

PENRITH LAKES

ENVIRONMENTAL EDUCATION CENTRE

EDUCATION FOR A SUSTAINABLE FUTURE

Kitchen Gardens 2021



Why Kitchen Gardens?

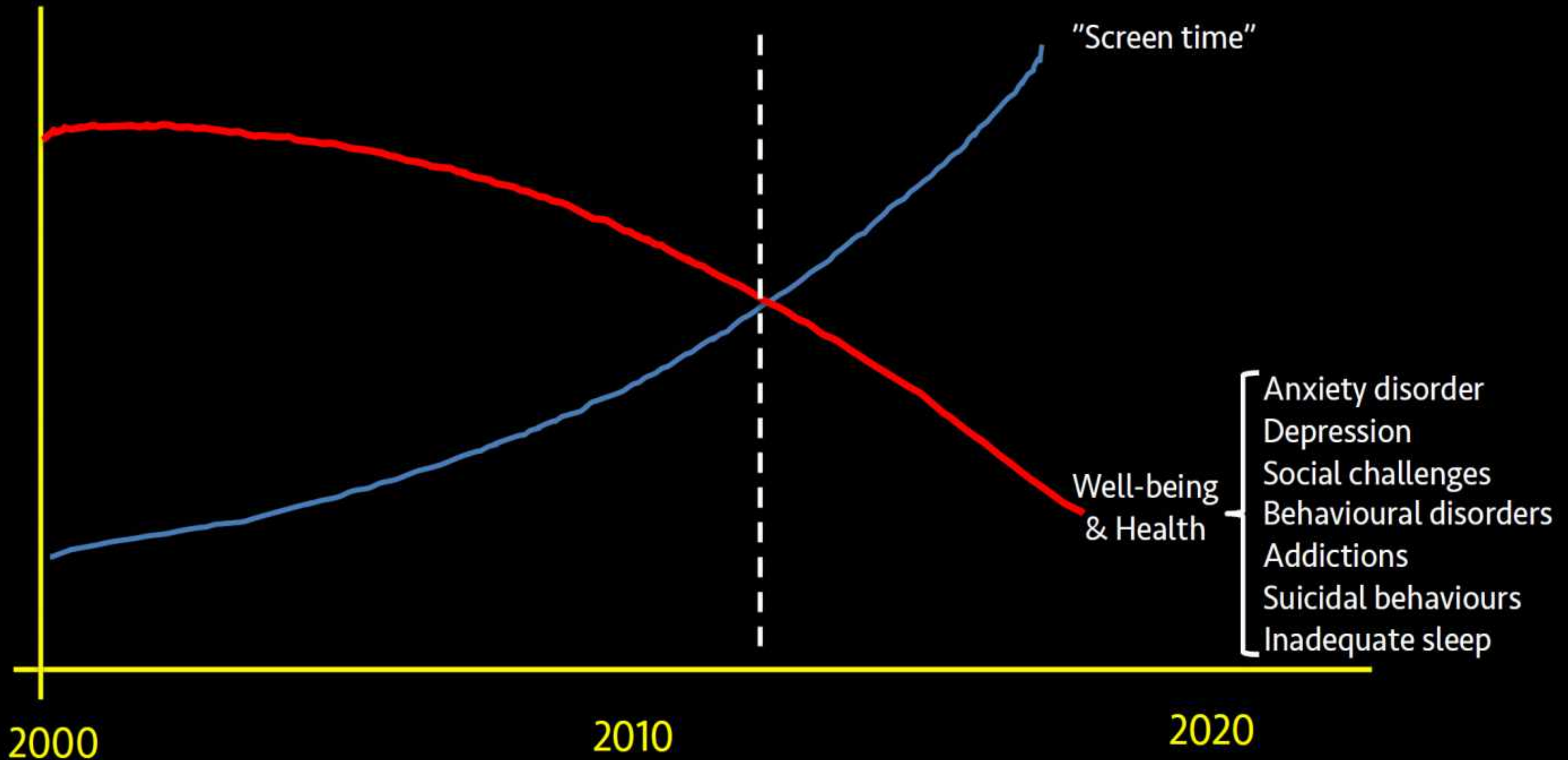
***“Purpose of education is two-fold:
one should teach us how to make a living and
the other how to make a life”.***

James Truslow Adams, 1929



Why Kitchen Gardens?

KIDS ARE NOT ALRIGHT



Why Kitchen Gardens?

“All the research is pointing to two biggest factors that will determine how long you live and the quality of your life:

- 1. What you eat***
- 2. The quality of your relationships***

Dr Michael Mosley, 2019

Star Dr of multiple BBC, ABC, & SBS TV shows



The 'WHAT'

A **year-long & timetabled** (Cross-KLA) 'Kitchen Garden' program (1hr p/wk per class), to support students **educational** and **life** outcomes, utilising PLEEC's ongoing 'face to face' staff support.



- Project length is **up to 3 yrs**, by which hand-over can occur.
- All teaching & learning programs, risk assessments etc., supplied.
- Regular **PL** provided to facilitate staff capacity building & collaboration.

Measurably increase student engagement and achievement of:

- Individual & Cross-KLA **syllabus outcomes** and sustainability (LAC);
- **General Capabilities**, (Lit & Num, Personal & Social Responsibility, Critical & Creative Thinking);
- **‘Wellbeing Framework’**, (achievement, meaningful goals and enjoyment of learning); & **staff wellbeing** too;
- CESE’s ‘What Works Best’ 2020, wellbeing & staff collaboration themes.
- Other targets, such **Healthy Canteens**, SEF and NESAAPST, NSW Health.
- Greater **community** engagement & school attraction value.



