

Glamorgan School - K-9 | Calgary - 2026 - Year 2

Vegetable Garden

This year, we were able to build and establish our two raised vegetable beds with the help of our kindergarten and grade 7 classes. We learned about Hugelkultur and added a layer of twigs and grass clippings at the base of the raised beds, on top of cardboard and brown paper, to create air pockets for the root systems. The twigs are meant to absorb more water; we watered them in well before adding the topsoil layer.

GARDEN SMARTER. BUILD SOIL. GROW STRONGER.

HOW OUR HUGELKULTUR GARDEN WORKS!

Hugelkultur (hoo-gul-culture) is a gardening method that copies what happens on a forest floor. We build healthy soil layer by layer using natural materials!

THE LAYERS IN OUR GARDEN BED (BOTTOM TO TOP)

- 1 ORGANIC VEGETABLE SOIL**
 - Provides nutrients
 - Supports root growth
 - A home for soil life
- 2 GRASS CLIPPINGS & LEAVES**
 - Adds nitrogen
 - Helps heat the pile
 - Starts the decomposition process
- 3 BRANCHES & TWIGS**
 - Act like a sponge
 - Store water for plants
 - Create air spaces for roots
- 4 CARDBOARD & BROWN PAPER**
 - Smother weeds
 - Holds moisture
 - Feeds soil organisms
- 5 GRASS BASE**
 - Helps retain moisture
 - Starts the decomposition process

WHAT HAPPENS UNDERGROUND?

Tiny living things do the big work! Worms, fungi, bacteria and other microorganisms break down the layers and turn them into rich, healthy soil.

WORMS FUNGI BACTERIA

WHY WE USE HUGELKULTUR!

- SAVES WATER
- REDUCES WASTE
- BUILDS HEALTHY SOIL
- SUPPORTS SOIL LIFE
- HELPS PLANTS GROW STRONG

OUR GREENHOUSE COVER

keeps plants warmer, protects from wind and helps seeds sprout. We open it during the day for fresh air, pollinators and healthy plants!

NATURE RECYCLES EVERYTHING— AND SO DOES OUR GARDEN!

AMAZING SCIENCE!

Terracotta is porous, which means tiny holes allow water to move through it slowly. The soil pulls water from the olla only when it is needed. It's like an underground water bottle for plants!

OLD IDEAS CAN STILL HELP US GARDEN TODAY!

HEALTHY SOIL. HAPPY PLANTS. STRONG COMMUNITY.

OLLA: WATER SAVERS UNDERGROUND!

An olla (OY-yah) is an ancient watering system used by gardeners for thousands of years.



HOW DOES IT WORK?

- 1 Fill the olla with water.
- 2 Water slowly moves through the porous terracotta walls.
- 3 Plant roots grow toward the moisture.
- 4 Plants take only the water they need.

WHY USE OLLAS?

- SAVES WATER
- REDUCES WATERING TIME
- HELPS PLANTS DURING HOT WEATHER
- WATERS ROOTS, NOT LEAVES
- ENCOURAGES STRONG ROOT GROWTH

THE THREE SISTERS GARDEN

A GIFT FROM THE HAUDENOSAUNEE

The Three Sisters is a traditional planting method developed by the Haudenosaunee / Iroquois people and other Indigenous Nations. The three plants help one another grow.



HOW THE THREE SISTERS WORK TOGETHER

- CORN** grows tall and strong. It provides a natural pole for the beans to climb.
- BEANS** climb up the corn. Their roots add nitrogen to the soil, which helps all the plants grow.
- SQUASH** spreads across the ground. Its large leaves shade the soil, keep moisture in, and help reduce weeds.

WHY PLANT THEM TOGETHER?

The Three Sisters support one another like a family.

- Corn gives support.
- Beans feed the soil.
- Squash protects the ground.

Together they grow better than they would alone!

WHAT CAN WE LEARN?

