

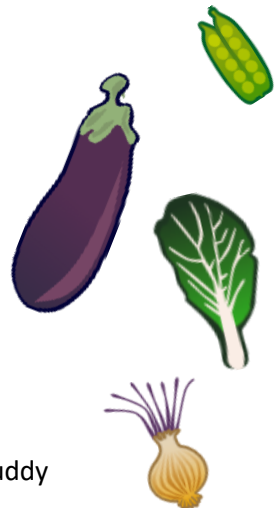
VEGETABLE GARDENING in the CLASSROOM

Teacher Resource Guide

Health Promotion
Northern NSW Local Health District
Email: NSWLHD-eatmoveplay@health.nsw.gov.au



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Your Vegetable Growing resource contains

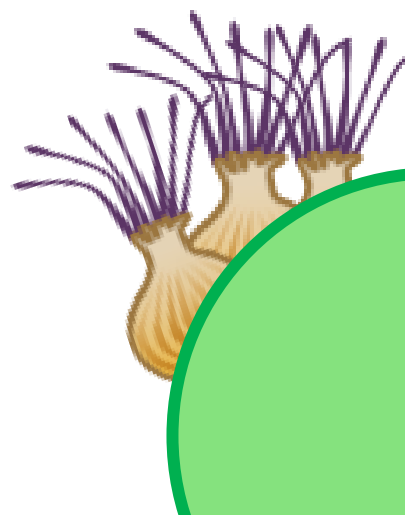
Background information: Why grow vegetables in the classroom?

Vegetable growing across the Stages and Key Learning Areas

Workplace Health and Safety

Detailed classroom activities

Permission Note





why grow vegetables?

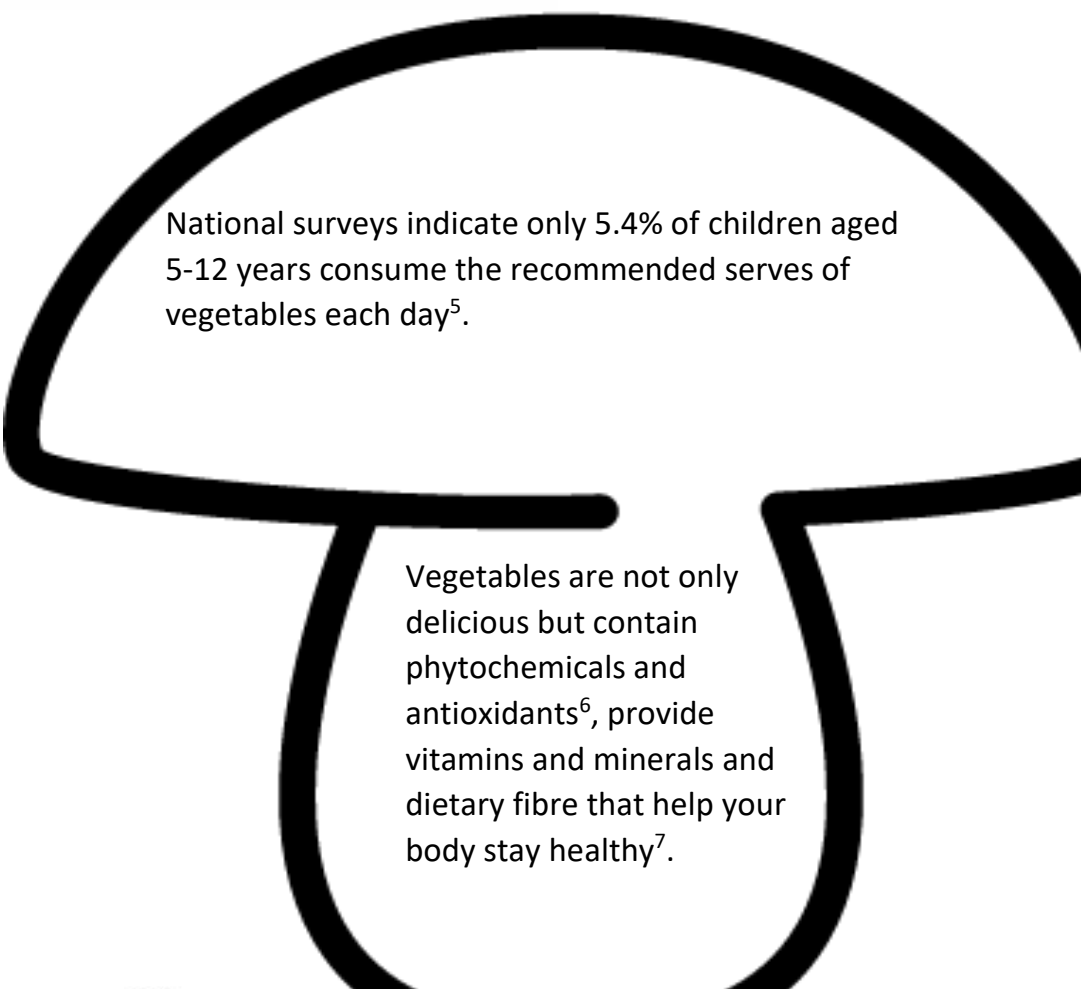
Did you know?