School Research Evidence

Public Schools NSW

Kitchen Garden Pilot program Evaluation Report



Gardening in Schools A vital tool for children's learning

Ready to learn / Resilient / Responsible / The 3 Rs of school gardening



Report submitted to Defra

Food Growing Activities in Schools

Julie Nelson
Kerry Martin
Jane Nicholas
Claire Easton
Gill Featherstone

November 2011

Evaluation of the Stephanie Alexander Kitchen Garden Program



Education &
Communities

Public Schools NSW

Kitchen Gardens

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Learning resources

Kitchen and food gardens are an increasingly popular way for schools to promote environmental and sustainability learning and connect students with healthy food and lifestyles. These programs can help.

KidsGrow

This site provides a practical toolkit of resources to help schools get kids gardening. Specially created by teachers for teachers, the KidsGrow's hands-on gardening projects are directly linked to the school curriculum and expose students to a range of thinking skills and learning styles. For more information visit [KidsGrow](#).



Brightly coloured barrels are used as planters.
Photo courtesy of Barooqa Public School

Figure 4.6 Links to NSW K-6 syllabuses

Q2.1 Learning areas addressed through the kitchen garden program

Number of respondents

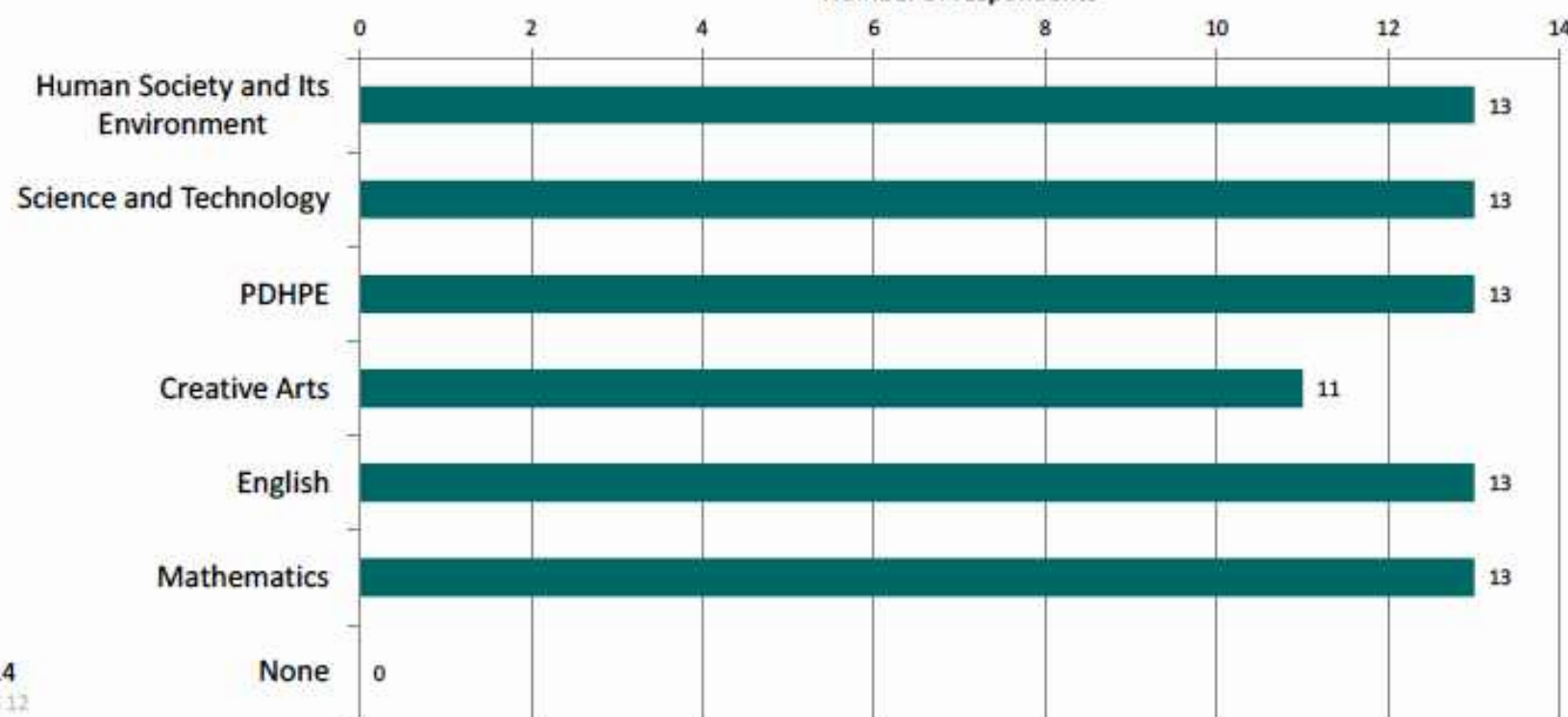
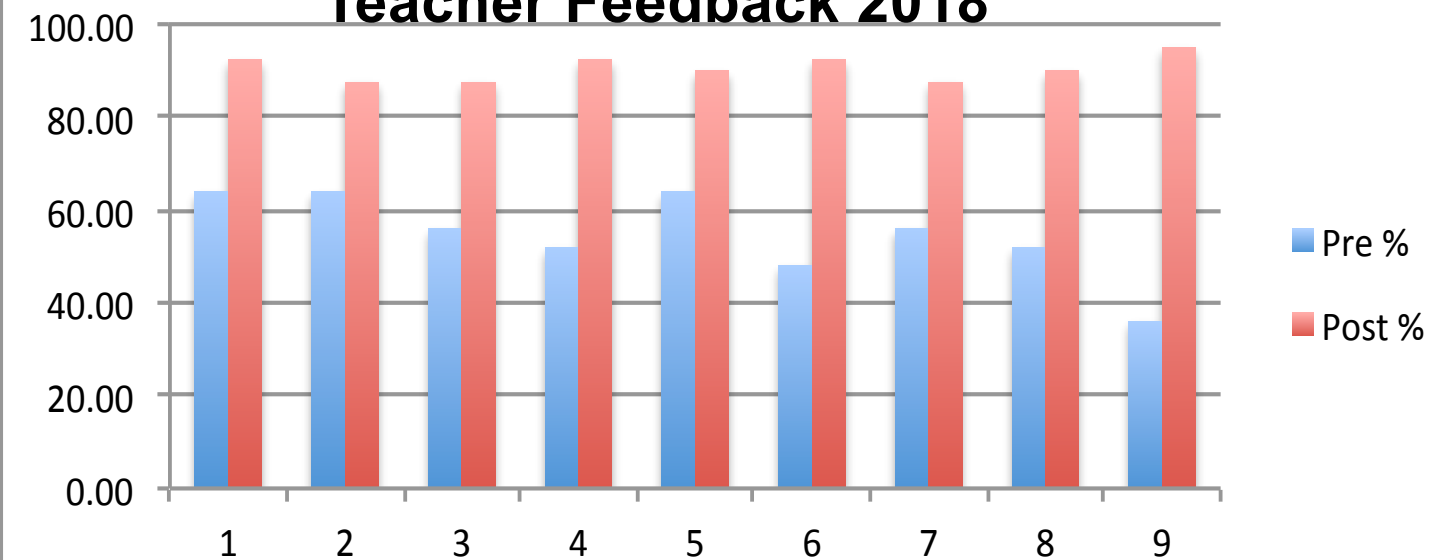


