plants and animals reproduce and that offspring resemble their parents • Students describe patterns of similarities and differences in the growth and reproduction of groups of familiar living things.	between plants and animals food needs. • Description of the waste reduction process and how the plants benefit from composting and how they contribute to feeding worms, shading chickens, feeding chickens, adding to the compost. • Chain of waste reduction drawing on A3 card as an informational poster highlighting how they can stop or reduce waste creation. • Scientific report on the purpose of the root system on a plant and describe how different environment conditions affect its functioning ability. • Classification chart ordering a variety of plant photographs into different categories. • Informational poster highlighting the different ways plants reproduce, pollination, fire, seed droppings, bird assistance or runners. • Comparison report on the growth of a fruit, vegetable and flower. • Explosion chart of the differences and similarities between fruit, vegetables, flowers and trees.
Mathematics	Measurement: Level 1 • Students are aware of the attributes of length, mass, capacity and time as attributes of objects/events and use them to put two or three obviously different things in order. • They also respond appropriately to and use the everyday language forms of their communities associated	Measurement Level 1 • Measured growth of different seedlings. • Ordered seedlings according to different attributes – height, width, length, weight. • Measured seedlings in hand spans or informal units. • Described seedlings using maths language such as bigger, wider, taller, heavier etc.

	with length, mass, capacity and time. • Students respond appropriately to and use the comparative and descriptive language of time of their local community, describing such things as 'longer'/'shorter', 'day'/'night', 'high tide', 'summer' and 'the Wet'. • Students respond appropriately to and use comparative language such as 'shorter', 'tallest', 'longer', 'same length', 'near', 'far', 'higher', 'lower' to describe the attribute of length. • When describing the attribute of mass, students respond appropriately to, and use for themselves, comparative language such as 'heavier-lighter', 'weighs more-weighs less' and 'too heavy'.	• Drawn and labelled seedlings in a particular attribute order. • Measured the weight of seedlings in pots using a balance beam. • Compared seedlings using terms, heavier/lighter, taller/shorter, and fatter/thinner.
	Level 2 • Students understand that comparing different attributes may produce different orders and are able to focus on a particular attribute in familiar practical situations • Thus they can compare the two glasses by capacity or height. • They also know that different things may be compared or measured according to the same physical attributes. • Students choose an appropriate unit that relates to the attribute to be measured. • They now see why it is important to count uniform units of length and that using multiple copies of a unit of length and using a single object repeatedly achieves the same purpose if	Level 2 • Students chose an attribute that they measured on a variety of seedlings. They then ordered them according to that attribute. • Student formulated questions regarding different attributes for plants. • Measured attributes in mm, cm and m as well as g and kg. • Pictorial poster based on the development of the seedling over time. • Description on measured seedling growth as well as registering the associated time.

	the unit is repeated carefully without overlaps or gaps. • They have a growing sense of the passage of time and of the cycles of events. Level 3 • Students choose a common unit, such as a cup, when comparing two containers and allow the measurements to override their perception • They also realise the necessity of selecting the same unit when comparing two things, as the comparison could be misleading if the unit they use is different • Unprompted, they attempt to alter one or both of the regions to enable a direct comparison of area to be made • Students can determine length in metres and centimetres • They make numerical measurements of objects to order them • Students understand key elapsed time intervals, working with intervals in multiples of quarter-hours. • They use their knowledge of time to read and make straightforward schedules • Students add length, capacity and mass measurements in order to calculate the total size of something that cannot be measured directly.	Level 3 • Measured area of garden beds and drawn a plan outline of plant seedlings to be planted. • Calculated the distance required for different plant seedlings and marked out appropriate areas. • Referred to the season when choosing seedlings and seeds to plant. • Registered weather conditions when choosing to plant seedlings directly into garden beds or leave them in the propagation green house. • Created a watering schedule and followed its guidelines when caring for the seedlings. • Calculated the difference in seedling growth from week to week and recorded into a table. • Drawn a scaled diagram of garden beds that dealt with plant space and area.
Technology and Enterprise	Technology Process: Ideas for technology projects that address, investigating, devising, producing and evaluating. Change to suit level of students.	Work Samples • Grown and sold small seedlings in pots. • Developed a packaging and marketing system to sell the fruit and vegetables gained from the plants. • Made jams and sauces from fruit and vegetables harvested.

		• Harvested seeds and runners from mature plants and sold to local businesses/parents. • Created a fruit and vegetable mobile. • Created fruit and vegetable creatures. • Constructed an informational pamphlet listing the benefits of home grown fruit and vegetables. • Created a brochure explaining why non sprayed or chemically enhanced food is better for you. • Set up a fruit and veg stall outside IGA on a Saturday. • Travelled to a farmers market and sold produce from the area. • Created a healthy lunch for the class using just the produce from the school garden.
English	Writing: Level 1 • They usually write about their own experiences and attempt texts such as lists, greeting cards, messages or explanations to accompany their drawings. • They discuss the purposes of familiar written texts: for example, signs provide direction. • Students explore ways of representing ideas and information using written symbols. • They use a range of strategies to help them produce words when they are writing: for example, they say words aloud and sound them slowly as they write, use alphabet charts, use their knowledge of letter names and sounds, copy environmental print, and ask others for help. Level 2	Writing Level 1 • Written a list of all the seeds they have planted. • Written a message to other students explaining when their seeds need to be watered and fertilised. • Made gift cards using plants and seed themes. • Designed and wrote informational signs showing and describing how to plant and care for seeds. • Created seed flags using symbols for the different seed classification – fruit, vegetables, bulbs etc. • Created word walls in the classroom related to plants. • Story mapped 'Jack and the Beanstalk'. Level 2

	• Students write simple imaginative and informative texts that include some related ideas about familiar topics. • They attempt texts such as lists, letters, recounts, narratives, procedures, instructions, messages, rhymes and simple descriptions • Students recognise some of the purposes and advantages of writing. • They recognise that writing can record information and ideas. • Their writing shows some understanding of the requirements of the task.	• Created a seed diary showing the progression and growth of the seed. Included illustrations and diagrams. • Written a narrative from the point of view of a plant and included how it experiences the world. • Created poems using the theme of plants – haiku, acrostic, cinquains, limericks, ballads, odes etc. • Created informational sticky labels to place on the plant pots when selling to show growing and caring requirements. • Written a recount using the work they have done growing and caring for their plants. • Researched the difference in growing styles and methods between two different types of plants such as a fruit and a vegetable.
	Level 3 • Students experiment with interrelating ideas and information when writing about familiar topics. • They are developing control over a small range of texts in which they combine ideas in a logical sequence • Students recognise that certain text types and features are associated with particular audiences and purposes. • They select an appropriate text type from a small range for a particular writing purpose. • They consider some needs and expectations of readers before writing and can explain some purposes for writing.	Level 3 • Written a narrative based on a large tree and described the changes to the environment around him that he sees over a hundred years. Read 'The Window' by Nadia Wheatley. • Written an ode to a tree or plant. • Researched sustainable gardens and written a report on what is required to create a sustainable garden. • Created a poster and multimedia advertisements to sell plant stock or produce from what they have grown. • Created a gardeners manual detailing the best times and conditions to grow a range of fruit and vegetable seeds. • Written and researched an exposition on the question, 'What is better for human consumption, home or locally grown fruit and vegetable

		produce or large commercial store produce'. • Created a vegetarian cookbook. Used own recipes (Procedures). • Written newspaper articles telling of their work in the 'Site A' propagation and their desires to create a sustainable garden. • Researched permaculture and presented to class as an oral presentation.