By giving children hands on experiences to grow vegetables they are more likely to have:

Positive attitudes towards vegetables with greater consumption levels¹.

Exposure to vegetables they may have not been exposed to previously².

Improved willingness to taste and identify new vegetables^{3,4}.



National surveys indicate only 5.4% of children aged 5-12 years consume the recommended serves of vegetables each day⁵.

Vegetables are not only delicious but contain phytochemicals and antioxidants⁶, provide vitamins and minerals and dietary fibre that help your body stay healthy⁷.

Did you know?

Eating vegetables prevents constipation and obesity and reduces the risk of developing long term chronic illness later on in life⁶.

In Australia, 27.4% of children aged 5-17 years are either overweight (20.2%) or obese (7.4%)⁵ due to unhealthy food choices, lack of physical activity and poor family eating habits⁸.

Vegetable consumption habits established at a young age often persist into adulthood¹, thus indicating the need to teach children the importance of eating them.

Research suggests that those who garden regularly, eat more vegetables¹.

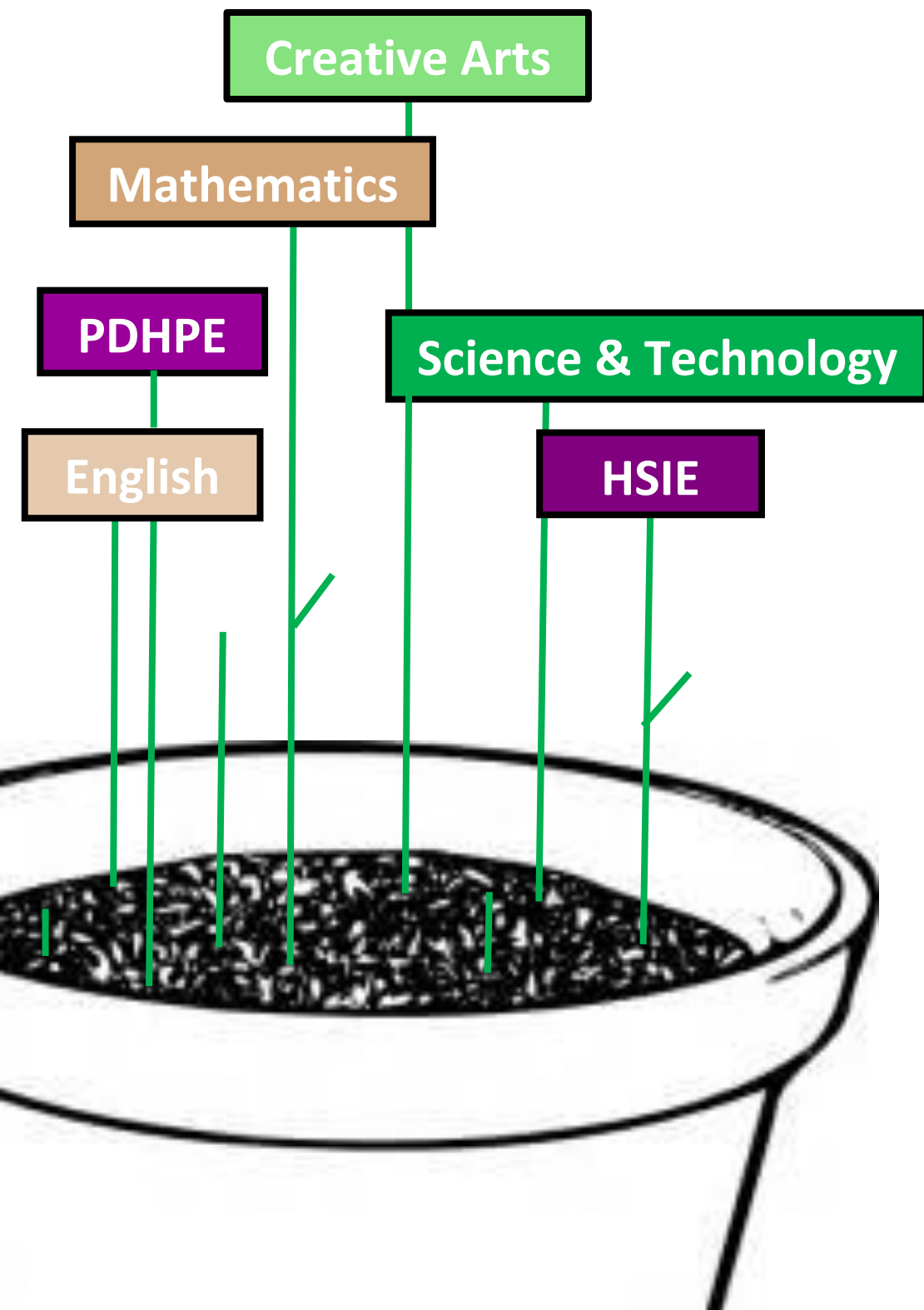
Much of the nutritional information that children acquire comes from schools¹. Therefore, the school environment becomes the ideal place to influence nutritional attitudes and behaviours through education¹.

The Australian Dietary Guidelines recommend that primary school children eat 4.5 to 5 serves of vegetables each day⁹.



Growing vegetables for teachers

Vegetable growing activities can be incorporated across the learning stages and across the key learning areas of the curriculum.



Vegetable Growing Activities and Links to the School Curriculum

English

Speaking and listening

- Discuss which part of the plant the vegetable has come from