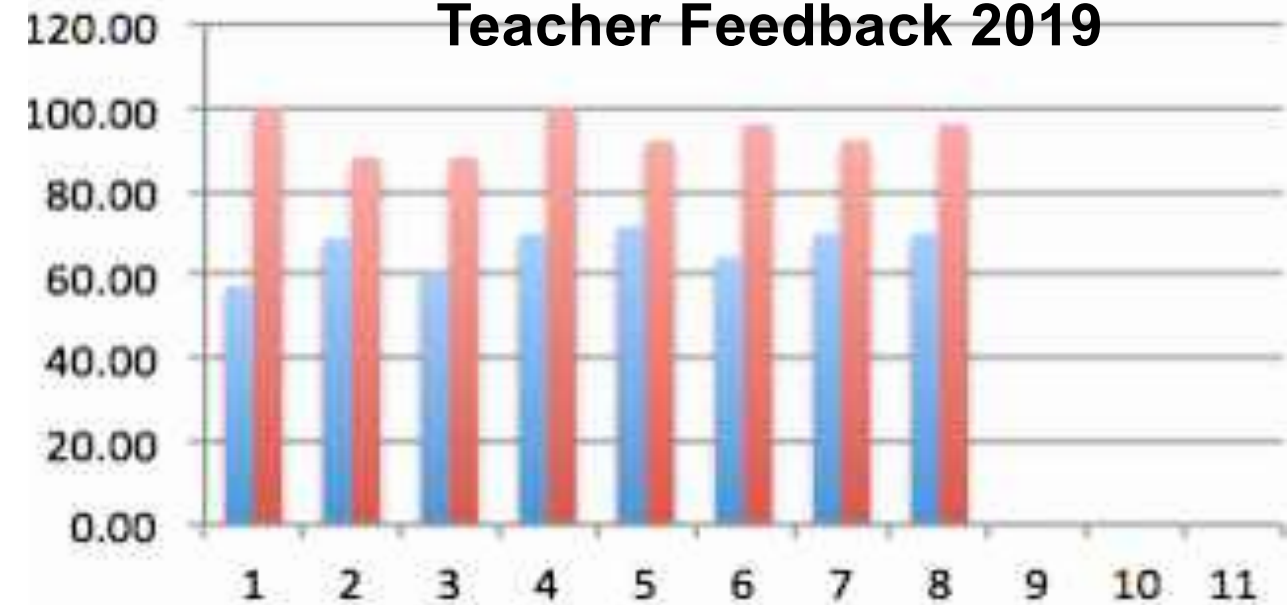
Figure 4.10 Measuring plant growth

Our Research

Teacher Feedback 2018



Teacher Feedback 2019



Teacher Comments:

- **Students love it, staff love it, parents love it**, and everyone speaks about how they are enjoying it. People from outside the school have commented about how nice the veggie gardens are and enquired about the program. We hired an additional SLSO to support our teacher in running the program this year. Staff and student wellbeing has improved as a result of this program. Stories just keep on coming.
- A wonderful experience for staff and students! Children **very engaged and enthusiastic** about their learning and how they can promote this at home.
- I feel that the PBL project that we undertook at school this year helped me as a teacher to gain confidence in planning activities which would help the students to learn about sustainability. The students level of **engagement was extraordinary**.
- The Kitchen Garden program has made many **great changes in our student's lives**. From constructing their own vegetable gardens at home, to trying new vegetables that they wouldn't have dared to before. The simple tasks of producing small meals was new to many of them. Growing their own vegetables gave them a new sense of appreciation for the world around them and the importance of being sustainable.

