LITTLE HANDS GROWING & COOKING HEALTHY FOODS

A Gardening & Cooking Toolkit

PUBLIC HEALTH
IMPERIAL COUNTY CALIFORNIA

First 5 Imperial
Imperial County Children and Families First Commission

First Five: Healthy Children, Healthy Lives
Promoting healthy habits in early childhood!

PREFACE

This toolkit has been developed to assist local early care centers and preschools in Imperial County who want to start a garden and/or want to implement healthy eating and active living sensory exploration activities at their sites. It includes tools and resources that can be incorporated into the daily child care programming and are intended to help young children develop taste preferences for fruits and vegetables and increase the awareness of how fruits and vegetables are grown.

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INTRODUCTION

The essence of the Little Hands Growing & Cooking Healthy Foods (Little Hands) Project interventions is repeated fruit and vegetable exposure and the relationship between gardening and fruit and vegetable consumption. Through the Little Hands Project, child care centers implement a raised-bed garden and regular cooking and sensory exploration activities at their site. Planting a garden is an excellent hands-on learning activity and benefits children, families, child care staff, and the community in several ways. In particular, children are able to adapt communication, responsibility, math, science, and language arts skills during their gardening activities. Most importantly, the garden activities expose children and their families to nutrition education, healthy eating, and physical activity.

According to Maureen M. Black and Kristen M Hurley, the dietary habits of children are established early in life. What children eat during their first five years, shapes the types of food they will prefer to eat the rest of their lives. It is therefore important that young children are exposed to a variety of healthy foods in their formative years. Consuming fruits and vegetables and maintaining a healthy body weight is a dietary strategy to help reduce both obesity rates and the risk of several chronic diseases. Obesity among Americans, including young children, is a growing national concern. Obesity is linked to increasing the probability of acquiring chronic diseases such as heart disease, diabetes, and some types of cancers.

This toolkit is intended to be a resource to implement a garden at preschool sites, introduce new fruits and vegetables to young children, and to provide fun learning opportunities that positively impact a child's growth and development. Training and technical assistance is folded in, and is intended to provide an additional layer of service to child care providers that may need minimal assistance in establishing or continuing with gardening and/or nutrition activities. Most Americans, including children, need to increase the consumption of fruits and vegetables; the activities in this toolkit aid children to accept new fruits and vegetables and increase the enjoyment of consuming healthy foods by exploring their garden utilizing their 5 senses (sight, touch, sound, smell, and taste).

GARDENING

Plants require soil, water, sun and time to grow. They can thrive in nearly any plot of soil with sufficient sunlight and water. Plots of soil next to sidewalks, flowerbeds, and even shrubs can do double duty as garden spots. If space is limited, check for an available community garden spot or other nearby locations suitable for gardening activities.

This toolkit includes instructions to plant any type and size of garden, such as container gardens, raised beds, and traditional in-ground gardens. In addition, the vegetables utilized in the toolkit are "easy-to-grow" vegetables which can be grown in the fall and spring; this allows you to plant at any time of the year. What follows are simple steps to help preschool sites plan and get started with the gardening activities.

Planning: It is recommended that a garden committee be established to plan the garden activities. Potential committee members could be recruited through flyers announcing a meeting or personally informing staff, parents, and students. The garden committee should include students, parents, staff, community members, local gardeners and any additional volunteers, if possible. Utilize **Appendix 1: Sample Agenda for First Meeting** to help you plan the first meeting. Develop a list of tasks that will be implemented and assign responsibilities to each member. Select a garden coordinator to manage the team and lead the development of the garden. Create an activity calendar to assist you in planning ahead **Appendix 2: Sample Activity Calendar** Plan and advertise the "kick-off" date to students, parents, and staff with a letter or flyer. A sample letter and flyer can be found in **Appendix 3: Kick-Off Letter** and **Appendix 4: Kick-Off Flyer.**

Garden Guidelines: Garden guidelines should be established by the garden committee to help set the framework of how the garden will operate and to help define the roles of the participants. Guidelines should include, but it is not limited to, garden rules, health and safety policies, and garden maintenance. The guidelines should be made available to every participant.

Site Selection: When selecting a garden site, certain factors shall be taken into consideration, such as good growing conditions, sunlight, water access, the size of the land, and obtaining permission from the land owner, agency or appropriate person prior to planting. Additionally, keep in mind that the garden needs to be accessible to children.

Factors for selecting a site:

- **Sunlight**: The garden site should be located in an area that has full direct sunlight for least 5-8 hours, every day;
- **Water:** Water is an important requirement; it allows for a better chance of producing a plentiful harvest. Using a hose is not recommended as a watering system; it may also be too heavy for a child to carry and can cause a child or staff member to trip over the hose. The garden should be as close as possible to a water faucet;
- **Drainage**: It is not recommended that the lowest place in the site, where water sits longest after it rains, is selected to locate the garden. If a low spot is the only available area to plant the garden, the area may be modified by utilizing raised beds; and
- **Soil:** If planting in the ground, it is highly recommended that the soil be tested prior to planting.

Garden Design: Designing your garden is an important step before planting. This can become a class activity by having children draw out their design, utilizing shapes, or can be designed by the garden committee. Prior to designing the garden, the committee must decide which type of garden will be implemented. In this toolkit,

3 types of gardens are described in **Appendix 5: Types of Gardens.** A garden model sketch should be implemented to design a successful garden; the model will assist as a map, and should include general principles such as:

- A welcoming and educational environment for children;
- Appropriate water access;
- 5-8 hours of sunlight access (no tree or building shading);
- Plot orientation (plant for optimal growing conditions, direct sunlight);
- Physical accessibility (adequate spacing to allow mobility for all participants, walkway); and
- Fencing (if needed).

Appendix 6 Garden Layout can be used as an example to assist in designing your garden. Once the garden layout is complete, **Appendix 7: Essential Gardening Tools** can be utilized to decide what equipment will be required to implement the garden.

Preparing the Site: The Garden Committee should set a day, prior to gardening, to clean out the site. Besides removing weeds and unwanted material, the ground may need to be leveled. Some materials, such as bricks or rocks, can be utilized in the garden design. A watering and/or a drainage system may be implemented after clearing out the site of any unwanted material.

Soil: According to the United States Department of Agriculture (USDA), all soil must be tested prior to planting, however, if a raised-bed garden is selected, soil testing is recommended, but not required. Soil is the support system for plants and plays an important role in whether the plants will thrive. There are 3 types of soil for gardening: sand, clay, and loam. (USDA Food and Nutrition Service, 2013) Sandy soil permits easy air flow which allows the plant roots to breathe easily; because of the easy air flow, sandy soil dries up quicker than other soils and requires more watering. Clay soil contains clay particles which absorb more water and maintain moist for a longer period. Clay soil is recommended for high temperature areas. Loam soil is a mixture of 3 components; sand, silt, and clay. Loam soil can hold plenty of moisture and drains well allowing sufficient air to reach the roots of plants. Selecting the correct soil for the garden will lead to a successful garden.

Plant Selection: There are a variety of plants to choose from to plant in your garden. The Garden Committee can decide what to grow and may choose to plant from seeds, transplants or a combination of both. Utilize **Appendix 8: Imperial County Herb Planting Calendar** to assist in deciding what, when, and how to plant seeds or transplant.

Planting: Once the planning & prepping is complete, kick-off with your garden! Try not to prolong the planning and prepping stage; as soon as the site is ready, begin planting. Utilize **Appendix 9 Raised-Bed Garden Box** to help with the design of the garden box. A permanent sprinkler system may be installed for irrigation. Begin to plant by following the guidelines on **Appendix 10 Planting, Harvesting & Storage Chart**. The chart will inform you how deep each plant must be planted. Make sure sufficient space is left between plants to allow for growth: big leave plants require additional space. Once all planting is complete, follow the watering guidelines on **Appendix 11 Average Plant Watering Requirements**.

Harvesting & Storing: The flavor of fruits and vegetables is influenced by their quality. According to David H Trinklein from the Division of Plant Sciences at the University of Missouri, "Timely harvest and proper storage help maintain the quality of freshness of garden vegetables." (Trinklein, 2010) It is extremely important to know when to harvest vegetables and how to store them on site or at home. All vegetables should be harvested at the beginning of the day when they have the most moisture. Try to avoid any bruising or

damage to the produce in order to minimize decay. Make sure to keep fresh produce out of direct sunlight and place them in proper storage as soon as possible. Refer to **Appendix 10** for harvesting and storage guidelines.

Maintaining the Garden: A successful garden requires regular and ongoing maintenance throughout the gardening season. Students, parents, staff, and/or volunteers are highly encouraged to work together. A maintenance to-do list should be established and completed regularly. The to-do list should include tasks such as:

- Watering the garden (**Appendix 11**)
- Keeping pathways clean and clear for easy safe walking
- Cleaning and storing of gardening tools
- Dispose of any litter and yard debris (branches, twigs, weeds, etc.)

Food Safety: The purpose of this toolkit is to increase healthy food awareness and consumption through the creation and maintenance of a garden; however, fresh fruits and vegetables have been linked to several food borne illnesses in the U.S. There are a set of risk-reduction steps pointed by the U.S. Food and Drug Administration, to prevent against food borne illness-causing pathogens. Practicing the following simple steps will reduce contamination risk and may be utilized in any type of garden. Keep in mind that special care must be implemented with regard to food safety when it comes to children. Their susceptibility to obtaining a food borne illness is much higher than a healthy adult as their immune system is still developing.