- Interview family members about their favourite vegetable

Writing and representing

- Write the method for growing the vegetable
- Write a poem or rhyme about your favourite vegetable
- Write a recipe for a salad sandwich
- Write a newspaper article about the vegetable grown
- Write a creative story about a vegetable
- Write a persuasive piece on why you should eat vegetables

Reading and viewing

- Reading seed packet directions
- Reading texts related to gardening/growing

Spelling

- Use words related to vegetable growing as part of class spelling list

Mathematics

Number and Algebra

- Count out a cup worth of tomatoes
- Count out the seeds before planting them

Measurement and Geometry

- Measure the growth of vegetables daily
- Measure the radius of the vegetable
- Measure soil/water amounts and volumes
- Estimate and then calculate the area and volume of the containers
- Estimate the weights of different vegetables
- Use scales to weigh vegetables, make estimates and see if estimates are correct

Statistics and Probability

- Graph the growth process and height of vegetables

Science and Technology

Working Scientifically

- Set up and monitor a science experiment where the seeds are grown under different conditions e.g. one receives no water, the other no sunlight

Living world

- Discuss which vegetables grow above and under ground
- Teach the importance of watering vegetables efficiently and about the water cycle
- Draw pictures of the seeds planted and predictions of what the seeds will look like fully grown
- Identify and label parts of a plant and discuss which parts we can eat
- Investigate different methods of growing seeds and seedlings

HSIE

History

- Research the history of the seed being grown
- Research how different cultures use vegetables
- Research local indigenous plants