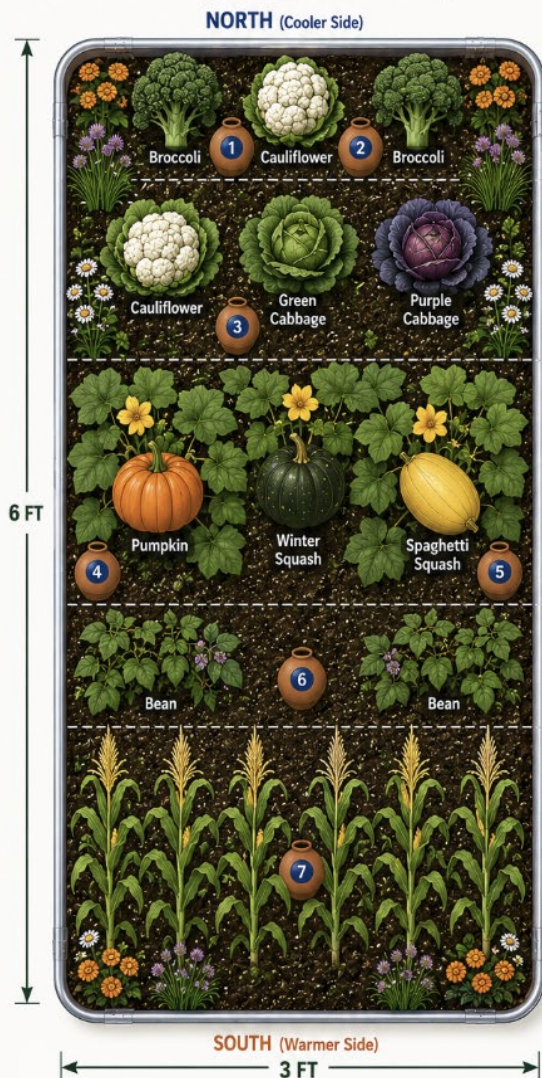
- ★ Plants can help one another.
- ★ Healthy ecosystems work together.
- ★ Indigenous Peoples have shared important agricultural knowledge for generations.

WORKING TOGETHER HELPS EVERYONE GROW!

We learned about companion planting and incorporated the concept of the 'Three Sisters' based on the grade sixes learning about the Haudenosaunee / Iroquois method of planting - corn, beans and squash.

BED 1: THREE SISTERS + BRASSICA GARDEN

6 ft x 3 ft Galvanized Raised Bed | Hugelkultur Soil | Olla Irrigation | Companion Planting



BRASSICAS (North Zone)

Morning sun with protection from hot afternoon sun.

SQUASH (Middle Zone)

Sprawls around corn and beans, shading soil and reducing weeds.

BEANS

Climb the corn stalks.

CORN (South Edge)

Tall growers provide afternoon shade for brassicas.
6 plants in a 3 x 2 block.

PLANT KEY (SOUTH TO NORTH)



1. CORN

6 plants in a 3 x 2 block. Tall growers provide afternoon shade for brassicas.



2. BEANS

2 plants, one on each side of center. Climb the corn stalks.



3. SQUASH

(THREE SISTERS)

Pumpkin, Winter Squash, and Spaghetti Squash. Sprawls around corn and beans, shading soil and reducing weeds.



4. BRASSICAS (NORTH ZONE)

2 Broccoli, 2 Cauliflower, 1 Green Cabbage, 1 Purple Cabbage. Morning sun with protection from hot afternoon sun.



5. PEST MANAGEMENT PLANTS

Marigolds, Chamomile, and Chives interspersed around edges and between crops to attract beneficial insects and deter pests.

OLLA IRRIGATION - 7 OLLAS (25 cm)

- 1 Between broccoli and cauliflower (left side)
- 2 Between cauliflower and broccoli (right side)
- 3 Center of brassica zone
- 4 Left side of squash zone
- 5 Right side of squash zone
- 6 Between bean plants
- 7 In the corn block (center)



COMPANION PLANTS & BENEFITS



Marigolds
Help deter nematodes and attract pollinators.



Chives
Allium scent helps deter aphids and other pests.