1. The first risk-reduction step is to stay home if sick. Pathogens such as bacteria and viruses are not easily washed off fresh produce. Staying home when sick will help contain the illness and prevent exposure to others.
2. Maintaining clean and sanitized hands is important. Make sure to always properly wash hands before and after handling fresh produce. Disposable, one-time use gloves may be utilized when handling the garden, but it is best to harvest produce with bare hands. Following the proper hand-washing procedures will reduce the chances of obtaining a food borne illness. Visit http://www.cdc.gov/bam/teachers/documents/epi_4_hand_wash.pdf to implement a class hand washing activity experiment.
3. Be aware of the site history. This will help to determine if any hazards exist in the soil. If you are unaware of the site history, it is highly encouraged to test the soil prior to planting.
4. Know the water source. According to the Centers for Disease Control and Prevention (CDC), contaminated or untreated water is a source of E.coli, Salmonella, Hepatitis A, and Norovirus bacteria. Non-potable water may also introduce metals, chemicals or pathogens into your garden. Potable water is required for hand washing, cleaning gardening tools, and watering purposes. Most city water systems should be safe, but testing facilities can provide you with further information. Also, when watering the garden, make sure to water at the base of the plants; this will prevent water and soil splash on the edible portion of the plant and minimize the risk of consuming a pathogen.
5. Keep all harvest and harvesting tools clean. When harvesting produce, remove as much dirt as possible while still in the garden. All harvest should be properly washed and/or processed in a clean and sanitized area. Harvest containers shall be washed and sanitized on a regular basis. Attempt to use specific containers for specific fruits and vegetables to prevent cross-contamination. Do not re-use plastic bags or unwashed containers.

6. Clean and properly store all gardening tools after every use. All tools shall be cleaned and sanitized to prevent cross-contamination. Make sure to store tools in a locked shed where animals cannot get to them. (NC State University)

Sun Safety: The Skin Cancer Foundation estimates that 80% of lifetime sun exposure occurs during childhood. One blistering sunburn may double the risk of getting melanoma later in life. Protect the children by following these easy 5 steps from the American Academy of Dermatology and the American Academy of Pediatrics.

1. Limit outdoor playtime between 10 am and 4 pm: avoid unnecessary exposure when the sun's rays are at their strongest. Shady spots can be as tricky because of reflected light. If your child is outdoors during these hours make sure to apply sufficient sunscreen.
2. Apply sunscreen properly: apply sunscreen 30 minutes before your child goes out in the sun. Choose a broad spectrum (UVA and UVB) sunscreen with SPF 15-50.
3. Cover up: wear protective clothing such as: wide brim hats, dark color clothing, long sleeves, and pants whenever possible, sunglasses with UV protection. Bring an umbrella, if needed.
4. Keep watch on medications. Some medications increase the skin's sensitivity to the sun, so make sure to ask your doctor whether the child may be at risk. Prescription antibiotics and acne medications are the most notorious culprits, but when in doubt ask.
5. Set a good example for the children: if the child sees that sun-safety rules are followed, he/she will more than likely follow as well.

CLASSROOM ACTIVITIES

The following activities will engage the students with fun and informative lesson plans based on gardening, healthy eating and physical activity. Exposing children to vegetables and healthy habits at an early age will increase the chances of them enjoying and consuming a variety of fruits and vegetables in the future. The classroom activities will involve interactions between staff and students which will result in positively impacting the student's well-being. The activities will include reading, arts and crafts, cooking, and the utilization of their five senses. The schedule below will assist in planning some of the activities. **Appendices 12-22** include lesson plans with various activities, such as reading, arts and crafts, and cooking.

Reading Activities: The reading activities provide a variety of pre-reading activities. These pre-reading activities ensure students will be able to comprehend the text they are about to read together as a class. They also allow children to build their knowledge and have the ability to identify information related to gardening and/or nutrition. Some of the pre-reading activities may include; 1) asking the children what they know about the topic; 2) examining pictures and captions in the book, and 3) looking at bolded words, and asking students several questions related to the story and allowing them to answer afterwards.

Art and Craft Activities: Arts and crafts allow children to strongly stimulate their creativity and imagination. The art and craft activities below will allow the children to create a drawing of the featured fruit or vegetable in order to understand the basic fruit/vegetable characteristics. The activities will allow students to work independently, thus allowing them to adapt problem solving strategies.

Cooking: It is never too soon to teach children about healthy eating. Allowing the children to assist with the meal-making process will encourage healthy food choices. It may also help build their confidence and creativity and will enhance communication with friends, staff, and family members. Each cooking activity will include step by step guidance along with the recipe.

Schedule of Activities: It is highly encouraged that monthly classroom activities be scheduled. The Appendices mentioned above include lesson plans with an overview and objectives, as well as materials needed for the activity and preparation requirements. Below is a sample schedule of activities that can be adapted in the classroom.

Month	Activity
October	Fall Garden Kick-Off
November	Radical Radish Exploration
December	Cooking Activity-Groovy Green Smoothie
January	Cooking Activity-Veggie Alphabet Soup
February	Spring Garden Kick-Off
March	Container Activity-Growing Basil Seeds in Container
April	Tell Us Your Garden Story!
May	Cooking Activity-Tiny Tacos and Garden Salsa
June	Sunflower Seed Art Activity

APPENDIX 1: SAMPLE AGENDA FOR FIRST MEETING

Prior to calling a meeting, plan ahead and prepare an agenda to implement a successful meeting. Set up a date, time, and location for the meeting. Once you have a set date, make sure you notify people ahead of time by posting flyers, sending out an email, or word of mouth; send out a reminder a few days prior.

LITTLE HANDS GROWING AND COOKING HEALTHY FOODS PROJECT

Name of Preschool

Date/Time

Garden Kick Off

SAMPLE AGENDA

1. **Welcome/Introductions**
   a) Little Hands Growing and Cooking Healthy Foods Project

2. **One-on-one Gardening with Parents**
   a) Gardening Demonstration

3. **One-on-one Gardening with the First Group of Children**
   a) Demonstration of planting seeds to parents, children, and staff
   b) Parents and children will plant seeds in school garden
   c) Take home activity: parents and children can plant seeds in paper pots to take home and transplant
   d) Group picture

4. **One-on-one with the Second Group of Children**
   a) Demonstration of planting seeds to parents, children, and staff
   b) Parents and children will plant seeds in school garden
   c) Take home activity: Parents and children can plant seeds in paper pots to take home and transplant
   d) Group picture

5. **Garden Kick-Off Clean-Up**

APPENDIX 2: SAMPLE ACTIVITY CALENDAR

LITTLE HANDS GROWING AND COOKING HEALTHY FOODS PROJECT

UPCOMING EVENTS

(CENTER NAME) (YEAR) FALL ACTIVITIES		
Date	**Time**	**Activity**
		Cool Weather Garden Kick/Off Container Garden Activity
		Radical Radish Veggie Exploration Art Activity
		Cooking Activity-Groovy Green Smoothie With Swiss Chard Art Activity
		Cooking Activity-Recipe (Name) Art Activity
(CENTER NAME) (YEAR) SPRING ACTIVITIES		
Date	**Time**	**Activity**
		Warm Weather Garden Kick/Off Container Garden Activity
		Pesto Bruschetta Art Activity
		Sunflower Art Activity "Tell Us Your Story"
		Graduations

APPENDIX 3: SAMPLE KICK-OFF FLYER (ENGLISH)

(CENTER NAME)
LITTLE HANDS GROWING AND COOKING HEALTHY FOODS:
GARDEN KICK OFF

DATE
TIME
CENTER NAME

PLEASE JOIN US!

Come learn, help build, and plant our above-ground garden boxes.

Participating families will be provided with light and healthy snacks and tips on starting your own home garden!

If you have any questions, contact: (Name) at (phone)

If you have garden tools such as shovels, rakes, garden gloves, etc., please bring them!

Comfortable clothes and shoes for gardening are highly recommended.

SAMPLE KICK-OFF FLYER (SPANISH)

(NOMBRE DEL CENTRO)
MANOS PEQUEÑAS CRECIENDO Y CULTIVANDO ALIMENTOS DE SALUDABLES
INAUGURACION DEL JARDIN

FECHA
HORA
EN (NOMBRE DEL CENTRO)

¡ACOMPÁÑENOS!

Aprende, ayude a construir y a plantar nuestro jardín.

Las familias que participen se les proporcionaran refrigerios saludables y consejos para empezar su propio jardín en casa.

Para más Información comuníquese con: (Nombre) al (teléfono)

Si tiene herramienta de jardín como palas, rastrillos, o guantes de jardín, por favor tráigalos!

Se recomiende que traiga ropa y zapatos cómodos.

APPENDIX 4: SAMPLE KICK-OFF LETTER (ENGLISH)

Date:

Dear Families,

(Center Name) will be participating in the Little Hands Growing and Cooking Healthy Foods' Project. The intent of this project is to increase a child's preference for fruits and vegetables through positive, hands-on gardening, cooking, literacy, and craft activities. All children enrolled in the center and their families are invited to participate.

During the project year, your child may assist in gardening activities which will include planting a variety of seeds and transplants which will allow them to explore many fruits and vegetables utilizing their 5 senses. They will also participate in the preparation of healthy snacks. After each cooking activity, the featured recipe will be available to take home. During the fall of (year), your child will be invited to taste and explore radishes, sugar snap peas, Swiss chard, spinach, broccoli, cauliflower, and carrots. During the spring (year), your child will be invited to taste and explore basil, tomatoes, and bell peppers.

We hope that you and your child participate in the Little Hands Growing and Cooking Healthy Foods' Project. A schedule of the upcoming activities is enclosed. Do not hesitate to contact us if you have any questions or concerns.