Geography

- Climate variations and how this influences growing vegetables

Environment

- Where our food comes from, how it is grown, how and when it is harvested and how it is produced
- How to care for our environment with ecofriendly practices such as water conservation, worm farms and what to do with organic waste
- Recycling and reusing for the garden
- Local food and food from different parts of the world

PDHPE

Safe Living

- Food Safety and Hygiene

Personal Health Choices

- Australian Guide to Healthy Eating
- Making healthy food choices
- Healthy lifestyle choices
- Discuss the benefits of eating vegetables

Interpersonal Relationships

- Working with peers during the vegetable growing activities

Creative Arts

Visual Arts

- Paint the fully grown vegetable
- Use the vegetable as inspiration to create an artwork
- Draw the growing process of the vegetable
- Use carrot tops or celery leaves to paint with

Music

- Teach songs with garden themes
- Create musical instruments using vegetables

Important Information

Safety When Gardening

- Ensure children wear gardening gloves to protect their hands against soil, insect bites and skin irritants
- Be aware of disease causing microorganisms found in potting mix and ensure children take these precautions when handling it:
 - Avoid breathing in the dust
 - Always wear gloves when handling potting mix and rinse gloves afterwards
 - Wash hands thoroughly with soap and water after using potting mix
 - Store potting mix as recommended by the manufacturer

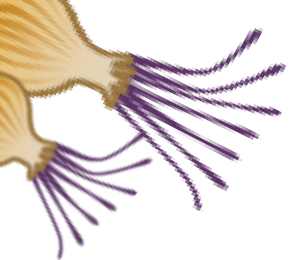


Food Safety and Hygiene Rules

During any activities that involve food, it is important to consider food safety and hygiene.

Things to remember:

- Ensure children wash hands with soap and warm water before touching food and dry their hands completely with a paper or single use towel after washing
- Inform children that when touching the vegetables, they do nothing else with their hands. If they have to blow their nose or cover their mouth, make sure they wash and dry their hands again
- Make sure children wash vegetables thoroughly with clean water before they prepare or eat them
- Throw away any unused food



Allergies

It is important to minimise exposure to those at risk of an allergic reaction, as food and other common allergies can cause life-threatening symptoms.

When planning and beginning growing activities in the classroom:

- Send home a permission slip to parents
- Supervise children with known allergies during growing activities or when tasting the grown vegetables
- If necessary, provide alternative gardening activity for children with allergies

Ideas for Funding Resources

There are many ways in which you can generate the resources necessary for the activities:

- Ask parents if they can bring in/donate the 'materials' required
- Seek donations and support from local nurseries
- Form links with local vegetable producers, green grocers and supermarkets to provide seeds and seedlings at a discounted price
- Try applying for a funding grant, for example Nutrition Australia's nude food grant
- Contact your schools Live Life Well @ School local support officer for further advice and assistance



Vegetable Growing Experiences

1. Egg Heads/ Hairy Grass Heads

2. Seedlings in a Bag

3. Growing Broad Beans in a Jar

4. Grow Your Own Salad Leaves

5. Grow Your Salad in a Pot

6. Growing Warrigal Greens

7. Mushroom Kits



Egg Heads/ Hairy Grass Heads

Location: Classroom

Growing time frame: 1 week

What you need: Egg shells, egg cups, alfalfa or water cress seeds, permanent marker, cotton wool, water

Activity

1. Clean out the inside of an eggshell
2. Draw a funny or smiley face on the shell using a permanent marker
3. Stand the eggshells up in the egg cup
4. Place cotton wool loosely inside the shell up to half way
5. Moisten with 2 tablespoons of water
6. Sprinkle $\frac{1}{2}$ teaspoon of seeds into each shell
7. Set the eggs on a sunny window sill
8. Water the sprouts regularly
9. Within one week the sprouts should be ready to add to a sandwich for lunch

