

From Seed to Plate

Farm to Preschool Garden Curriculum



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THANK YOU!

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Suggested Planting and Harvesting Schedule

Month	Planting (week 1)	Harvesting (week 4)	Planting Theme	Planting Book
<i>Over the Summer</i>	Tomatoes and pumpkins			
October	Sugar Snap Peas Nasturtium	Tomatoes	What is a Plant?/Plant Parts	Up, Down and around Over in the Garden by Katherine Ayres
November	Broccoli/Cauliflower (transplants) Dill	Pumpkin	Lifecycle of a Plant	Growing Vegetable Soup By Lois Ehlert
December	Cooking greens (Chard/Kale/ Bok Choy/Collards) Parsley	Peas	Plants have/need/give	From Seed to Plant By Gail Gibbons
January	Lettuce Cilantro	Broccoli/ Cauliflower	Exploring leaves/ Photosynthesis	Leaves by Vijaya Bodach OR Lettuce Grows on the Ground by Mari Schuh
February	Carrots Chives	Greens (Bok Choy/Collards)	Exploring Roots/ Water	Roots by Vijaya Bodach OR Carrots Grow Underground by Mari Schuh
March	Beans Sunflowers	Lettuce	Exploring Seeds	Seeds by Vijaya Bodach
April	Tomatoes Basil	Carrots	Garden Friends (insects)	Over in the Garden by Jennifer Ward
May	Cucumbers Mint	Beans	Garden Community	Our Community Garden by Barbara Pollak

FARM TO PRESCHOOL

Garden Curriculum: From Seed to Plate

October Theme: What is a Plant?



Planting:
Sugar Snap Peas
Harvesting:
Tomatoes



Week 1: Exploring Plant Parts

Week 2: What Plants Need to Grow

Week 3: Plant Parts and What They Do

Week 4: Harvesting Tomatoes

October - What is a Plant?

Week 1: Exploring Plant Parts

Materials:

- Various plants and non-living things such as: a leafy carrot, a bowl of dirt, some yarn, a crayon, a house plant, a cup, a flowering plant, a seedling
- Fresh fruit and vegetable card for *Sugar Snap Pea*
- Trellises or tomato cage
- Pea and nasturtium seeds (soaked overnight for quicker sprouting)

Objectives:

- Be able to compare objects and decide if they are a plant or not
- Understand that plants have four main parts: roots, stems, leaves, and flowers/fruit
- Identify a pea as a seed and plant it in the ground

Preparation:

- Prepare the planting bed
- Read the *Sugar Snap Pea Fact Sheet*

Directions:

1. Display the items in front of the class. Explain that some are plants and some are not.
2. Ask the children to name the items and point out which ones they think are plants. Ask- **What is a Plant and What is Not a Plant?** Have them sort the plants into a group.
3. Once the items are sorted, ask them to look at the plant group and discuss what they have in common. Identify their roots, stems, leaves (and flowers).
4. Examine the pea seeds as a class. Explain that we will plant the seeds in the garden and watch it grow. Ask the children what they think the seed will grow into. They may or may not say a pea plant. Optional: Show the photocard of the *Sugar Snap Pea* – this is what the plant will grow into. Ask the class if anyone has eaten one before.
5. Next, pass around the nasturtium seeds, ask them to compare it to the pea seed. Ask - **How are the seeds different, how are they the same?** Smooth, bumpy, round, etc.
6. Explain that the pea is a vining plant that will grow up and will need support. As a class plant the peas directly into the garden bed or large container. Plant the seeds only about a 1/4 inch in the soil, cover with soil and lightly water. The rule of thumb is to plant a seed twice as deep as its width. Add the appropriate support (ie. tomato cage). Refer to the *Snap Pea Fact Sheet* for reference.