Sincerely,

(Center Name)

Letter adapted by the Imperial County Public Health Department from the Early Sprouts Curriculum by Karrie Kalich, Dottie Bauer, and Deirdre McPartlin.

SAMPLE KICK-OFF LETTER (SPANISH)

Fecha:

Estimadas Familias,

(Nombre del Centro) estará participando el Proyecto 'Manos Pequeñas Cultivando y Cocinando Comidas Saludables.' El propósito del proyecto es incrementar la preferencia de los niños hacia las frutas y verduras a través de actividades positivas y practicas sobre jardinería, cocina, literatura, y actividades de artesanía. Se les invita a participar en las actividades a todos los niños inscritos en el centro y a sus familias.

Durante la primera mitad del proyecto, su hijo(a) ayudara en actividades de jardinería que incluyen plantar una variedad de semillas y matas y explorara algunas frutas y verduras utilizando todos sus sentidos, y podrá participar en la preparación de bocadillos saludables. Después de cada actividad de cocina, la receta estará disponible para que usted pueda llevarla a casa. Durante el otoño del (año), se le invitara a su hijo(a) a probar rábanos, guisantes dulces, acelga, espinaca, brócoli, coliflor y zanahorias. Durante la primavera del (año), su hijo(a) podrá probar el albahaca, tomates, y pimientos verdes.

Esperemos que usted y su hijo(a) disfruten de su participación en el proyecto 'Manos Pequeñas Cultivando y Cocinando Comidas Saludables.' Un calendario con las fechas de las próximas actividades esta adjunto esta carta. Si tiene preguntas o comentarios, por favor contáctese con nosotros.

Sinceramente,

(Nombre del Centro)

Carta adaptada por el Departamento de Salud Publica del Condado de Imperial del Curriculo Early Sprouts por Karrie Kalich, Dottie Bauer, y Deirdre McPartlin

APPENDIX 5: TYPES OF GARDENS

It is important to consider which type of garden is appropriate at your site. In this appendix, three types of gardens are highlighted: in-ground, raised-bed, and container gardens.

1. **In-Ground Garden**
   An in-ground garden is planted directly on the ground; the size of the garden depends on the size of the space available to plant. In-ground gardens allow you to plant in various sizes. Larger gardens permit to plant a variety of vegetables; however, keep in mind that larger gardens require more time and labor to build and maintain.

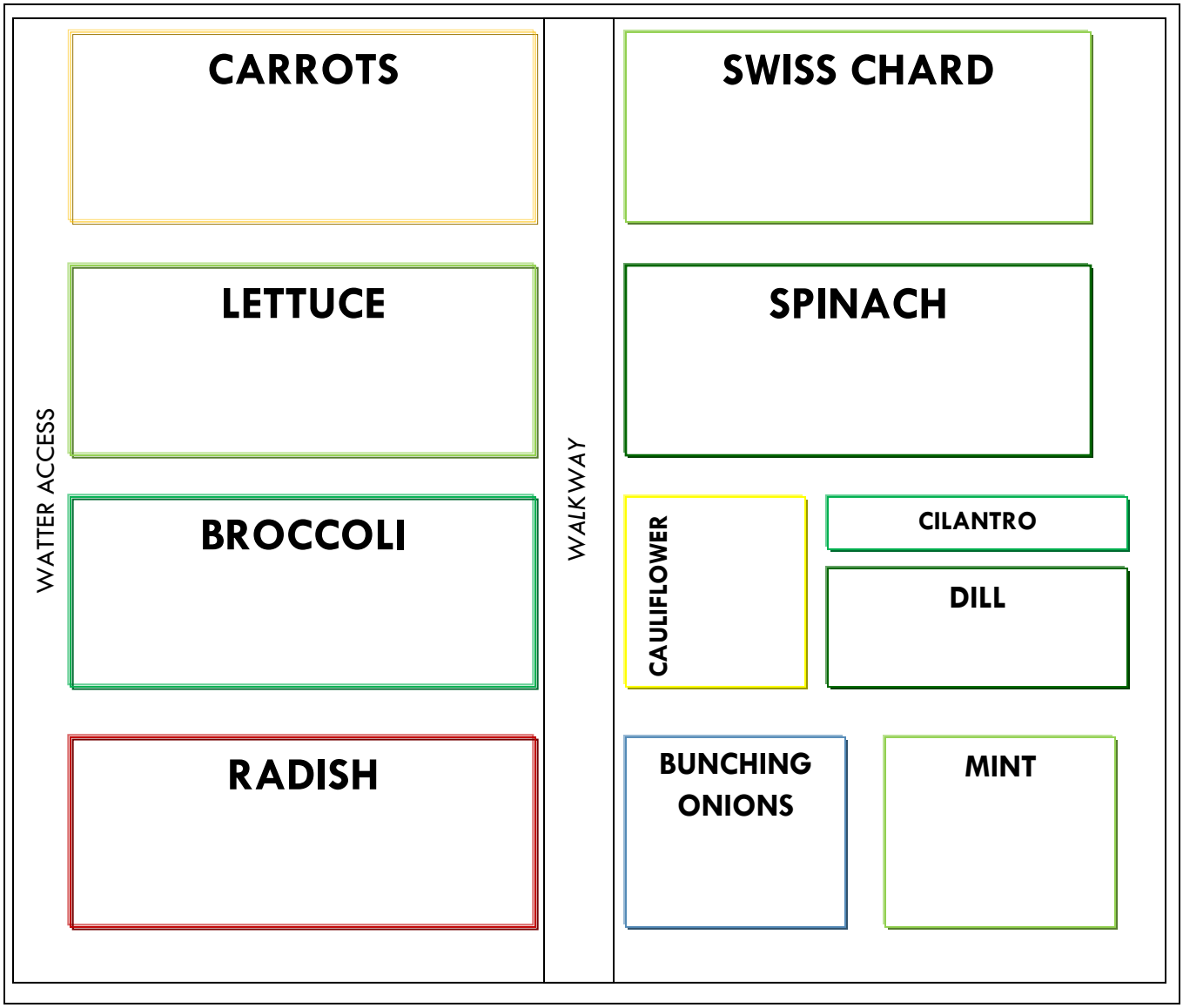
   In-ground gardens require less start up work, can be cost efficient by utilizing existing soil, and require less water to maintain. In addition, in-ground gardens are easy to design and allow the easy installation of an irrigation system. (Westerfield, 2013)

2. **Raised-bed Garden**
   Raised-bed gardens are implemented on top of the selected site. They're contained with wood boards or any sort of building material, and can vary in size depending on the site. There are several advantages to utilizing raised-bed gardens: they can be easily managed, allow for better growing conditions by providing better drainage, and the structure of the garden works as protection in which the plants are less likely to be damaged. (Westerfield, 2013) Utilize **Appendix 9 Raised-Bed Garden Boxes** as a guide to help you build a garden box.

3. **Container Garden**
   Container gardens consist of growing plants in containers rather than planting on the ground. Container gardens may vary in size; depending on the size of the container. Smaller containers are easily mobilized which allows more control over sunlight, temperature, and moisture; however, keep in mind that smaller containers only allow for a small quantity of fruits and vegetables to be grown. Containers such as half-barrels, plastic water bottles, milk cartons, and clay pots with drainage holes are all suitable containers to grow a garden. Container gardens eliminate weed problems and provide a low risk of soil-borne disease. **Appendix 14 Make Your Own Paper Pots** instructs you on how to build a pot to plant a seed and transplant into an in-ground garden. (USDA The Peoples Garden, 2009)

APPENDIX 6: SAMPLE GARDEN LAYOUT

Utilize the Sample Garden Layout below to design your own garden. This can be utilized as a class activity by having all students create their own layout with different shapes. Once all layouts are completed, students can vote on the best layout and utilize it to implement their garden. Keep in mind that the layout must contain water access, walkways, and most importantly, plants that require more sunlight will need to be planted directly under the sunlight.



(*CHILD CARE CENTER NAME*) **GARDEN LAYOUT**

APPENDIX 7: ESSENTIAL GARDENING TOOLS

Utilize the Essential Gardening Tools List to assist you in implementing your garden. Each tool includes an image and its purpose. Not all tools are required for your garden, and the tools' size and amount will vary based on the size of your garden. Smaller tools shall be available for children; however, supervision is strongly recommended.

Hand Garden Trowel

A hand tool utilized for digging, smoothing or moving small amounts of soil.

Square Point Shovel

A square flat shovel utilized to move loose material such as soil, dirt or grain.

Garden Fork

A garden fork is utilized for loosening, lifting and turning over soil.

Garden Spade

A garden spade is known as a digging shovel and is designed for doing just that. This tool tends to be a bit heavy and requires more force in order to penetrate the soil/dirt.

Hand Pruning Shears

Hand prune shears are a type of scissors utilized on plants. They are strong enough to cut through branches and shrubs.

Measuring Tape

A measuring tape is a common tool designed to measure length.

Hammer

A hammer is utilized to apply sudden impact on an object in order to force through a surface. Hammers vary in shape and size.

Bow Rake

A bow rake is utilized to collect leaves and grass and loosen soil.

50' 5/8 Watering Hose

A watering hose is a flexible tube utilized for watering.

Metal Watering Fan

A watering fan is attached at the end of a hose and allows the water to emerge in a gentle spray. This is an excellent for watering a garden.

90 ◦ Coupling

A 90 degree coupling is utilized to connect straight pipes or tubing.

Fitting Barb

Fitting barbs are utilized to grip the inside of a tube and seal the connection.