Chamomile
Attracts beneficial insects and improves soil health.

PLANTING TIPS

- Keep squash vines toward edges so they can spill outward.
- Add mulch between plants to conserve moisture.
- Check ollas weekly; refill when 1/4 full.



GROW & LEARN

A living classroom to observe cooperation in the Three Sisters guild and more!



SUN & SHADE

Corn on the south side shades brassicas during the hottest part of the day.



THREE SISTERS

Corn supports beans, beans add nitrogen, squash shades soil and suppresses weeds.



WATER WISE

Ollas deliver water deep to the roots, reducing evaporation and water waste.



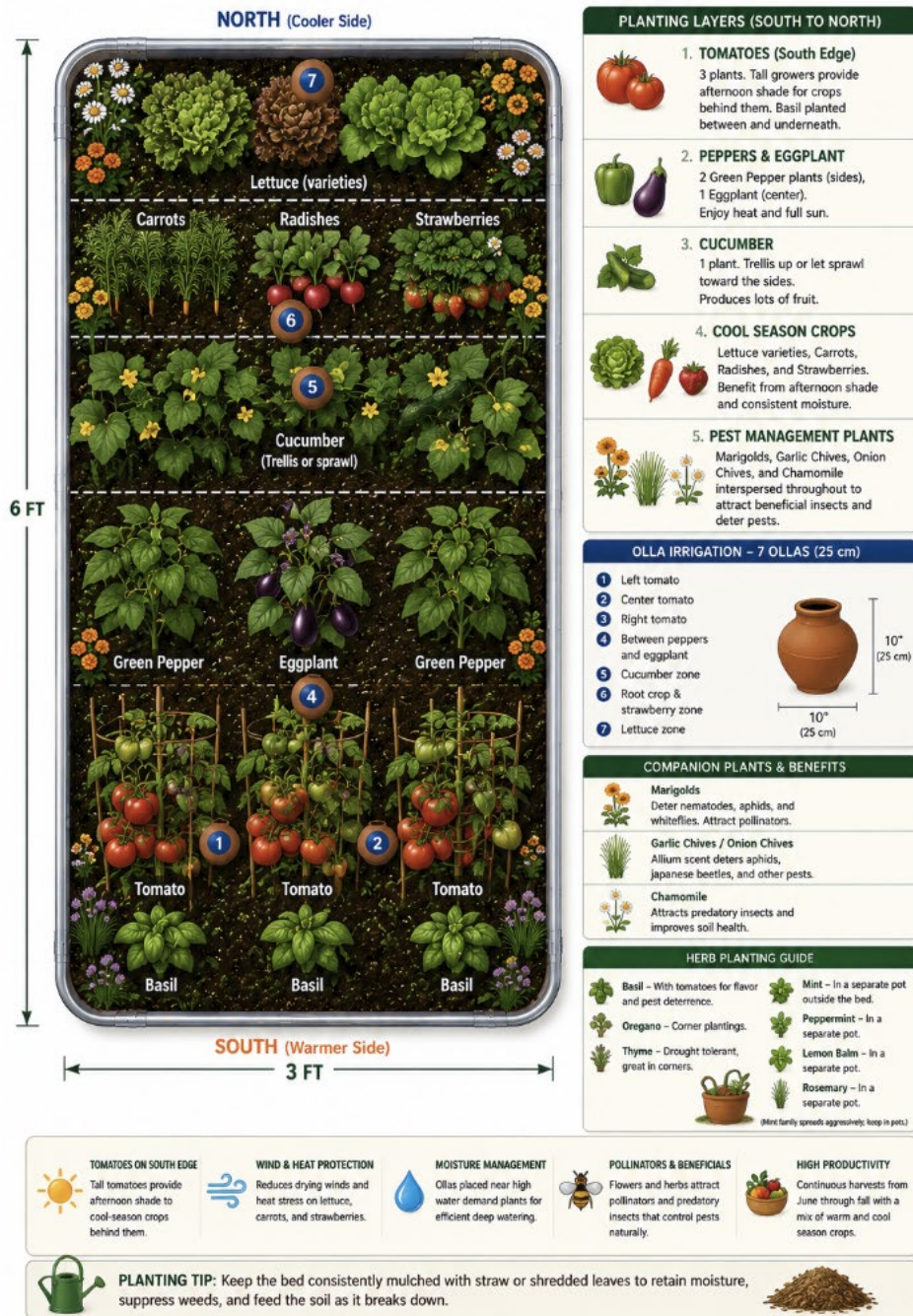
HUGELKULTUR BENEFITS

Logs and organic matter hold moisture, feed soil biology, and create long-term fertility.

The other bed, we dubbed our 'pizza garden' as we have many of the flavours (oregano) and healthy toppings for pizza (tomatoes, green pepper), a kindergarten favourite food (they were hoping to grow cheese too).

BED 2 - KITCHEN GARDEN & POLLINATOR BED

6 ft x 3 ft Galvanized Raised Bed | Hugelkultur Soil | Olla Irrigation | Companion Planting



The grade ones saved seeds from their October pumpkin exploration and grew pumpkins that they added to our flower beds along the side of the school. Other grades painted rocks with kindness messages and placed them around the bottom of the greenhouse covers to keep them wind-safe.

We informed the community about the project and invited them to pop by over the summer to harvest. There is a harvest jar kept in the bed - a glass jar with scissors and bags to harvest and take home produce. We also have a summer parent/student watering schedule in which a family takes care of watering for one week. Watering keys and a training video were provided. Our signs are outdoors to let the community know what we have been up to.

OUR COMMUNITY GARDEN

Together We Grow Food, Friendships & a Healthier Planet! ♥

GROWING TOGETHER

Welcome to our school community garden!

These two raised garden beds were created by students, families, staff, and community members working together.