DRDP -2015 Measures:

Approaches to learning-Self Regulation; ATL-REG1, ATL-REG7

Social and Emotional Development; SED3, SED4

Language and Literacy Development; LLD1, LLD2, LLD3, LLD4, LLD6

English Language Development; ELD1, ELD2

Cognition-Math & Science; COG2, COG9, COG10, COG11

History-Social Science; HSS2, HSS5

October - What is a Plant?

Week 2: What Plants Need to Grow

Materials:

1. *Up, Down and Around* by Kathrine Ayers
2. A Small plastic container with drainage holes on the bottom or as a class make newspaper pots on page 13 of the Garden Primer
3. Large Paper
4. Crayons or Markers
5. Potting Soil
6. Broccoli, cauliflower and dill seeds

Objectives:

- Identify what a plant needs to grow
- Understand that a seed will grow into a plant
- Plant broccoli, cauliflower and dill seeds
- Identify the letters "B", "C" and "D"

Preparation:

none

DRDP -2015 Measures:

Approaches to Learning-Self Regulation; ATL-REG1, ATL-REG7
 Social and Emotional Development; SED3, SED4
 Language and Literacy Development; LLD1, LLD2, LLD3, LLD4, LLD5, LLD6, LLD9
 English Language Development; ELD1, ELD2, ELD3, ELD4
 Cognition-Math & Science; COG9, COG10, COG11
 Physical Development-Health; PD-HLTH4
 History-Social Science; HSS5
 Visual and Performing Arts; VPA2

Directions:

1. Read *Up, Down and Around* by Kathrine Ayers
2. Ask - **What do plants need to grow?** (water, soil, air, sunshine and loving care). If the class needs prompting, refer back to the pages first few pages in the book. Ask- **What do the plants grow in?** Dirt or soil? (when dirt is used for growing plants it is called soil) **What do plants drink?** Water. **What do plants breath?** Air or wind? **How do they stay warm and make food?** Sunshine. Make a list to display in the classroom, add pictures.
3. Explain to the class that they will be growing broccoli seeds into broccoli plants to be planted in the garden and that they will need to care for them to make sure they get the soil, air, water and sunshine they need to grow healthy and strong.
4. Give each child a small plastic container with drainage holes on the bottom or as a class make newspaper pots on page 13 of the Garden Primer. Fill the container with potting soil. Plant the seeds only about an 1/8 to a 1/4 inch in the soil, cover with soil and lightly water. Refer to the *Broccoli Fact Sheet* for specific instructions.
5. Ask the children to label their plants with a "B" for Broccoli, "C" for Cauliflower or "D" for Dill.

6. While you are planting seeds you can sing:

Little Seed

(Tune: *I'm a Little Teapot*)

*I'm a little seed in the dark, dark ground.
 Out comes the warm sun, yellow and round.
 Down comes the rain, now the wind blows
 Up comes the little sprout, grow, grow, grow!*



Adapted from: <http://home.moravian.edu/children/k/stmak10/lessonplan.htm>

October - What is a Plant?

Week 3: Plant Parts & What They Do

Materials:

- *Up, Down and Around* by Kathrine Ayers
- Tomato Plant Diagram

Objectives:

- Understand that plants have four main parts: roots, stems, leaves, and flowers/fruit
- Know the basic function of each plant part
- Label part of a tomato plant

Preparation:

none

Directions:

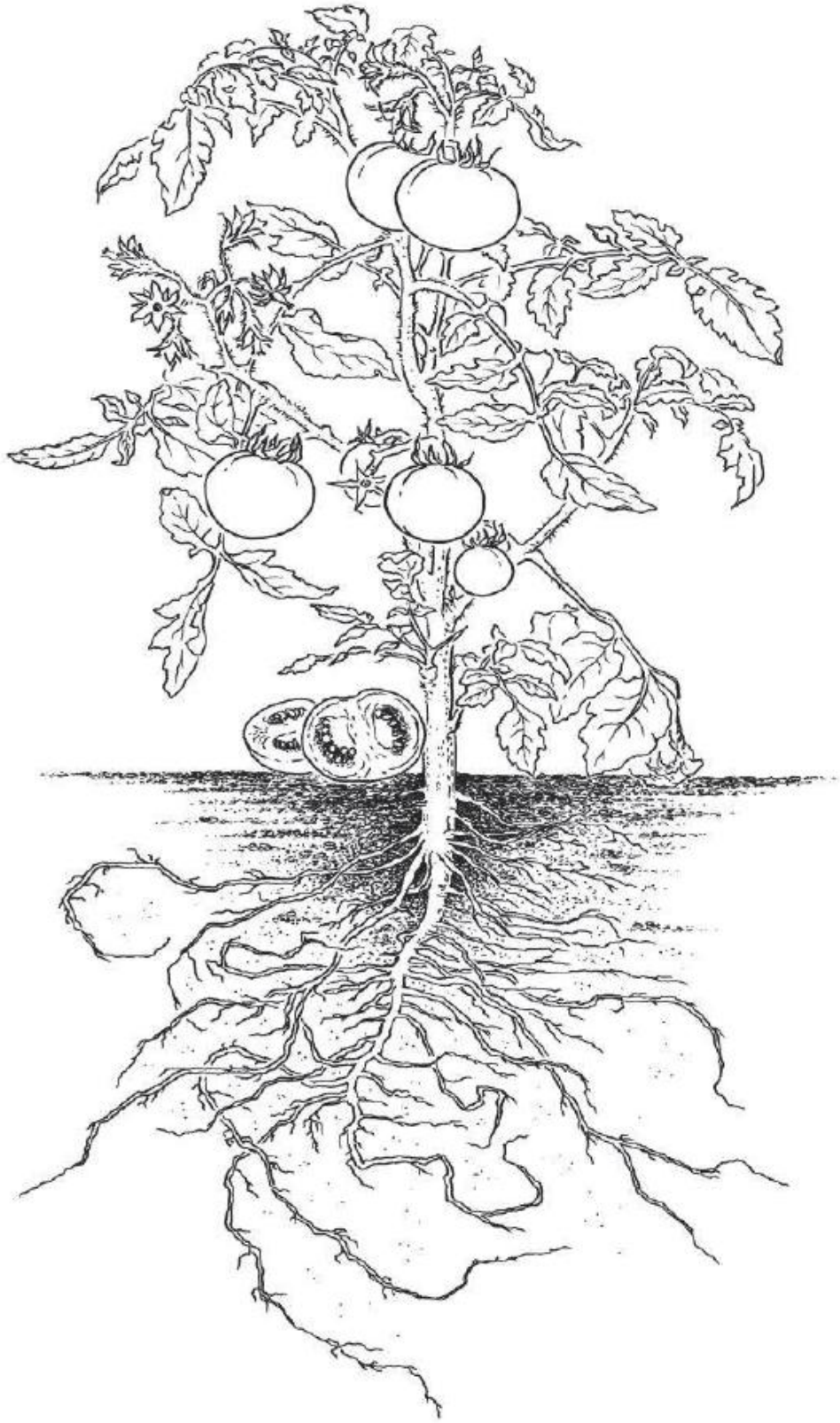
1. Read *Up, Down and Around* by Kathrine Ayers
2. Turn to page 18 of *Up, Down and Around* titled "Onions grow down". Point to the roots and ask - **What are these?** Roots. **How do they help the plant.** Roots hold the plant in the ground and drinks water from the soil.
3. Point to the stem. Ask -**What is this?** The Stem. **What does it do?** A **stem** helps a plant stand tall and carries the water to the leaves.
4. Point to the leaves. Ask -**What are these green things?** Leaves. **What do they do?** Leaves turn sunlight into food for the plant.
5. Point to the Flower. Ask- **What could this be?** A Flower. **What do flowers do?** Flowers make the seeds that can grow into new plants. Sometimes flowers turn into fruits with seeds inside the fruit, like a tomato or watermelon.
6. Ask the class if they can help you label the plant parts on the picture of a tomato plant. Label the part of the plant and display in the classroom.
7. Explain to the class that they will pretend their body is a plant- their head will be the flower, their hands will be leaves, their body/legs the stem, and their feet the roots.
8. Ask the class to stand up and to the tune of *Head, Shoulders, knees and Toes* replace the word with *Flowers, Leaves, stems and roots*