Plastic Stake

Plastic stakes are pushed into the ground to support an object, such as a sprinkler.

Antelco-Vary-Jet-90-Black-Cap-Black Base4

This is tool allows a choice of spray pattern.

Half-Inch Plastic Tubing

This is utilized to transport water.

Plastic T

This is utilized to connect 3 straight pipes.

Figure 8 Line End

Line end is utilized at the ends or header of tubing that drip irrigation.

Plastic Quarter Inch Drip Hose

This is used as tubing to transport water utilized with smaller plastic valves.

Basic Micro-Sprinklyer System

A sprinkler system may be purchased and utilized as a low pressure watering system. Watering systems include all required tools to set up a sprinkler system in a garden. System sizes vary depending on the type of garden.

APPENDIX 8: IMPERIAL COUNTY PLANTING CALENDAR (ENGLISH & SPANISH)

IMPERIAL COUNTY COOL WEATHER VEGETABLE AND HERB PLANTING CALENDAR

Legend:

Level Of Difficulty: (Relatively easy to grow) (Challenging for first time gardener)

Seed or Transplant: (Best when grown from seed) (Best when grown from transplant)

	Planting Themes				Suggestions		
	Sep	Oct	Nov	Dec	Level of Difficulty	Seed or Transplant	Other Tips
Broccoli							Look out for side shoots. Harvest them regularly, prior to flower production.
Carrot							Carrots come in all shapes and colors. Have fun growing different varieties.
Cauliflower							Pick cauliflower when the heads are full, but before the curds begin to separate
Cilantro							Choose slowly to bolt seeds. Bolting is when the plant starts producing more flowers and seeds than leaf. The appearance of bolts will make the plant tasteless.
Garlic							Garlic is grown from a clove. When purchasing, look for "soft neck" garlic as it grows the best in our climate.
Lettuce, Leaf							You may pinch off individual leaves as you need them. The lettuce will continue growing. Harvest before maturity.
Onion							Onions can be grown from seeds or bulbs. When purchasing, look for "short day" onions as they grow best in our climate.
Peas							Sugar Snap and Chinese Snow Peas are great varieties to try. Make sure seeds are bush peas.
Parsley							Regularly harvesting your herbs will promote more growth.
Potato, red or white							Use seeds for planting as they are typically untreated & have been inspected for disease.
Radish							Easy to grow. Great to plant when gardening with young children.
Swiss Chard							Seeds are large enough for children to handle.
Spinach							View lettuce tips.

Adapted from 'Imperial County Vegetable Planting Calendar-Home Gardens' by Keith S. Mayberry and Gerald J. Holmes (UC Davis Cooperative Extension).

CALENDARIO AGRICOLA DEL VALLE IMPERIAL: VEGETALES Y HIERBAS DE CLIMA FRESCO (JARDINES EN CASA)

Leyenda:

Nivel de dificultad: (Relativamente fácil de cultivar) (Un poco más difícil para el jardinero primerizo)

Semillas o trasplante: (Mejor cuando crece de semilla) (Mejor cuando es trasplante)

	Tiempo de Plantar				Sugerencias		
	Sep	Oct	Nov	Dic	Dificultad	Semillas o trasplante	Consejos
Brócoli							Esté atento a los retoños laterales. Se cosecha regularmente y antes de que florezca.
Zanahorias							Zanahorias vienen en diferentes formas y colores. Diviértanse sembrando diferentes variedades.
Coliflor							Elija el coliflor cuando la flor (o cabeza) este firme y dura, pero antes de que la flor se separe.
Cilantro							Elija cilantro que sea lento en producir flores y semillas. Las flores y semillas harán que no tenga sabor la planta.
Ajo							Al comprar ajo, busque ajo "cuello blando" ya que crece mejor en nuestro clima.
Lechuga de Hoja							Puede arrancar hojas individuales para comer. La lechuga seguirá creciendo. Coséchala antes de que se madure.
Cebolla							Las cebollas pueden crecer de semillas o bulbos. Al comprar, busque cebollas "día corto" ya que crecen mejor en nuestro clima.
Guisantes							Guisantes dulces y guisantes Chinos son variedades buenas para sembrar. Asegúrese de comprar guisantes Bush.
Perejil							El cosechar las hierbas regularmente promueve un mejor crecimiento.
Papas, rojas o blancas							Utilice semillas ya que típicamente no han sido tratadas y han sido inspeccionados para enfermedades.
Rábano							El rábano crece fácil. Son geniales para plantar con niños pequeños.
Acelgas							Las semillas son lo suficiente grandes para que los niños las manejen
Espinacas							Ver los consejos sobre la lechuga.

Adaptado de 'Vegetal de Condado Imperial plantar jardines de calendario-Home' por Keith S. Mayberry y Gerald J. Holmes (extensión de UC Davis).

IMPERIAL COUNTY WARM WEATHER VEGETABLE AND HERB PLANTING CALENDAR

Legend:

Level Of Difficulty: (Relatively easy to grow) (Challenging for first time gardener)

Seed or Transplant: (Best when grown from seed) (Best when grown from transplant)

	Planting Themes				Suggestions		
	Jan	Feb	Mar	Apr	Level of Difficulty	Seed or Transplant	Other Tips
Basil	■	■					Regularly harvesting your herbs will promote growth.
Beans, green or yellow		■	■				Be sure to check if you are buying bush or pole beans. Pole beans need a trellis or pole to climb.
Cilantro	■	■					Choose slowly to bolt seeds. Bolting is when the plant starts producing more flowers and seeds than leaf. The appearance of bolts will make the plant tasteless
Cucumber	■	■					Make sure to water cucumbers consistently, keep soil moist at all times; harvest them frequently, otherwise fruit will become bitter and stop producing.
Eggplant		■	■				Start harvesting when the fruits reach 1/3 of their growth span. Once the skins turn glossy, they are ready for harvesting.
Parsley	■	■					Regularly harvesting your herbs will promote more growth.
Bell Peppers	■	■	■				Purchase plants with thigh, compact, and bushy features, these features will allow for proper production.
Radish	■	■	■	■			Radishes are easy and quick to grow. They are great to plant when gardening with young children.
Summer Squash	■	■	■				Summer squash perform well in containers, just be sure to choose a bush variety and plant them in at least 10-gallon container.
Tomato	■	■	■				Tomatoes thrive when planted deeply. Roots will develop from stems that are underground and your tomatoes will be stronger and healthier. Dig a hole so most of your plant is covered by soil, making sure to remove all the leaves below the soil line.

Adapted from 'Imperial County Vegetable Planting Calendar-Home Gardens' by Keith S. Mayberry and Gerald J. Holmes (UC Davis Cooperative Extension).

CALENDARIO AGRICOLA DEL VALLE IMPERIAL: VEGETALES Y HIERBAS DE CLIMA FRESCO

Leyenda de Sugerencias:

Nivel de dificultad: (Relativamente fácil de cultivar) (Un poco más difícil para el jardinero primerizo)

Semillas o trasplante: (Mejor cuando crecen de semilla) (Mejor cuando crecen de siembra o trasplante)

	Tiempo de plantar				Sugerencias		
	Ene	Feb	Mar	Abr	Dificultad	Semillas o trasplante	Consejos
Albahaca							El cosechar las hierbas regularmente promueve un mejor crecimiento.
Frijol Verde o Amarillo							Asegúrese de comprar frijoles o habichuelas Bush o de palo. Los frijoles de palo necesitan un palo para crecer.
Cilantro							Elija cilantro que sea lento en producir flores y semillas. Las flores y semillas harán que no tenga sabor la planta.
Pepino							Asegúrese de regar constantemente los pepinos, siempre mantenga la tierra humada. Cosecha los pepinos con frecuencia, de lo contrario la fruta se amarga y dejará de producir.
Berenjena							Inicie la cosecha cuando los frutos alcanzan 1/3 de su pleno desarrollo. Las berenjenas están listas para la cosecha una vez que la piel se ve brillante.
Perejil							El cosechar las hierbas regularmente promueve un mejor crecimiento.
Pimientos, Bell							Compre plantas con características compactas y tupido ya que esto permitirá una producción apropiada.
Rábano							El rábano crece fácil. Son geniales para plantar con niños pequeños.
Calabaza de verano							La calabaza de verano crece bien en contenedores, solo asegúrese de plantarlas en un contenedor de 10 galones.
Tomate							Los tomates crecen bien cuando se plantan profundamente. Las raíces se desarrollan de los tallos que se encuentran bajo la tierra y así, los tomates serán más fuertes y saludables. Cabe un agujero y procure que la mayor parte de su planta se cubra con tierra. Asegúrese de remover las hojas que queden debajo de la tierra.

Adaptado de 'Vegetal de Condado Imperial plantar jardines de calendario-Home' por Keith S. Mayberry y Gerald J. Holmes (extensión de UC Davis).

APPENDIX 9: RAISED-BED GARDEN BOX

Square Foot Gardening and Above-ground Garden Boxes

Square foot gardening

In the late 1970's, Ben Bartholomew discovered that a greater harvest could be produced with a lot less space with the square foot gardening method. Vegetables, fruits, herbs and flowers can be grown in above-ground garden boxes using such method. The idea is to plant seeds or transplants in 1x1 square foot plots, and when harvested, new seeds or transplant can be planted in the square.

Building Above-ground Garden Boxes

Making above-ground garden boxes can be simple and fun! The materials needed and instructions on how to make above-ground garden boxes are listed below.

MATERIALS

These materials are enough to make 2, 2'X4' garden boxes. Box dimensions can be modified to fit the needs of your space.