Everyone is welcome here! ♥



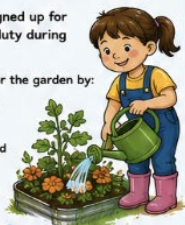
CARING FOR OUR GARDEN

School families have signed up for one week of watering duty during the growing season.

Each family helps care for the garden by:

- 💧 Checking water levels
- 💧 Filling the ollas
- 💧 Watering when needed
- 💧 Removing weeds
- 💧 Watching plants grow

Thank you to all of our garden helpers! ♥



HARVEST STATION ♥

Need supplies? Look for our Harvest Box!

- 🛒 Harvest bags
- ✂ Scissors

Please return supplies when you are finished so others can use them too!



WE GROW SUSTAINABLY

We use natural methods that help our garden, our community, and the Earth!

Hugelkultur



We build healthy soil with layers of natural materials.

Ollas



Underground watering pots save water and help plants thrive.

The Three Sisters Garden



Corn, beans & squash grow together and help each other!

Companion Planting



We plant friends together to help our garden grow strong and healthy!

HOW WE USE COMPANION PLANTING

Marigolds



Marigolds around our vegetables naturally repel many unwanted insects.

Cinnamon



Cinnamon around plants helps repel ants, slugs and other unwanted pests.

Good Plant Friends



We plant plants that are good neighbors to help each other grow strong!

Healthy Soil • Healthy Plants • Healthy Community ♥

HARVESTING IS WELCOME! ♥

When vegetables, herbs, and fruits are ready, school families and community members are welcome to harvest from the garden.

Please harvest in a way that helps the garden continue to grow for everyone.

HOW TO HARVEST SUSTAINABLY



Take only what you need.

Leave enough for others.



Pick the ripe produce.



Use scissors to cut herbs, beans, peas & greens.



Leave healthy plants behind. Don't pull out entire plants unless they are finished.



Be gentle. Treat plants, insects and soil with care.



Leave some for pollinators. Flowers help bees and butterflies!

★ A good rule: Take no more than about one-third of what is ready to harvest. This leaves enough for other families, pollinators, future harvests and seed production.