Flowers, Leaves, stems and roots, stems and roots
Flowers, Leaves, stems and roots, stem and roots
Sometimes flowers turn into a fruit
Flowers, Leaves, stems and roots, stem and roots

DRDP -2015 Measures:

Approaches to Learning-Self Regulation; ATL-REG1, ATL-REG7
Social and Emotional Development; SED3, SED4
Language and Literacy Development; LLD1, LLD3, LLD4, LLD5, LLD6, LLD9
English Language Development; ELD1, ELD2
Cognition-Math & Science; COG2, COG9, COG10, COG11
Physical Development-Health; PD-HLTH4
History and Social Science; HSS5

TOMATO PLANT PARTS



Food Day School Curriculum 2011 – Columbia University

October - What is a Plant?

Week 4: Harvesting Tomatoes

Materials:

- Tomatoes from the garden (or purchased)
- Basket or bucket
- Cutting Shears (optional)
- Large sheet of paper
- Markers or Crayons

Objectives:

- Understand that the part of the tomato plant we eat is the fruit
- Develop vocabulary to describe the characteristics of a tomato

Preparation:

If no tomatoes are available in the garden, pre-purchase some at the local farmers market or grocery store. Sweet cherry tomatoes are a great choice. Basil is also a great herb to taste with tomatoes.

DRDP -2015

Measures:

Approaches to Learning-
Self Regulation;
ATL-REG1

Social and Emotional
Development; SED1
Language and Literacy
Development;
LLD1, LLD2, LLD3,
LLD4, LLD6, LLD9

English Language
Development;
ELD1, ELD2

Cognition-Math &
Science; COG3,
COG4, COG5,
COG9, COG10

Physical Development-
Health; PD-HLTH4,
PD-HLTH10

History-Social Science;
HSS5

Directions:

1. Explain that today you will be going to the garden to harvest tomatoes and check on the pea plants.
2. Examine how the pea plant is growing. Ask- **Are the vines growing up or down? What is helping it grow up?** Those curly strings growing from the pea plant are called tendrils and they help the pea plant grab onto things so it can grow up towards the sun.
3. Visit the tomato plant. Ask- **What part of the tomato plant do we eat- the leaves, stems, roots or fruit?** That's right a tomato is a fruit, all fruits have seeds in them. We could get sick if we eat other parts of the tomato plant.
4. To harvest tomatoes, simply twist the fruit off the stem or use shears to cut them off the stem. Gather the tomatoes in a basket or bucket.

*If there are not tomatoes to harvest, visit a farmers market and pick up some tomatoes. Cherry tomatoes are a good choice, simply cut them in half before serving. If you are harvesting more than one tomato variety, ask the children to compare the varieties. If you planted basil with the tomatoes, harvest some leaves to taste as well.

5. As you harvest them, count each one as a class. Ask- **How many did we harvest?**
6. Ask the children to wash their hands before beginning the taste test. Wash the tomatoes.
7. On a large paper create a *Tomato Word Wall*. Hold up a tomato and ask children to **describe the outside**- size color and shape. Write those words on the word wall. Next cut one open and ask them to **describe the inside**, you can pass it around for all the children to see and touch. Write those words on the word wall.
8. Ask- **What are the small round things inside the tomato?** Those are the seeds. Each seed can grow into a new tomato plant. Explain that some seeds are okay to eat like seeds in a tomato and cucumbers but some seeds are not okay to eat, like apple and orange seeds.
9. Cut the tomato into bite size pieces and give each student a piece to taste. Ask them to describe what it tastes and feels like in their mouth. Write those words on the word wall.
10. Have children put a sticker on either the ***I Like This*** or ***I Don't Like This Yet*** columns of the taste test sheet, or have them write or initial their names if they are able to do so.