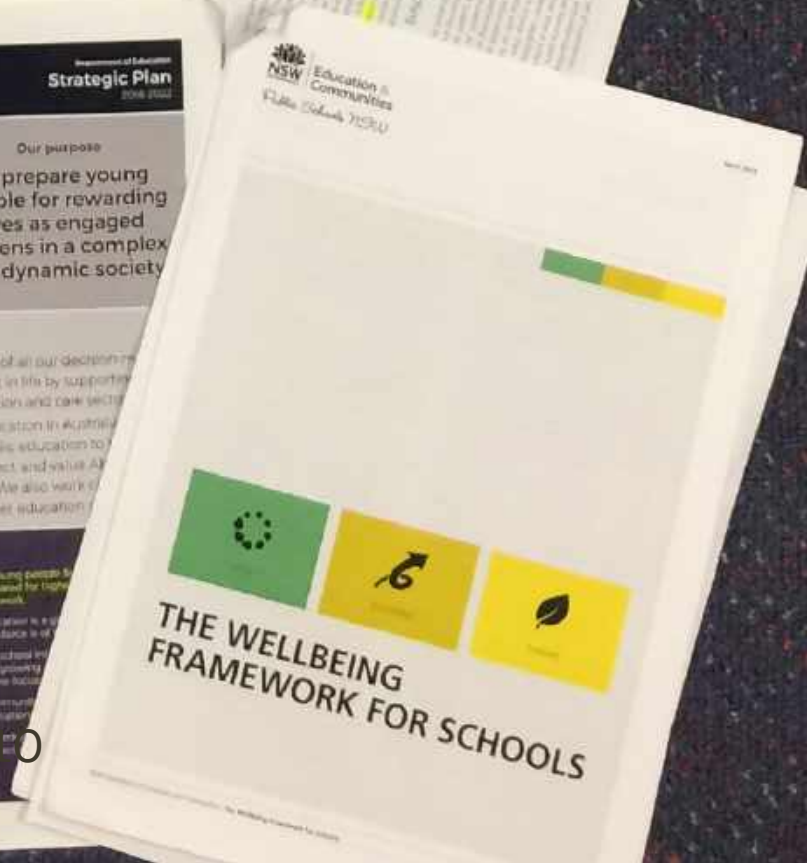
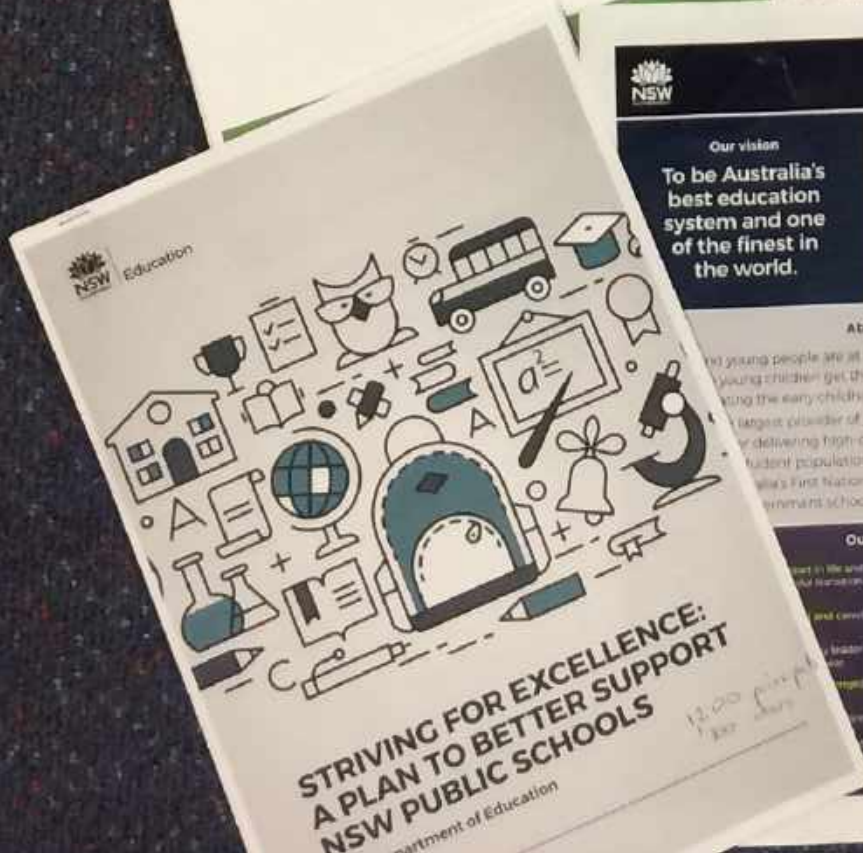
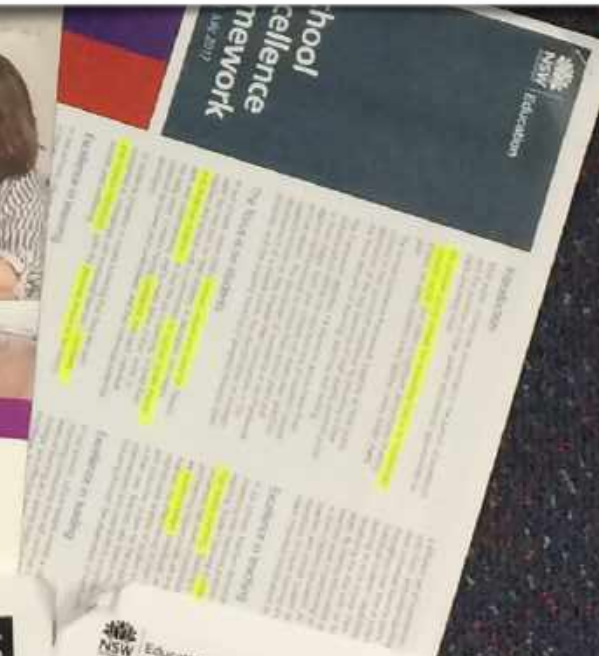
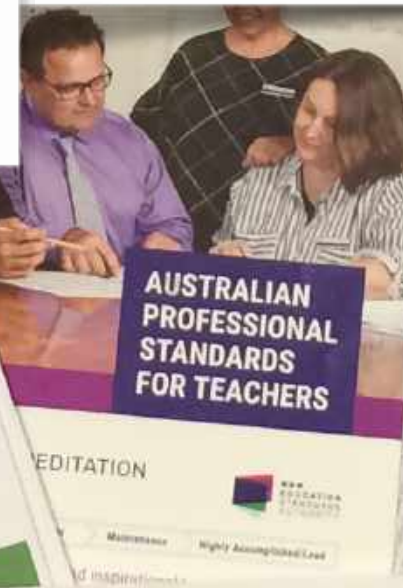
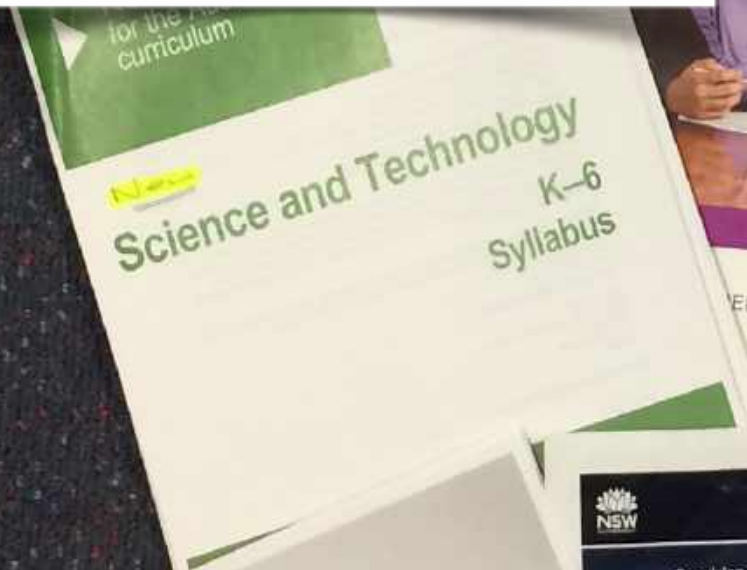