- **3 (2'×10"x8' pieces of untreated lumber) Example: Untreated Douglas fir or Cedar**
  It is highly recommended that treated lumber is not used: treatments can seep into the soil and contaminate the planting area.
- **6 (3" wood screws)**
  The longer screws are used to connect the corners of the above-ground garden box
- **16 (1" wood screws)**
  The wood screws are used to anchor the twine to create a grid system for the 1×1 planting plots

Adapted by the Imperial County Public Health Department from Square Foot Gardening by Mel Bartholomew Rev. 2/26/16

- **1 pack of twine**
  The twine is utilized to create a grid system on top of the container, in 1×1 square foot patterns
- **16 cu ft. of garden soil**
  8 cu. Ft. of garden soil per (2x4') garden box are needed

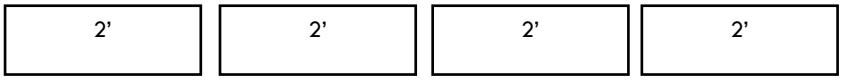
TOOLS

- **Saw**
  Read the manufacturer's instructions before using a saw. Handle with care. Use with adult supervision. The saw is used to cut the lumber. Note that most hardware stores provide a service to cut your lumber, at no-cost or for a fee. For details about lumber-cutting service, contact your nearest hardware store.
- **Drill**
  Read the manufacturer's instructions before using a drill. The drill is used to fasten the sides of boxes with the 3" screws.

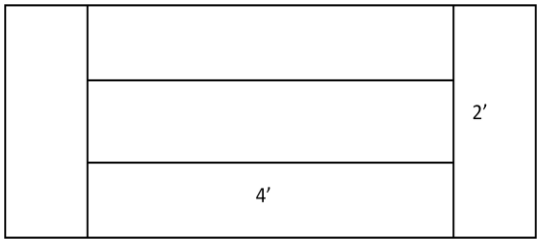
INSTRUCTIONS

1. Cut the untreated lumber down to size as demonstrated below.
   - Cut 2 of the boards in half. You will be left with 4, 4 foot-long, boards. See the picture below.

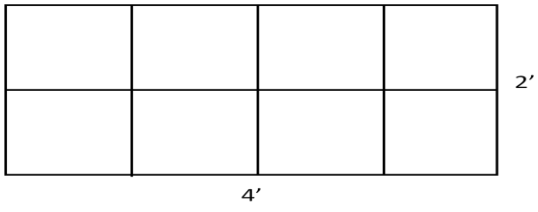
   - Cut the remaining boards into 4, 2 foot pieces see picture below



2. Next, position the boards in a rectangular pattern, alternating corners to make the "inside box" dimensions 4'x2'. Fasten the sides using 3" wood screws. If you have trouble with the wood splitting, you may want to first drill pilot holes.



3. Create a grid system on top of the square foot garden box using twine and 1" screws, spaced a foot apart across the width and length of the box. Drill the screws leaving enough room to tie a knot of twine around the screw.



SQUARE FOOT GARDENING PLANT SPACING

Below is the recommended plant spacing for the square foot garden for cool- and warm- weather plants. The number next to the fruit, vegetable or herb indicates the number of seeds or transplants recommended per 1x1 square foot plot.

Cool Weather Plants		Warm Weather Plants	
Broccoli	1	Basil	2
Carrot	16	Beans, green or yellow	4
Cauliflower	1	Cilantro	4
Cilantro	4	Cucumber	2
Garlic	4	Eggplant	1
Lettuce	16	Parsley	2
Onion	9	Peppers, bell	1
Peas	8	Radish	16
Parsley	2	Summer Squash	1
Potato, red or white	2	Tomato	1
Radish	16		
Swiss chard	2		
Spinach	9		

Adapted by the Imperial County Public Health Department from Square Foot Gardening by Mel Bartholomew Rev. 2/26/16

APPENDIX 10: PLANTING, HARVESTING, AND STORAGE CHART

Utilize the chart below as a guideline to assist you in planting, harvesting, and storing purposes with the intention of achieving maximum vegetable quality.

Vegetable	Planting Depth (Inches)	Harvest (Days)	Storage	Nutrition Note:
Broccoli	½	60-70	10-14 days	½ cup cooked broccoli contains 22 calories, 2g of fiber, vitamins C & A, and folate
Carrot	¼	60-70	4-6 months	½ cup cooked carrots contains 35 calories and 3.5g of fiber and vitamin A
Cauliflower	½	60-70	2-4 weeks	½ cup cooked cauliflower contains 14 calories and 1.7g of fiber and Vitamin C
Cilantro	¼	45-50	3-4 weeks	¼ cup of raw chopped cilantro contains 1 calorie, Vitamins A & C
Garlic	1	See nutrition note.	6-7 months	1 garlic clove contains 5 calories, no fat, sodium, or cholesterol. Once lower leaves turn brown, but several top leaves are green harvest the garlic and keep it in warm dry condition for 3-6 weeks to cure it
Lettuce Leaf	½	40-70	2-3 weeks	1 cup raw shredded lettuce contains 7 calories, less than 1g of fiber, vitamins C & A
Onion	½	100-120	1-8 months	½ cup cooked onion contains 46 calories, 1.5g of fiber, vitamin C, calcium, and iron
Peas	1 ½	65-80	1-3 weeks	½ cup of cooked peas contains 67 calories, 4.4g of fiber, vitamins C & A thiamin, folate, niacin, riboflavin, iron, and calcium
Parsley	¼	70-90	2-7 days	1 cup of raw parsley contains 22 calories, 2g of fiber, vitamins A & C, calcium and iron
Potato (Red or White)	3	60-70	2-9 months	1 medium potato contains 160 calories, 4g of fiber, vitamin C, iron, and niacin
Radish	½	25-30	3-4 weeks	½ cup of sliced radishes contains 20 calories and vitamin C
Swiss Chard	½	See nutrition note	1-2 weeks	1 cup of raw Swiss Chard contains 7 calories, 1 g of fiber, Vitamins A & C, calcium and iron Harvest Swiss Chard once leaves are large enough to eat
Spinach	½	50-60	5-7 days	1 cup of raw spinach contains 7 calories, 1g of fiber, vitamins A & C, calcium, iron, and folate
Basil	¼	21-28	10-14 days	2 tbsp chopped basil contains 1 calorie, vitamins A & C, calcium and iron
Beans (green or yellow)	1	50-60	7-10 days	½ cup cooked beans contains 22 calories, 2g of fiber, and vitamin C
Cucumber	1	50-60	10-14 days	½ peeled, raw cucumbers contain 15 calories, 0.4g of fiber, vitamin C and folate.

Eggplant	3	70-80	1 week	1 cup of cooked eggplant contains 14 calories, 1.2g of fiber, Vitamin C, folate, and iron.
Bell Peppers	3	60-70	1-2 weeks	1 cup chopped bell peppers contains 30 calories, 3b of fiber, Vitamins A, C, K, & B6 Calcium and Iron
Summer Squash	1	50-60	5-14 days	½ cup of cooked summer squash contains 18 calories, 1.3g of fiber, vitamins C & A, calcium, and iron
Tomato	4	70-80	1-6 weeks	1 medium raw tomato contains 2.5 calories, 1.4g of fiber vitamins C & A

Adapted from 'Vegetable Planting Chart by Clemson Cooperate Extension' and; Harvesting and Storing Fresh Garden Vegetables by Jo Ann Robbins, Wm. Michael Colt, and Martha Raidl'

APPENDIX 11: AVERAGE PLANT WATERING REQUIREMENTS

The importance of water for vegetable gardens cannot be emphasized enough. Without water, gardens will not thrive. The following chart will provide basic watering requirements and recommendations for the garden.

Vegetable	Watering Needs	Recommendations
Broccoli	1-1 ½ cups per week, keep soil moist at all times	Needs cool water, full sun, water, and rich soil
Carrot	¼ cup per plant weekly; require constant moisture until mature	Require moisture in sufficient quantities at the correct times.
Cauliflower	1 to 1.5 inches of water per week	6 hours of full sunlight daily.
Cilantro	Keep soil well drained and moist at all times	Full sun or light shade.
Garlic	Fairly even soil moisture	Do not overwater.
Lettuce Leaf	1 cup per plant weekly; twice weekly in hot weather	Keep water off plant leaves and do not water at night.
Onion	Through soaking to a depth of 6 inches once a week	Does not need a lot of water. Keep soil moist.
Peas	Water deeply once a week	Never let soil dry out.
Parsley	1 cup water per plant weekly	Do not let soil dry out.
Potato Red Or White	Water regularly	Keep constant moisture.
Radish	Moist soil do not overwater	Full sun exposure.
Swiss Chard	1-2 cups per plant weekly; twice weekly in very hot weather	Grows best in rich moist soil.
Spinach	Well drained soil	Grows best in rich moist soil
Basil	Well drained soil	6 hours of direct, daily sunlight.
Beans (green or yellow)	½ cup per plant weekly; twice weekly in very hot weather	Keep water off plant leaves. Do not let soil dry out.
Cucumber	2 cups per plant weekly; twice weekly in hot weather	Keep water off plant leaves. Do not let soil dry out.
Eggplant	2 cups per plant weekly; twice weekly in hot weather	Do not let soil dry out.
Bell Peppers	1 cup per plant when young, 2 or more cups when larger weekly	Keep water off plant leaves.
Summer Squash	1 inch of water weekly	2 inches of water weekly during hot weather.
Tomato	1 gallon per plant weekly; twice weekly in very hot weather	Keep water off plant leaves to prevent pathogens from accumulating.

