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Literacy and numeracy in the kitchen and garden

In this book you will find a collection of learning task ideas designed to enhance literacy and numeracy learning through a kitchen garden program.

By participating in hands-on activities in the kitchen and garden, students naturally develop real-life literacy and numeracy skills. In the kitchen, incidental learning occurs each time students measure ingredients, work with fractions in recipes, estimate and divide dishes equally across serving platters and make and plate up the right number of items. They keep an eye on time and learn the language of temperature.

In the garden, students estimate and measure planting distances, collect and table weather data, count their harvest, weigh and record their efforts, and use a scale to read how many litres a watering can holds.

The ideas found in this book are just some of the many ways to extend this incidental learning to make links between the curriculum and students' experiences of the kitchen and garden.





How to use this book

Literacy and Numeracy in the Kitchen and Garden has been informed by the literacy and numeracy general capabilities set out in the Australian Curriculum. This book is organised into two main sections covering literacy and numeracy. Each section contains a selection of learning task ideas spanning primary years Foundation to Year 6, with the year levels grouped into bands.

The ideas presented often involve hands-on interaction, but don't require a fully-fledged kitchen garden program, established gardens and kitchens, or lots of equipment. If you don't have existing garden or kitchen spaces, start small with a few pots or simple recipes, and use this book for ideas to encourage children's skills in literacy and numeracy as they participate in building a kitchen garden program.

If you do have a kitchen garden program already in place, use the ideas in this book to help enhance the development of your students' literacy and numeracy skills.

Browse the ideas presented in this book, adopt or adapt them to suit your needs – or use them as a starting point to create your own!



Create a recipe photo diary

Learning intention

Students create a recipe photo diary to start understanding how words and images can be combined in text.

At the start of kitchen class, set out the ingredients required to make a recipe. Organise students into small groups and have them use digital cameras or tablets to take photos of the ingredients.

Once the dish has been made and served up, take a photo of the final dish. (Depending on how much detail you want students to include in their photo diary, they could also take a photo of each step in the recipe method.)

Use a photo app or software to create a diary or slideshow of how the dish was made. Upload the photographs, caption each ingredient by name and include a short description for each step in preparing the dish. At the end, write some text about the final dish – describe the taste of the dish, how it was prepared or how the students felt while sharing and tasting. Ask students to consider how the words help to provide meaning to the images, and vice versa.

Share these digital stories with the whole class. The stories could also be posted to your school's social media feeds, or shared with families and the wider school community.



Rewrite a recipe from memory

Learning intention

Students use their knowledge of text structure and grammar to recreate a recipe from memory. Choose a short, simple recipe for students to cook. At the start of the kitchen class, let students know they will need to pay close attention to the equipment, ingredients and recipe steps as they will be rewriting the recipe for the dish they're cooking that day.

Later, students work from memory to recreate the recipe they cooked, using their knowledge of recipe structure to guide them. Students can visualise the pieces of equipment and ingredients they used and write these down, organised in the form of a list. They should also write down the steps they followed to prepare the dish.

Encourage students to use words appropriate to the recipe (for example, stir, chop, fry, garnish), and to apply the correct spelling and punctuation.

To extend this task,

students could use

information and

communications

technology (ICT) to

Plan a sequence of ideas using a storyboard

Learning intention

Students use a storyboard to plan the sequence of ideas for an animation or video about the garden or kitchen.



Show students a short multimedia text, such as a video or animation, based on a cooking or gardening topic. Ask them to come up with their own idea for a cooking or gardening video or animation.

Encourage students to use their imagination — they could create a documentary based on an experience (making pasta from scratch for the first time), an instructional activity (how to plant a seed) or a fictional story set in, or using characters from, the garden or kitchen.

Provide students with a storyboard template to plan out their sequence of ideas. Each frame in the storyboard will detail an action. Students illustrate each frame, and provide a supporting sentence to explain what is happening in that frame. Students can then present their storyboard to the class, explaining their idea and how it has been broken down frame by frame.