Kitchen Gardens

Learning resources

Kitchen and food gardens are an increasingly popular way for schools to promote environmental and sustainability learning and connect students with healthy food and lifestyles. These programs can help.

KidsGrow



The 'HOW'

- PLEEC 'Kitchen Garden' Teacher & Start Up Budget 2021: **\$26k (all inclusive)**

Cost breakdown: **\$24k** for expert teacher, **\$2k** approx for resources).

(DoE Sustainable Schools Grants **\$15k** per school).

- Allows for chosen **4-5** trial classes to participate (1 day/pwk per semester), and scalable up over time.
- **Surveys** of participating students and staff will be conducted at the beginning and end of the project to **measure** impact.
- RSVP by TBC = Email: branimir.lazendic@det.nsw.edu.au

Potential Legacy

Whalan PS E.G



St Claire PS E.G





Super engaging!



ST CLAIR PS

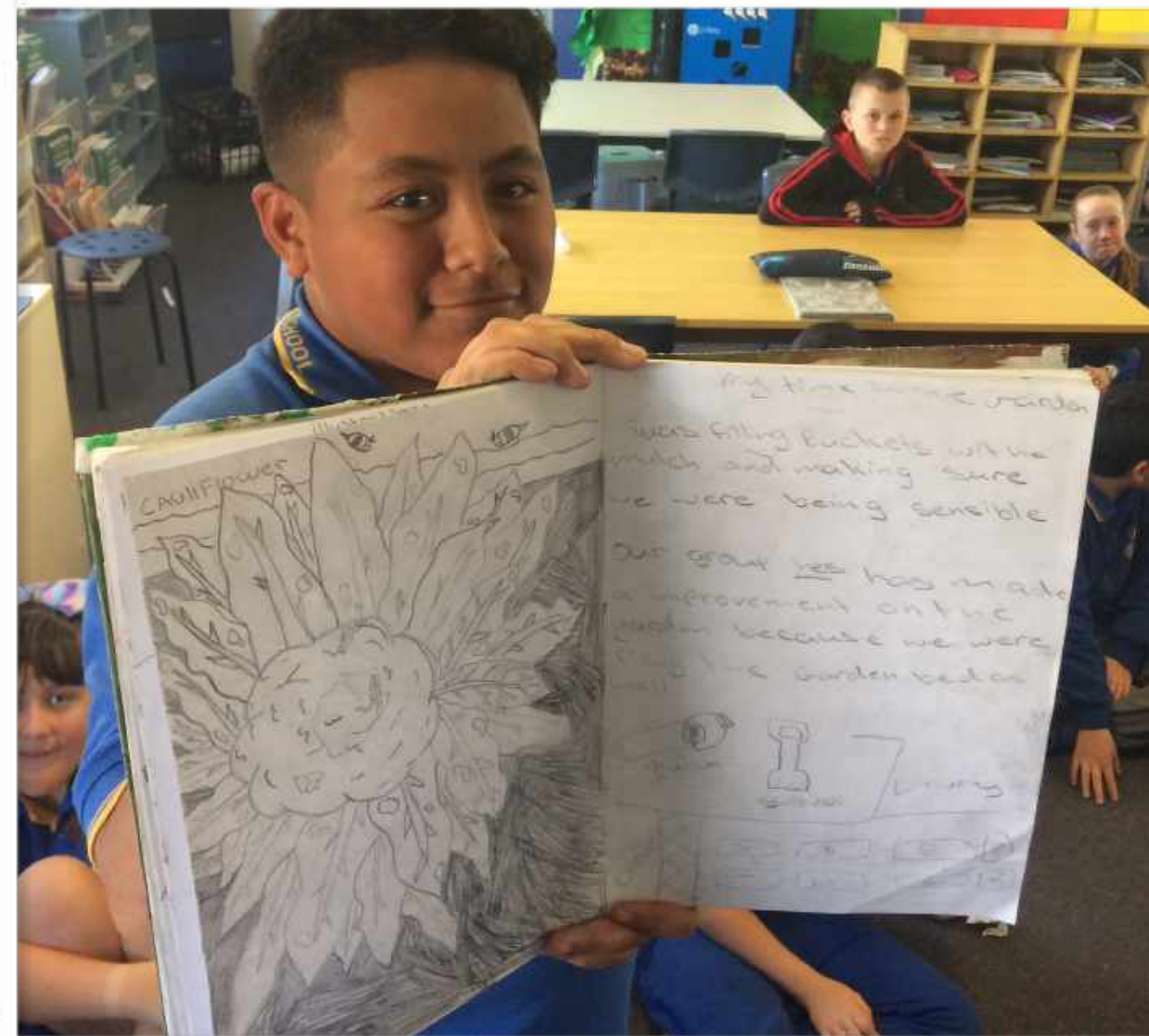
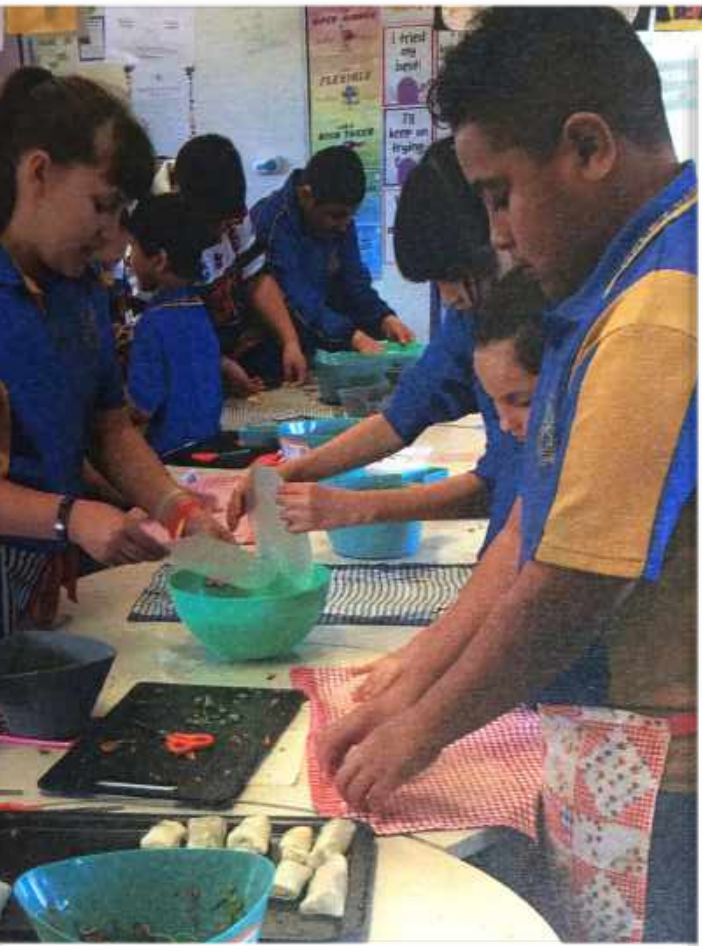