OPTIONAL

- ❖ Replace eggs with a polystyrene cup or recycled coffee cup



Seedlings in a Bag

Location: Classroom

Growing time frame: 4 to 7 days

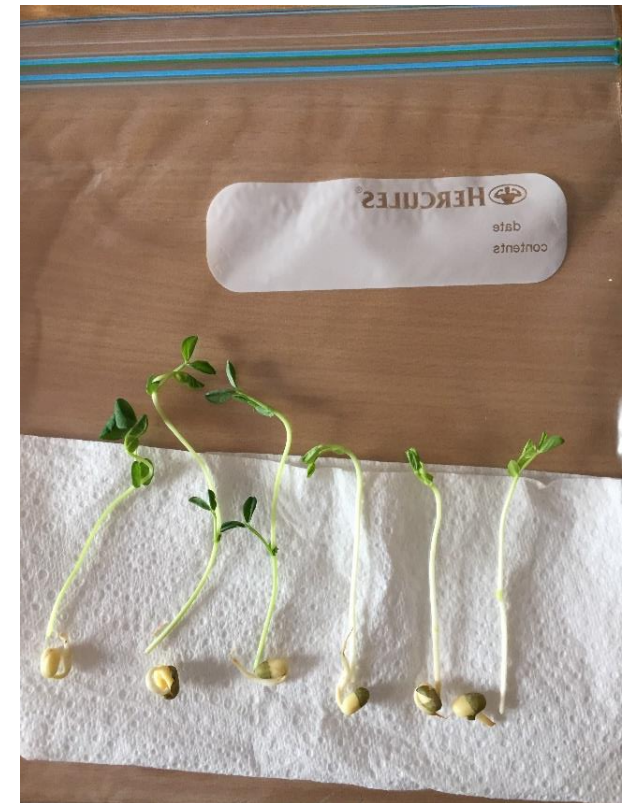
What you need: 1 Zip lock plastic bag per student, 1-2 sheets paper towel per student, stapler, dry lima beans, masking tape, water

Activity

1. Soak lima beans overnight
2. Label bag with child's name and planting date
3. Inside the bag place a folded paper towel
4. Measure 7cm from the top of the bag using a ruler
5. Going from one edge to the other, staple a row of staples through the plastic bag and paper towel. This mini pocket is where the seeds are going to sit
6. Pour enough water into the bag so that it soaks up the paper towel
7. Place the seeds in the mini pocket so that they are sitting on the top line of the staples
8. Seal the bag so no air can escape or get in to it
9. Tape the bag to a sunny window with the seed side facing the room
10. The seeds will begin to germinate within a few days

OPTIONAL

- ❖ Purchase mixed sprouts and beans for tasting



Beans in a Jar

Location: Classroom

Growing time frame: 4 days to 2 weeks

What you need: Large wide mouth jar, broad bean seeds (chickpea or whole green lentil seeds also work), paper towel, water

Activity

1. Thoroughly rinse an empty clear jar and leave it wet inside
2. Place a folded piece of paper towel inside the jar and press it up against the glass
3. Place a broad bean seed between the paper towel and the glass
4. Place the jar on a windowsill and label with the child's name
5. Add a spoonful of water to the seeds every day, enough to keep the jar moist
6. After a few days the broad beans should begin to sprout
7. After a couple of week's children will notice in the jar a broad bean seedling
8. Encourage children to take these seedlings home and plant them in a pot

OPTIONAL

- ❖ Purchase beans for students to taste



Grow Your Own Salad Leaves

Location: Classroom

Growing time frame: 4 to 8 weeks

What you need: Loose leaf lettuce seeds e.g. butter, cos, iceberg, coral, oak, plastic containers, potting soil, spray bottle, water

Activity

1. Wash a clear empty plastic container – empty margarine tubs or yoghurt tubs work well
2. Poke drainage holes in the bottom of the container
3. Fill container with moistened potting soil, add water until the mix is evenly moist
4. Follow directions on seed packets when sowing seeds
5. Use a spray bottle to water the seeds – don't over do it. The soil must be moist but not too soaked
6. Place the containers near the sunniest window in the classroom
7. Water the lettuce plants every day in order to maintain the moisture of the soil. Stick your fingertip into the top of the soil to check if its dry. If it is dry, then the plant needs watering
8. Seeds should germinate in 1 to 2 weeks
9. After 4 to 8 weeks the leaves will be ready to harvest