Adapted from "Starting A Community Garden Toolkit by Douglas County Health Department

APPENDIX12: FIVE SENSES ACTIVITY LESSON PLAN

This lesson plan is intended to familiarize students with fruit and vegetable characteristics by utilizing the five senses and exposing them to a variety of fruits and vegetables in order to foster acceptance and enjoyment of new fruits and vegetables.

Time required: 10 minutes instruction, 5 minutes taste-testing

OBJECTIVE	Students will: • Identify fruit and/or vegetable characteristics by utilizing the five senses. (sight, touch, sound, smell, and taste)
MATERIALS	• Properly rinse featured vegetable or fruit • One featured vegetable or fruit per student • Kitchen knife • Cutting board • Napkins • Five senses cards
INSTRUCTIONS	• Rinse all selected produce • Chop produce for tasting • Children must wash hands prior to handling any produce • Present the 5 senses cards to the students. Once the students are aware of what their five senses are, introduce the produce to the students and have them explore the produce utilizing their five senses. • Discuss the sense, see, touch, smell, and sound each fruit and vegetable. Have students answer the following questions. 1. What color is the leave/root? 2. What texture do the leaves hold? 3. How does the outside of the produce feel? 4. How does the inside of the produce feel? 5. Is the produce root soft or rough? 6. What is the taste of the fruit? 7. Have you tasted it before?

APPENDIX13: ART ACTVITY LESSON PLAN

Students will utilize their creativity and create a drawing of the featured fruit or vegetable. This activity will allow students to reinforce what they have learned about the featured vegetable.

Time required: 5 minutes instructions; 20 minute activity

OBJECTIVE	Students will: • Demonstrate their knowledge by creating their own drawing • Understand the basic characteristics of the featured vegetable • Apply problem solving strategies to create a drawing independently
MATERIALS	• Produce art page • Crayons, colored pencils or markers • Construction paper
INSTRUCTIONS	1. Have all materials organized prior to starting activity. 2. Provide each student with an art page 3. Demonstrate the featured fruit or vegetable and discuss what it looks like. Have students define the shape and color of the fruit. 4. Have the students draw out the featured fruit or vegetable; allow them to be creative and color as desired.

APPENDIX 14: MAKE YOUR OWN PAPER POTS ACTIVITY LESSON PLAN

Utilize the following lesson plan to create your own paper pots. This lesson is indented to encourage students to grow their own fruits and vegetables. Students will learn the basics of gardening while creating their own paper pots out of newspaper.

OBJECTIVE	Students will: • Understand the importance of recycling. • Learn how to care for a plant, and understand what nutrients are required for a plant to grow. • Identify plant parts • Transplant directly into the garden.
MATERIALS	• Newspaper (1 sheet per student) • Scissors • Potting soil • Seeds • Spray bottles or watering cans
INSTRUCTIONS	1. Introduce the project to the students by discussing plants; a short plant video can be utilized to grab the student's attention. 2. Go over safety rules, and make sure all students are aware and understand the rules. 3. Utilize the following website http://www.thinkplaycreate.org/lesson-plans/paper-planters to create the paper pots. 4. Once the pots are complete, add potting soil and create 2-3 small holes in the soil and place a seed in each soil, and cover the seed with soil. 5. Water the soil, enough to dampen the soil. Do not overwater the pot.
FOLLOW UP	1. Have the students observe their plants weekly and draw a picture of their plant. Make sure students care for their plant by adding water, when needed, and placing their plants in the correct amount of sunlight. 2. Once seeds have sprouted, the plants will be ready for transplanting.
TRANSPLANTING	1. Set a day to plant the entire pot into your ground or raised-bed garden. Water the plants when needed; make sure not to overwater.

Adapted from "The New Children's Museum; Think Play Create; Paper Planters Lesson Plan"

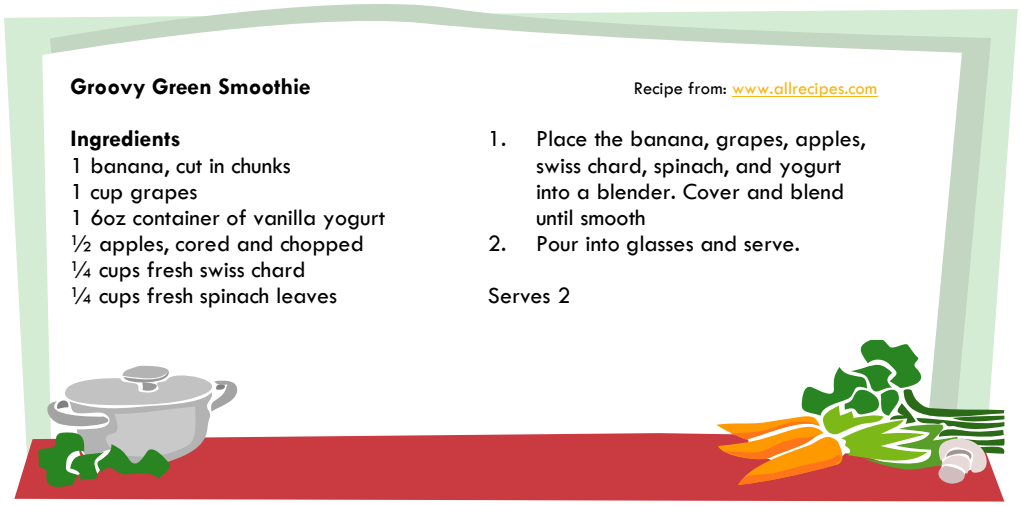
APPENDIX 15: RADICAL RADISH EXPLORATION LESSON PLAN

In this lesson plan, the featured vegetable will be a radish. Students will be exposed to radishes in 3 different ways: they will explore the vegetable by tasting, illustrating it and by utilizing their five senses.

OBJECTIVE	Students will: • Understand the characteristics of a radish • Be allowed to utilize their creativity and draw their own radish.
ACTIVITY	Radical Radish Five Senses Activity: For this activity, you will follow the instructions on **Appendix L: Five Senses Activity** featuring a radish.
ACTIVITY	Radical Radish Art Activity: For this activity, you will follow the instructions on **Appendix M: Art Activity** featuring a radish
RADICAL RADISH RAFT RECIPE	**Radical Radish Rafts** Recipe adapted from: www.greenearthinstitute.com **Ingredients** 8 Large Radishes, trimmed 6 tbsp softened cream cheese (low fat) 2 tbsp finely minced fresh parsley Salt and pepper to taste Whole grain crackers Grate radishes into a bowl or grate using a food processor. Combine with cream cheese and parsley. Season with little salt and black pepper and serve with crackers. Serves 4  **Balsas Radicales de Rábano** Receta adaptada de: www.greenearthinstitute.com **Ingredientes** 8 rábanos grandes, recortados 6 cucharadas de queso crema (baja en grasa.) Sal y pimiento al gusto Galletas de trigo entero Ralle los rábanos en un plato hondo o ralle con un procesador de alimentos. Combine con el queso crema y perejil. Sazone con sal y pimiento al gusto y sirva con galletas. Rinde 4 porciones 

APPENDIX 16: GROOVY GREEN SMOOTHIE LESSON PLAN

In this lesson plan, the featured vegetables will be Swiss chard and spinach. Students will be exposed to them in 3 different ways: they will explore the vegetable by tasting, illustrating it, and by utilizing their 5 senses.

OBJECTIVE	Students will: • Learn how to improve and appreciate healthy foods and prepare healthy meals with garden produce. • Students will be able to describe the colors and shapes of both featured vegetables
ACTIVITY	Groovy Green Five Senses Activity: For this activity, you will follow the instructions on **Appendix 8: Five Senses Activity Lesson Plan,** utilizing Swiss chard and spinach.
ACTIVITY	Groovy Green Art Activity: For this activity, you will follow the instructions on **Appendix 9: Art Activity Lesson Plan,** featuring Swiss chard and spinach.
GROVY GREEN SMOOTHIE RECIPE	

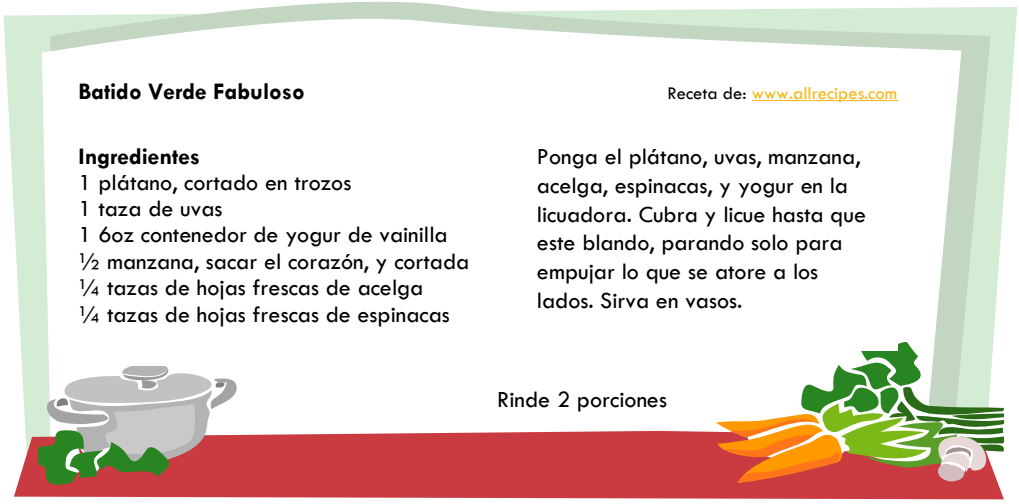
Groovy Green Smoothie

Recipe from: www.allrecipes.com

Ingredients
1 banana, cut in chunks
1 cup grapes
1 6oz container of vanilla yogurt
½ apples, cored and chopped
¼ cups fresh swiss chard
¼ cups fresh spinach leaves

1. Place the banana, grapes, apples, swiss chard, spinach, and yogurt into a blender. Cover and blend until smooth
2. Pour into glasses and serve.