WHY SHARE A GARDEN? ♥

- 📖 Learn where food comes from
- 🌱 Care for living things
- 👥 Build community connections
- 🍎 Share healthy food
- 🌍 Reduce waste & protect the Earth

OUR GARDEN PROMISE ♥

Take a Little.

Leave a Little.

Care for a Lot.

Thank you for helping our garden grow for everyone! ♥

♥ GROWING FOOD • GROWING KNOWLEDGE • GROWING TOGETHER ♥



Pollinator Garden

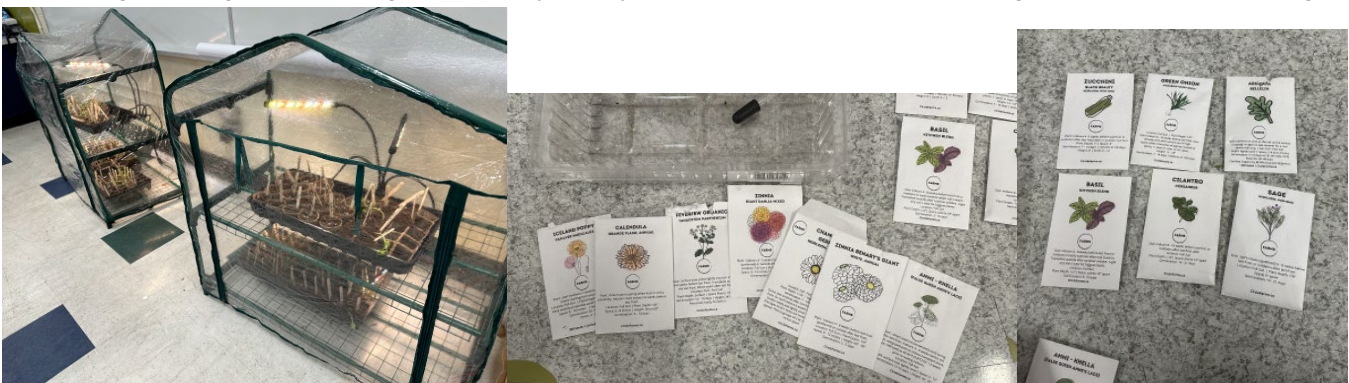
We also enhanced our pollinator/butterfly garden to make it more drought tolerant by adding a layer of brown paper, a layer of soil and cedar mulch as we were finding the stones around the bed were creating an oven effect for the plants. We also added ollas to the butterfly and vegetable gardens which are terracotta pots with cork in the bottom hole and the saucers as lids to create a deep root watering system to help with saving water and targeting the root systems. Our kindergarten students raised painted lady butterflies again this year and released them at our pollinator garden.





For our spring concert, the kindergarten students learned a song called A Little Seed that shared the steps needed to end with a flower. In this image, they are singing it as a thank-you video.

The grade 7's grew their plants as part of the 'food and fibre' unit in science indoors in the greenhouses we purchased last year. They also included research into indigenous plantings and the uses of those plants by local indigenous groups throughout history. They added these plants to our vegetable and pollinator gardens.



The kindergartens also added an art installation to the butterfly garden this year. After reading the story 'Only One You,' by Linda Kranz each student painted their own 'fish' rock to add to our 'pool noodle' stream, and we added a copy of the story to the fencing that was added to stop people from walking through the butterfly garden on the way to the bus.



Next Steps

Our goal is to keep the project going by starting our vegetables in our tallest greenhouse, housed in the kindergarten area, much earlier in the year (Jan/Feb), now that our grow light system has been set up. We will need to add a watering system to continue the watering over spring break - so a pump, tubes and a water bin with a timer will be needed to maintain our plants when we are not in the building. Our pool noodle and blue-sand river will be extended into our pollinator garden, and next year's K students will add a fish-painted stone to continue their story as they raise butterflies, start seedlings, tend the garden, and so forth. Grade 7s will continue to grow their plants and add them year after year. As food insecurity continues, we will offer the fresh produce freely to all who come by and harvest. Our school serves 6 low-cost housing complexes within our zone. Other grades will continue to be invited into the garden to complete their various projects.