Explore photo composition

Learning intention

Students take photos of objects in the kitchen or garden to explore how framing can create and change meaning.



Collate a selection of kitchen-garden-related photographs from published materials such as books, magazines, newspapers, brochures or packaging. Aim to pick objects represented in different ways.

Look through the photographs and prompt students to consider the effect of composition and photographic angle. Next, students head into the kitchen or garden and practise taking photographs of an object from a range of different angles — a landscape photograph of corn growing in a bed, a birds-eye view of corn from above, an extreme close-up of corn kernels, etc.

Students should take at least five photographs of the same object, framed, angled and composed differently. They

can print them out, paste them in their workbooks and label each photo with information about the angle (alternatively, this could be done digitally). Ask students to describe whether the meaning of each photograph has changed depending on the way it was framed.

As an extension, give students a brief. For example, a photograph will be displayed in the school foyer to promote garden activities, another is being used on a plant label. Ask students which photographs they would choose for these different scenarios, and why.





Multiply and divide recipe quantities

Learning intention

Students multiply and divide recipe quantities by 2, 3, 5 and 10.



Explain to students that quantities in a recipe will often need to be adjusted, depending on the number of serves we want to prepare.

Compile a menu of small dishes, and challenge students to multiply the quantity of ingredients by 2, 3, 5 and 10 to cater for an increasing number of diners. So, if a recipe normally serves 4 people, what quantity of ingredients would be needed to cater for 8, 12, 20 or 40 people?

You can use the same principle to apply related division facts. Start with a menu of larger dishes – if a recipe normally produces 30 tasting portions, can students divide the quantity of ingredients by 2, 3, 5 and 10 to create tasting size portions suitable for 15, 10, 6 and 3 people?

This is an ideal task when you have a function to cater for – from a fundraising morning tea to catering for a staff meeting – as it allows students to put their learning into context.

Discover mass in the kitchen

Learning intention

Students measure, order and compare ingredients by mass.



The kitchen is an ideal space to begin learning about different metric units, measure ingredients and successfully follow recipes.

To familiarise students with mass in the kitchen, distribute a selection of dry ingredients in containers or packets (for example, flour, rice, legumes), and ask students to read the mass of each. Some measurements will be in kg, which you can explain stands for kilograms, and some will be in g, which stands for grams.

Have students sort the ingredients from light to heavy, and ask them to estimate how many grams are in a kilogram. Students can also make comparisons – for example, are the biggest containers or packets always the heaviest?

Discuss when it's appropriate to provide amounts in kilograms, and when it's better to use grams. A game can help. Organise students in pairs. One student closes their eyes and is given an ingredient to hold. They guess its mass in grams or kilograms, and their partner weighs the item using kitchen scales to see how close the guess was.



Create a kitchen garden program fundraiser budget

Learning intention

Students create a simple budget for a kitchen garden program fundraiser.



Give students the task of creating a simple budget for raising funds for their kitchen garden program. Students can work individually or in small groups.

First assign students a dollar amount for the cost of running the fundraiser. They will need to decide what kind of fundraising activity they are running (if this hasn't already been defined), for example: a raffle; selling seeds, seedlings, homemade preserves or fresh produce at a marketing stall; catering for a school staff meeting, or a morning tea or lunch.

Students will need to decide how much profit to aim for, and plan their budget from there, bearing in mind the initial dollar amount they can spend and how they intend to meet their fundraising goal.

Calculate all the costs involved – such as the cost of ingredients, art materials, takeaway food containers – and ensure the budget covers everything that's needed. If the fundraiser is a restaurant-style event, what is the cost of preparing each dish? How many diners are expected? How will each dish be priced?

To maximise profit, what do students need to scale back on – can a cheaper option be used? Can some items be donated, or sourced from the kitchen garden?

This task is especially relevant if you are hosting a fundraising event for your kitchen garden program, but it can also be a good practice task for introducing students to financial planning.

Students can consider how to use the revenue from the fundraiser – how much will they invest straight back into their kitchen garden program, and how much will they set aside for the next fundraiser?