“Tuesday funny...

We had to hide in the storeroom today when the kids came to class, so that the kids who have to go and do reading actually go as they love kitchen gardens too much! “ Em..

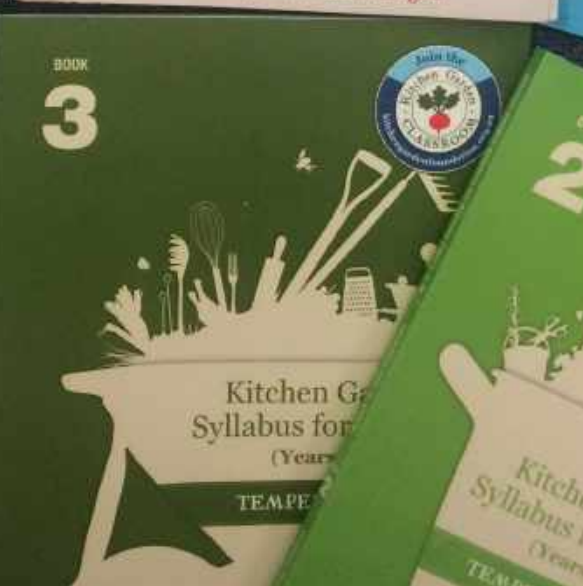
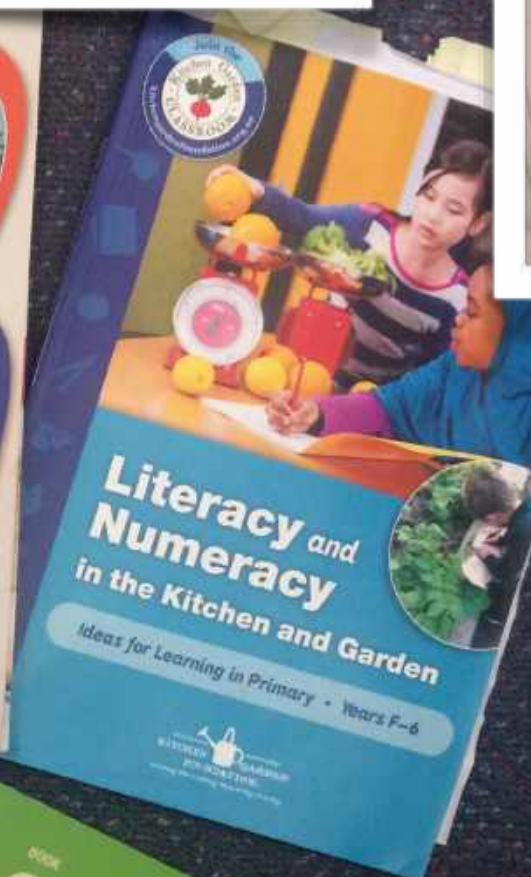
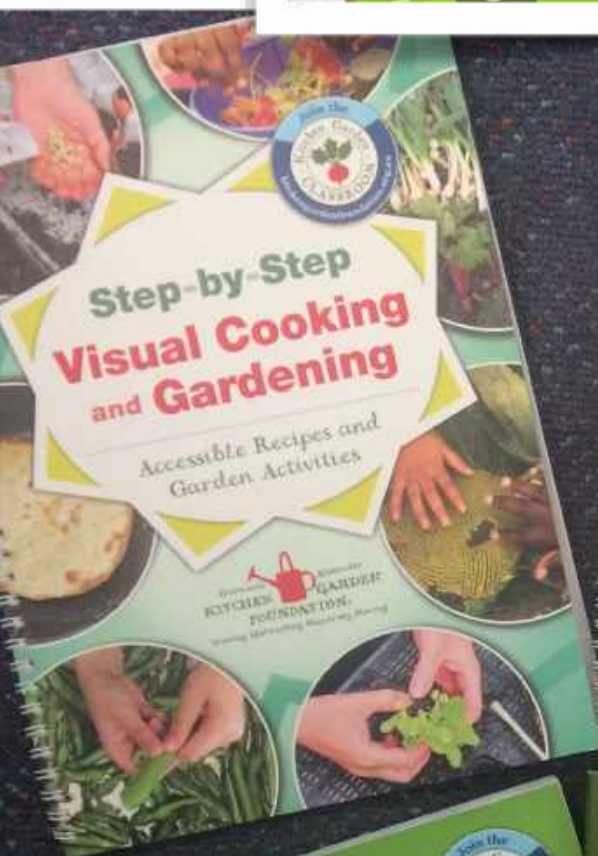