FUN IDEA

- ❖ Ask students to bring in a sandwich or salad to which they can add the lettuce



Grow Your Salad in a Pot

Location: Outside

Growing time frame: Depends on which vegetables used (see seed packet)

What you need: Any of; cucumber, tomato, lettuce, snow pea, radish and capsicum seeds, large garden pot, potting mix, water

Activity

1. Choose a large pot and place outdoors in a sunny position
2. Fill pot with potting mix
3. Plant seeds or seedlings according to the directions on the packet
4. Mulch well to save water and keep the potting mix in good condition. Seedlings can be mulched immediately after planting. If planting seeds, wait until they have sprouted before mulching, otherwise the mulch can prevent them from growing through the surface
5. Water vegetables every two days, and if the weather is warm, water daily. When watering, make sure you give the mix a thorough drenching so that water drains from the drainage holes.
6. See seed packet for growing time
7. Once vegetables begin to grow children can taste their salad vegetables

FUN IDEA

- ❖ Ask students to bring in a sandwich or salad to which they can add the vegetables



Warrigal Greens

Location: Outside

Growing time frame: 8 to 12 weeks

What you need: Large pot or container, soil, seeds

1. Go to any beach and find a plant as warrigal greens grow on the foreshore or in a costal environment
2. Choose a pot and place outdoors in a sunny position
3. Fill pot with potting mix
4. Plant warrigal greens
5. Water plant daily keeping soil moist
6. Watch the greens grow and they will be ready to taste

Bush Tucker

Warrigal Greens are an indigenous plant also known as Warrigal Spinach, New Zealand Spinach and Botany Bay greens.

They were one of the first native Australian vegetables to become popular with European settlers.



Mushroom Kits

Location: Inside classroom

Growing time frame: 2- 3 weeks

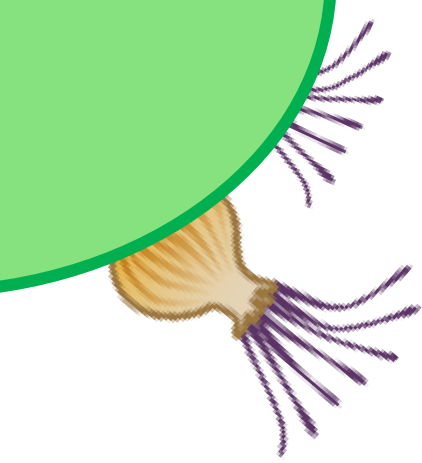
What you need: Mushroom Kit, water

Activity

1. Purchase mushroom kit online or from a local hardware store
2. This kit is designed to be started immediately. If you choose to delay starting your kit for a few weeks, store the kit in a cool location
3. Open the box and remove the bag of dry peat moss called casing
4. Leave the large bag of compost inside the box. If the compost is brown, close the kit and keep it at 18-22 degrees for 7-10 days, before adding the peat moss casing layer
5. Open the plastic and evenly spread the casing over the compost, leaving it loose and fluffy. Leave the kit open and out of direct sunlight
6. Every 2-3 day's mist with water
7. After two to three weeks the mushrooms will begin to form
8. Twist each mushroom out, removing any remaining stump
9. Have students add mushrooms to a sandwich or salad for lunch

If mushrooms aren't your thing, why not try using a carrot or cucumber kit!





Permission Note

Dear Parents,

Our class is going to be participating in vegetable growing activities in the classroom this term. Children will have the opportunity to grow a variety of vegetables and taste what they grow. These opportunities will be a fun and enjoyable way to improve children's attitudes towards vegetable consumption and hopefully encourage them to try and taste new vegetables.

We are aware that a small number of children do have allergies. Therefore, it is important to let us know. Please sign and return the permission slip below, to allow your child to participate in this growing experience and to indicate any allergies if appropriate.

Regards,

Teacher



Permission Slip for children to grow vegetables in class

I give permission for my child/children _____ to participate in the activities being conducted in the classroom.

1. **Does your child have any allergies or food allergies?** **Yes / No**

If yes, please specify the allergy and which foods should be avoided.

Signed

(Parent/Guardian)



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