Serves 2



Batido Verde Fabuloso

Receta de: www.allrecipes.com

Ingredientes
1 plátano, cortado en trozos
1 taza de uvas
1 6oz contenedor de yogur de vainilla
½ manzana, sacar el corazón, y cortada
¼ tazas de hojas frescas de acelga
¼ tazas de hojas frescas de espinacas

Ponga el plátano, uvas, manzana, acelga, espinacas, y yogur en la licuadora. Cubra y licue hasta que este blando, parando solo para empujar lo que se atore a los lados. Sirva en vasos.

Rinde 2 porciones

APPENDIX 17: VEGGIE FLOWERSWITH HOMEMADE RANCH DUNKIN DIP LESSON PLAN

In this lesson plan, the featured vegetables will be broccoli and cauliflower. Students will be exposed to them in 3 different ways: they will explore the vegetable by tasting, illustrating it, and by utilizing their 5 senses.

OBJECTIVE	Students will: • Identify the characteristics of broccoli and cauliflower • Describe each vegetable by its physical attributes • Understand that foods we eat come from plants

ACTIVITY	**B&C Five Senses Activity:** For this activity, you will follow the instructions on **Appendix 8: Five Senses Activity,** utilizing Broccoli and Cauliflower

ACTIVITY	**Broccoli & Cauliflower Color Activity:** For this activity, you will follow the instructions on **Appendix 9: Art Activity,** featuring Broccoli and Cauliflower

VEGGIE FLOWERS WITH HOMEMADE RANCH DUNKIN' DIP RECIPE	The Veggie Flowers with Homemade Dunkin Dip requires additional materials and prepping. You must provide plates, bowls, and napkins. Before the activity, have all students and staff should wash their hands. Allow the students to create a flower using the broccoli and cauliflower along with sugar snap peas and baby carrots on paper plate. Have the children answer the following questions: 1. Is broccoli/cauliflower a fruit or vegetable? 2. What color is the vegetable? 3. What shape is the vegetable? 4. What does broccoli/cauliflower smell like? 5. Is the vegetable rough or smooth? 6. Is the vegetable crunchy or soft?

Veggie Flower with Homemade Ranch Dunkin' Dip Recipe adapted from: Family Fun Go

Ingredients
Broccoli
Cauliflower
Sugar Snap Peas
Baby Carrots
1 16-ounce container sour cream (low fat)
1 T white vinegar
2t dried dill
½ t garlic powder
2 t dried onion powder
Salt and pepper to taste

1. Set out vegetables and let your child design their own flowers (there is no right or wrong way of doing this).
2. **Ranch Dip**: In a small bowl, stir together the sour cream and vinegar until smooth. Add the dill, garlic powder, onion powder, salt and pepper. Stir. Cover and refrigerate for at least 1 hour.

Flores de Vegetal con Aderezo Ranchero Hecho en Casa Receta adaptada de: Family Fun Go.

Ingredientes
Brócoli
Coliflor
Chicharos Dulces
Zanahorias Pequeñas
1 contenedor de16-onzas de crema agria (bajo en grasa)
1 cucharada de vinagre blanco
2 cucharaditas de eneldo seco
½ cucharadita de ajo en polvo
2 cucharaditas de cebolla en polvo
Sal y pimienta al gusto

1. Coloque los vegetales en la mesa y deje que su niño diseñe sus propias flores (no existe una manera correcta o incorrecta de hacerlo).
2. **Salsa Para Aperitivos Ranch**: En un recipiente pequeño, mezcle la crema agria y el vinagre hasta que tenga una consistencia suave. Agregue el eneldo, polvo de ajo, polvo de cebolla, sal y pimienta. Revuelva. Cubra y refrigérelo por al menos una hora.

APPENDIX 18: GARDEN KICK-OFF

A GUIDE TO A GARDEN KICK-OFF EVENT	Preschool gardening begins with a garden kick-off! Gardening engages children by providing an interactive environment to observe, discover, experiment, nurture and learn. School and child care gardens are living laboratories where interdisciplinary lessons are drawn from real life experiences, encouraging children to become active participants in the learning process. Studies have proven that school gardens encourage preference and consumption of fruits and vegetables, increase parental support and involvement, and improve children's enthusiasm about preschool/child care, teamwork skills and self-understanding. 1. Plan the agenda for the day of the spring and/or fall garden kick-off. Plan the garden kick-off with a garden committee for even a more successful kickoff event. 2. Create a garden kick-off flyer. Announce the upcoming garden kick-off event in advance. Post and handout flyers to staff and parents to encourage their involvement. 3. Utilize a garden kick-off agenda, flyer, and parent letter to announce the kick-off date. A sample agenda, flyer, and letter are included in the toolkit.

APPENDIX 19: GROWING BASIL SEEDS IN A CONTAINER LESSON PLAN

Gardening together helps students understand where fresh produce comes from. In this lesson plan, students will plant basil in their own container. They will have an understanding of how to care for their plants and how the plant grows, and will have the opportunity to take home their basil to share with their families and, hopefully, start their own garden at home.

OBJECTIVE	Students will: • Review the principles of hands-on learning • Learn basic gardening principles

Materials:

- 1 gallon plastic container
- Scissors
- Serrated knife
- Soil
- Seeds

Directions:

1. Cut off the top of a plastic container (pictured above) with a pair of scissors.
2. Utilizing a serrated knife, poke a few holes in the bottom of the container for drainage.
3. Add enough soil up to ¾ of the container.
4. Sow basil seeds.

At home:

- Ensure that the basil gets 6 to 8 hours of full Sun daily; soil should be moist and well-drained.
- During the dry periods in summer, water the plants freely.
- Make sure to pick the leaves regularly to encourage growth throughout the summer.
- After 6 weeks, pinch off the center shoot to prevent early flowering. If flowers do grow, cut them off.
- If you're planning on cooking with these plants, plant in clean soil (don't use fertilizers that leave harmful residues) and grow them away from driveways and busy streets so that exhaust won't settle on the plants.

1. United States Department of Agriculture, Food and Nutrition Service. (2009). Grow It, Try It, Like It! curriculum.
2. "Basil." The Old Farmer's Almanac. Web. 24 Jan. 2014. <http://www.almanac.com/plant/basil>.

PESTO BRUSHETTA RECIPE

Pesto Brushetta Recipe adapted from: Pretend Soup and Other Real Recipes; Green Spaghetti, Mollie Katzen and Ann Henderson

Ingredients
3C packed basil leaves
¼ C grated parmesan cheese
¼ C olive or canola oil
1 small garlic clove
6 shakes of salt & 3 shakes of pepper
1 loaf sliced toasted Italian bread
2C chopped tomatoes
2C shredded Mozzarella cheese
(Optional) sliced black olives, sliced mushrooms, chopped bell peppers, and chopped onions.

1. Take all basil leaves off of the stems. Place leaves into a food processor.
2. Smash and peel the garlic. Add it to the basil and blend.
3. Add parmesan cheese, oil, salt and pepper, and blend again until it form a thick paste.
4. Spread 1 tbsp of pesto on sliced toast, top with chopped tomatoes and mozzarella cheese.
5. Eat and enjoy!

Brushetta con Pesto Receta adaptada de: Pretend Soup and Other Real Recipes; Green Spaghetti, Mollie Katzen, and Ann Henderson

Ingredientes
3 tazas llenas de hojas de albahaca
¼ taza de queso parmesano rallado
¼ taza de aceite de olivo o canola
1 diente de ajo picado
6 pizcas de sal y 3 de pimienta
1 barra de pan italiano tostado y rebanado
2 tazas de tomate picado
2 tazas de queso mozzarella rallado
Opcionales: aceitunas negras, hongos rebanados, chile campana, cebolla

1. Quite todas las hojas de albahaca de los tallos. Coloque solamente las hojas en el procesador de alimentos.
2. Pele el diente de ajo y añade a la albahaca, y mezcle.
3. Agregue el queso parmesano, aceite, sal y pimienta, y mezcle de nueve hasta que se forme una pasta espesa.
4. Unte una cucharada de de pesto en una rebanada de pan y cubra con tomates y queso mozzarella. Coma y disfrútelo!

ACTIVITY	**Broccoli & Cauliflower Color Activity:** For this activity, you will follow the instructions on **Appendix 9: Art Activity**, featuring Swiss Chard and spinach.

APPENDIX 20: TELL US YOUR GARDEN STORY!

Stories are a powerful source of connecting others with the garden or garden program. This activity will allow students and family members to share their garden story. The Tell Us Your Garden Story and Story Page included in the toolkit will assist them in creating their own story.

The Tell Us Your Garden Story flyer is intended to encourage parents to share their garden stories. Make sure the flyer is distributed widely in order to encourage participation.

Provide participating parents with a blank Tell Us Your Garden page to share their story and return once completed.

TELL US YOUR GARDEN STORY! SAMPLE FLYER

Little Hands Growing and Cooking Healthy Foods Project

Tell Us Your Garden Story!

Parents, grandparents, children, and child care staff: We would love to hear about your garden experience! Please take a few minutes to write and tell us about your garden experience.