Oxley Park PS





The Kitchen Garden Syllabus – food education at your fingertips!



THE TEMPERATE & COOL BOOK 2 SYLLABUS AT A GLANCE
This table provides an overview of the syllabus and will be useful for your planning and reporting.

WEEK	TOPICS	KNOWLEDGE & SKILLS	KNOWLEDGE & SKILLS	KNOWLEDGE & SKILLS	KNOWLEDGE & SKILLS	KNOWLEDGE & SKILLS
1	Planning: Seed of the imagination	Harvesting or planting: Fruit Tree Pruning, Weeding, Planting, Composting	Key Garden: Herb Identification	Seed of the imagination: Zucchini, Peas, Cucumbers, with Seed Packet	Seed of the imagination: Cauliflower, Potatoes, Cucumbers, with Seed Packet, Chick & Lemon Sauce	Harvesting or planting: Pruning & weeding, Weeding, Planting, Composting, Seedling, Potatoes, Cucumbers, with Seed Packet, Chick & Lemon Sauce
2	Seed of the imagination: Cucumber	Harvesting or planting: Fruit Tree Pruning, Weeding, Planting, Composting	Key Garden: Seed Packet	Seed of the imagination: Cauliflower, Potatoes, Cucumbers, with Seed Packet	Seed of the imagination: Cauliflower, Potatoes, Cucumbers, with Seed Packet, Chick & Lemon Sauce	Harvesting or planting: Pruning & weeding, Weeding, Planting, Composting, Seedling, Potatoes, Cucumbers, with Seed Packet, Chick & Lemon Sauce
3	Seasons: Peas	Harvesting or planting: Fruit Tree Pruning, Weeding, Planting, Composting	Key Garden: Cucumber, Weeding Box	Seed of the imagination: Cauliflower, Potatoes, Cucumbers, with Seed Packet	Seed of the imagination: Cauliflower, Potatoes, Cucumbers, with Seed Packet, Chick & Lemon Sauce	Harvesting or planting: Pruning & weeding, Weeding, Planting, Composting, Seedling, Potatoes, Cucumbers, with Seed Packet, Chick & Lemon Sauce
4	No-Cig book: Cucumber	Harvesting or planting: Fruit Tree Pruning, Weeding, Planting, Composting	Key Garden: Cucumber, Weeding Box	Seed of the imagination: Cauliflower, Potatoes, Cucumbers, with Seed Packet	Seed of the imagination: Cauliflower, Potatoes, Cucumbers, with Seed Packet, Chick & Lemon Sauce	Harvesting or planting: Pruning & weeding, Weeding, Planting, Composting, Seedling, Potatoes, Cucumbers, with Seed Packet, Chick & Lemon Sauce
5	Worm Farm: Why we Prepare	Harvesting or planting: Fruit Tree Pruning, Weeding, Planting, Composting	Key Garden: Cucumber, Weeding Box	Seed of the imagination: Cauliflower, Potatoes, Cucumbers, with Seed Packet	Seed of the imagination: Cauliflower, Potatoes, Cucumbers, with Seed Packet, Chick & Lemon Sauce	Harvesting or planting: Pruning & weeding, Weeding, Planting, Composting, Seedling, Potatoes, Cucumbers, with Seed Packet, Chick & Lemon Sauce
6	Working Book: Asian Cucumber	Harvesting or planting: Fruit Tree Pruning, Weeding, Planting, Composting	Key Garden: Cucumber, Weeding Box	Seed of the imagination: Cauliflower, Potatoes, Cucumbers, with Seed Packet	Seed of the imagination: Cauliflower, Potatoes, Cucumbers, with Seed Packet, Chick & Lemon Sauce	Harvesting or planting: Pruning & weeding, Weeding, Planting, Composting, Seedling, Potatoes, Cucumbers, with Seed Packet, Chick & Lemon Sauce
7	Building Book: Asia Cucumber	Harvesting or planting: Fruit Tree Pruning, Weeding, Planting, Composting	Key Garden: Cucumber, Weeding Box	Seed of the imagination: Cauliflower, Potatoes, Cucumbers, with Seed Packet	Seed of the imagination: Cauliflower, Potatoes, Cucumbers, with Seed Packet, Chick & Lemon Sauce	Harvesting or planting: Pruning & weeding, Weeding, Planting, Composting, Seedling, Potatoes, Cucumbers, with Seed Packet, Chick & Lemon Sauce
8	Final Book: Asia Cucumber	Harvesting or planting: Fruit Tree Pruning, Weeding, Planting, Composting	Key Garden: Cucumber, Weeding Box	Seed of the imagination: Cauliflower, Potatoes, Cucumbers, with Seed Packet	Seed of the imagination: Cauliflower, Potatoes, Cucumbers, with Seed Packet, Chick & Lemon Sauce	Harvesting or planting: Pruning & weeding, Weeding, Planting, Composting, Seedling, Potatoes, Cucumbers, with Seed Packet, Chick & Lemon Sauce

Study the rate of germination

Learning intention
Students pose a question about seed germination and collect and interpret data to answer this question.