WHAT TO INCLUDE IN YOUR STORY

Stories are a powerful source of connecting others with your garden or garden program. Tell us about your personal gardening experience. Add creativity to your story and include anything that matters to you or any desired images. Some writing topics can include, but are not limited to, the following:

- What was your most and/or least favorite thing about the garden?
- What makes the garden special?
- What changes have you or your family established since you participated in the garden activities?
- What has inspired you to establish healthy eating habits and/or start a home garden?

FOR MORE INFORMATION

Please contact:

(NAME)

Phone:

Email:

SUBMISSION REQUIREMENTS

- All submission must be submitted by an adult 18 years of age or older.
- Complete a photography consent form/media release
- Complete a My Garden Story Form

Submit stories to the child care center teacher or email to:

(Contact information)

MY GARDEN STORY TEMPLATE

My Garden Story!

Your garden story and/or artwork must be original and created by you, your child, or child care center staff. You may include artwork or images only if permission was obtained from the owner of the artwork or images. You may use additional sheets of paper, if needed. All submissions are voluntary.

Date: _____
Title of your story: _____
Author: _____
Child Care Center Name: _____

APPENDIX 21: TINY TACOS AND GARDEN SALSA LESSON PLAN

In this lesson plan, the featured vegetable will be tomatoes and peppers. Students will be exposed to tomatoes and peppers in 3 different ways: they will explore the vegetable by tasting, illustrating it and by utilizing their five senses.

OBJECTIVE	Students will: • Understand the characteristics of tomatoes and peppers • Be allowed to utilize their creativity and draw their own tomatoes and peppers.

ACTIVITY	**Vegetable Art Activity:** For this activity, you will follow the instructions on **Appendix 9: Art Activity Lesson Plan**, featuring tomatoes and peppers

TINY TACOS AND GARDEN SALSA RECIPE

Here is a fun recipe to share with your students and staff. Have the children choose vegetables from the garden and make a garden salsa to enjoy with their tiny tacos.
Before the activity, have all students and staff wash their hands.
Prepare ahead of time and place single vegetables in separate bowls.
Introduce the vegetables to the children before prepping the salsa. Have them children answer the following questions:

1. What color is the vegetable/fruit?
2. What shape is the vegetable/fruit?
3. What scent does the vegetable/fruit have?
4. How is the texture of the vegetable/fruit rough or smooth?
5. Is the vegetable/fruit crunchy or soft?

Tiny Tacos and Garden Salsa Recipe From: Salad People and More Real Recipes by Mollie Katzen

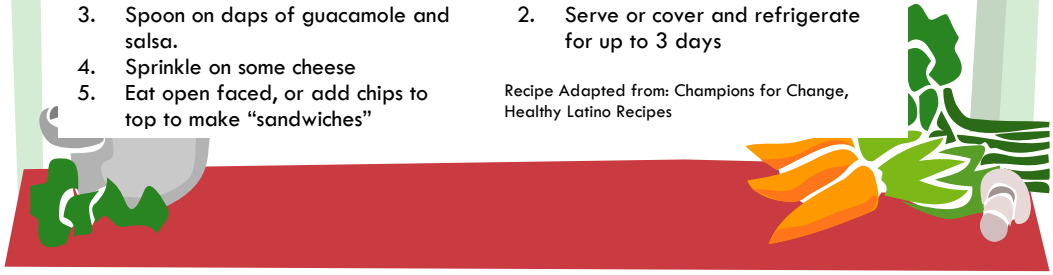
Tiny Tacos
1 standard package tortilla chips (baked) (small, round, flat ones work best)
One 15-ounce can refried beans (low fat)
1 cup guacamole (optional)
1 Cup Garden Salsa
1 Cup Cheese

1. Lay the chips on a plate
2. Spoon on a small amount of refried beans on each chip
3. Spoon on daps of guacamole and salsa.
4. Sprinkle on some cheese
5. Eat open faced, or add chips to top to make "sandwiches"

Garden Salsa
1 pound ripe tomatoes (about 2 medium tomatoes), chopped
1 ½ cup chopped onion
½ cup chopped fresh cilantro
3 jalapeno peppers, seeds removed and chopped(may be eliminated if too spicy)
2 tbsp lime juice
2 garlic cloves, minced
¼ tsp salt

1. Combine all ingredients in a medium bowl
2. Serve or cover and refrigerate for up to 3 days

Recipe Adapted from: Champions for Change, Healthy Latino Recipes



Taquitos y Salsa Fresca Receta de: Salad People and More Real Recipes by Mollie Katzen

Taquitos

1 paquete regular de totopos (al horno) (pequeños, redondos, y planos funcionan mejor)
1 lata de 15 onzas de frijoles refritos (bajo en grasa)
1 taza de guacamole (opcional)
1 taza de salsa fresca
1 taza de queso

1. Ponga los totopos en el plato
2. Ponga una cantidad pequeña de frijoles en cada totopo
3. Ponga guacamole y salsa al gusto
4. Coma o agregue otro totopo para formar un "sándwich"

Salsa Fresca

1 libra de tomates maduros (medianos) picados
1 ½ tazas de cebolla picada
½ taza de cilantro fresco picado
3 chiles jalapeños, sin semilla y picados (se puede eliminar si esta muy picoso)
2 cucharadas de jugo de limón
2 dientes de ajo, picado
¼ cucharadita de sal

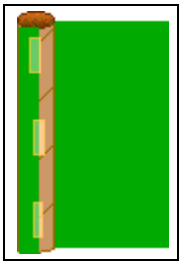
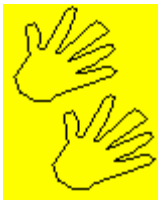
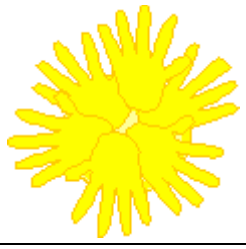
1. Combine todos los ingredientes en un recipiente mediano
2. Sirva o cubre y refrigere hasta 3 días

Receta adoptada de: Campeones del Cambio, Recetas Latinas Saludables

APPENDIX 22: SUNFLOWER READING & ART ACTIVITY LESSON PLAN

OBJECTIVE	Students will: • Learn about the growth and development of sunflowers • Will learn how to make a sunflower using sunflower seeds • Become familiar with the parts of a sunflower
ACTIVITY	**Reading Activity** Time required: 15 min Materials: Book *The Life Cycle of a Sunflower* Open the activity by introducing the book to the children. Allow them to see the cover and engage them in a 5-minute discussion asking them the following questions. 1. What are the parts of a sunflower? 2. How do sunflowers grow? 3. What color are sunflowers? Answer all these questions by reading the book. Once you have read the book, you can go back and review, but this time around, ask the children questions based on the book and have them answer. Once the reading is completed, instruct the students on the Art Activity they will be working on.
MATERIALS	• 1 Small plain paper plate • Paper towel tube • Green construction paper (sheet) • Yellow construction paper (a few sheets) • Scissors • Pencils • Tape • Glue • Stapler • Sunflower seeds (a small handful)

The table below provides step by step instructions; follow the instructions and assist the children in creating their very own sunflower.

	For the Stem of the Sunflower: Use glue or tape to wrap a piece of green construction paper around a paper towel tube.	
	Sunflower petals: Have the children Trace their handprints on yellow construction paper, and cut them out. You'll need about 6 handprints.	
	The Sunflower Pedals: Glue or staple the handprints around a small paper plate.	
	Place a small layer of glue in the center of the handprints and sprinkle sunflower seeds on the glue. Add more glue, if needed.	
	Staple the stem. Flatten the top of the paper towel tube in order to staple it to the small plate with glued handprints and seeds. You now have a huge sunflower! Make sure each child places their name on the tube or on a visible area.	

Adapted from Grow it, Try it, Like it, Curriculum and Enhanced Learning.

IMPORTANT LINKS AND RESOURCES

Explore the following links to obtain nutritional information and lesson plans to share with your students

Hand Washing Experiment CDC
The following links provides a descriptive lesson plan to follow on the hand washing procedure or children.
http://www.cdc.gov/bam/teachers/documents/epi_4_hand_wash.pdf

Imperial County Childhood Obesity Prevention Alliance (COPA)
Explore our Imperial County Childhood Obesity Prevention Alliance page to learn about our COPA program.
http://www.iccopa.org/

First Five: Healthy Children, Healthy Lives Project
Explore our Imperial County prop 10 website in order to learn our funded programs, funding opportunities, and special programs provided by the Imperial County Public Health Department.
http://www.icprop10.org/Featured_Grantee_ICPHD.html

Grow it, Try it, like it! Nutrition Education Kit Featuring My Plate
Explore the garden themed nutrition education kit for child care centers.
http://www.fns.usda.gov/tn/grow-it-try-it-it

Harvest of the Month
Explore the harvest of the month page to obtain nutritional information and understand why physical activity and healthy eating is important to our health.
http://harvestofthemonth.cdph.ca.gov/Pages/default.aspx

Harvest of the Month Educators Corner
Find various educational activities along with images and graphs for teaching purposes.
http://harvestofthemonth.cdph.ca.gov/Pages/Educators-Corner.aspx

Farm to Preschool
Explore the following website to obtain helpful resources such as lesson plan, parent education, and seasonal menus and recipes.
http://www.farmtopreschool.org/whatisfarmtopreschool.html

USDA food and Nutrition Service
The following website obtains various educational information; some of the popular topics are community food systems, child nutrition, food safety, disaster assistance, and how to apply for SNAP and WIC benefits.
http://www.fns.usda.gov/

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