Students choose one type of herb or vegetable, then plant out seeds in a few trays. Students then collect data over a period of weeks to answer the following: what is the typical rate of germination for seeds of this type?

At the start of their project, encourage students to estimate a rate at which they expect the seeds to germinate (for example, 70-80% of the seeds will germinate). At the end of the project, ask students to chart their data and investigate how variables in the environment caused surprising (or disappointing) changes to this rate. For example, trays of seeds might have been left to germinate in different locations (indoors, outdoors, in a greenhouse) with varying success or different weather conditions (such as cold weather, hot weather, rain) might have had an effect.

Students choose how to present and report on their data. What did they learn by collecting their data? Could they use their findings to make decisions about how to plant that type of seed in the future?

For best results, use seeds of quick-growing plants such as radishes, cucumbers, lettuce, peas, spinach and herbs.



Chisholm PS



Cambridge Gardens PS



Session	Monday	Tuesday	Wednesday
Morning	Class 4 - Science / SAKG	Class 5 - Science / SAKG	Class 1 - Tech RFF Scripture (9:30 - 10:00) Class 1 - Maths
Recess			
Middle	Class 1 - Science / SAKG	Class 6 - Science / SAKG	Class 3 - Science / SAKG
Lunch			
Afternoon	RFF	Class 1 - History	Class 1 - TBC

January/February	1	22	23	24	25	26
February	2	29	30	31	1	2
February	3	5	6	7	8	9
February	4	12	13	14	15	16
February/March	5	19	20	21	22	23
March	6	5	6	7	8	9
March	7	12	13	14	15	16
March	8	19	20	21	22	23
March/April	9	26	27	28	29	30
April	10	3	4	5	6	7

PROTEIN

for growth and repair of body tissues, for bones & enzymes

Beans, Lentils, Sprouts, Tofu, Milk, Wholegrains, Seeds, Nuts, Immunity

2005 edition revised, updated & expanded Great!

A

(BETA-CAROTENE) Powerful anti-oxidant. Sight, bone & teeth, growth & tissue repair

Carrots, Spinach, Red & Yellow peppers, Watercress, Tomatoes, Green leafy vegetable, Dried apricots, Mango

B group

Important for energy, using fats and protein. Also for cell growth & nervous system. No problems in varied diet.

Beansprouts, Avocado, Wholegrains, Nuts, Mushrooms, Bananas, Oranges, Yeast extract, Beans, Lentils, Green leafy vegetables

B12

Used in nerve formation & cell production. Deficiency can lead to anaemia.

Fortified products: Soy milk, cereals, margarine, soy 'meat', yeast extract

C

Used to fight infection & heal wounds. Anti-oxidant.

Green leafy vegetable, Cabbage, Broccoli, Parsley, Potatoes, Frozen peas, Oranges, Blackcurrants, Kiwi fruit, Mango

D

Needed for calcium use in the bones & teeth. Only if sufficient Vitamin C is present.

Fortified: Cereals, soy milk, margarine. D3 is animal free.

E

Anti-oxidant. Contributes to healthy skin & hair.

Olive oil, Tomatoes, Avocado, Apples, Carrots, Nuts, Seeds, Wholegrains

K

Green leafy vegetables. Kelp (Kombu), Lettuce, Broccoli, Peas, Lentils.

Green leafy vegetables, Kelp (Kombu), Lettuce, Broccoli, Peas, Lentils

IRON

Used in production of red blood cells & energy. Deficiency can lead to anaemia.

Green leafy vegetables, Kelp, Beans, Lentils, Tofu, Pumpkin seeds, Millet, Figs, Dried apricots, Dates

CALCIUM

For strong bones & teeth. Deficiency can lead to osteoporosis.

Almonds, Green leafy vegetables, Kale, Spinach, Watercress, Broccoli, Turnip, Tofu, Soy milk

ZINC

Important for immune system & healthy skin. Deficiency can lead to skin problems.

Green leafy vegetables, Pumpkin seeds, Sesame seeds, Lentils, Tofu, Almonds, Wholegrains

IODINE

Important for thyroid gland. Deficiency can lead to thyroid problems.

Green leafy vegetables, Wholegrains, Seaweed, Apples, Cashew nuts, Almonds

MAGNESIUM

For strong bones & teeth. Deficiency can lead to bone problems.

Green leafy vegetables, Wholegrains, Beans, Lentils, Almonds, Potatoes, Seaweed

SELENIUM

Important for immune system & healthy skin. Deficiency can lead to skin problems.

Brazil nuts, Wholegrains, Pumpkin seeds, Yeast extract, Strawberries, Bananas, Tomatoes, Many fruit & vegetables

FIBRE

For healthy digestion & bowel movements. Deficiency can lead to constipation.

Wholegrains, Beans, Lentils, Apples, Pears, Prunes, Raisins, Many fruit & vegetables



Why Kitchen Gardens?



Mental health is the #1 concern of Australian 15 - 19 year olds



1 in 6 people have at least one mental or substance use disorders globally



Young people with strong social emotional skills are more likely to have higher income and better jobs



Young people with strong social emotional skills are twice as likely to be happy



Why Kitchen Gardens?

Today kid's are not ok...

In Australia

Based on the findings of Professor Pasi Sahlberg

- 10% don't feel safe at home
- 47% sleep with smartphone every night
- 40% have sleeping problems
- 10% have abnormal social and emotional wellbeing
- 26% are overweight or obese
- 50% feel pressure from school work
- Suicide rate of 15 to 24 year olds increased from 10.3% per 100,000 in 2007 to 12.7% in 2016 (+2.4%)

Latest health research 67% of ALL adults in Aus overweight or obese, projected to 83% by 2025. (Australian Bureau of Statistics data for 2017-18)