Tomatoes

"I LIKE THIS"



"ME GUSTA"

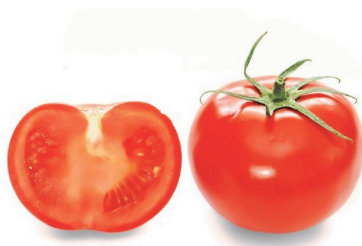
"I DON'T LIKE THIS YET"



"NO ME GUSTA TODAVÍA"

Taste Test: Tomatoes

Serves 10 · Prep time: 10 minutes · Cook time: None



Nutrition Facts

Serving Size 1/2 cup (231g)
Servings per Recipe 10

Amount Per Serving

Calories 60 Calories from Fat 15

% Daily Value

Total Fat 2g 3%

Saturated Fat 0g 1%

Trans Fat 0g

Cholesterol 0mg 0%

Sodium 60mg 3%

Total Carbohydrate 11g 4%

Dietary Fiber 3g 11%

Sugars 4g

Protein 3g

Vitamin A 4% Vitamin C 45%

Calcium 4% Iron 6%

Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.

MATERIALS NEEDED

- Knife
- Cutting board
- Plates
- Tablespoon

CHEF'S NOTES

- Small tomatoes, such as cherry or grape tomatoes, can be a choking hazard. Cut tomatoes in half to prevent choking.

Ingredients:

- 4 Roma Tomatoes
- 4 Yellow Tomatoes (if available)
- 10 Tbsp Hummus
- 4 Tomatoes on the vine
- 20 Cherry or Grape Tomatoes*

Directions:

- 1) Gently wash the tomatoes with warm water.
- 2) Slice each tomato into approximately 5 slices, cut cherry/grape tomatoes in half.
- 3) Serve each student 2 slice of each tomato, 2 grape or cherry tomato and 1 Tbsp of hummus.
- 4) Have children try one of each tomato, then eat the rest with hummus.
- 5) Enjoy!

*Other tomatoes varieties can also be used, try to offer at least 3 different varieties

Recipe developed by Network for a Healthy California

	Snack
Fruit	
Vegetable	1/2 cup ✓
Grain/Alternative	
Meat/Alternative	1 Tbs ✓
Milk	

A ✓ indicates that this food group qualifies for CACFP crediting. If two categories are checked off, then the recipe qualifies for CACFP reimbursement. The nutrition facts are provided to you for CACFP

Pizza Melt Sandwich

Serves 20 · Prep time: 15 minutes · Cook time: 5-8 minutes



Nutrition Facts

Serving Size 1/2 bagel (87g)	
Servings per Recipe 20	
Amount Per Serving	
Calories 90	Calories from Fat 25
% Daily Value	
Total Fat 2.5g	4 %
Saturated Fat 1g	6 %
Trans Fat 0g	
Cholesterol less than 5mg	1 %
Sodium 240mg	10 %
Total Carbohydrate 13g	4 %
Dietary Fiber 3g	10 %
Sugars 4g	
Protein 4g	
Vitamin A 0%	Vitamin C 8 %
Calcium 8%	Iron 4 %
Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.	

MATERIALS NEEDED

- Knife
- Cutting board
- Baking sheet
- Plates
- Mini oven

CHEF'S NOTES

- Allow pizzas to cool for a few minutes after taking them out the oven before serving.

Ingredients

- 10 mini 100% whole wheat 3" bagels, sliced in half
- 4 Large Roma tomatoes, thinly sliced
- Italian seasoning (dry thyme, oregano, basil, or tsp of each)
- 2 ½ cups (40 Tbsp) of pizza sauce
- 1 ¼ cup (10 oz.) of low fat Mozzarella cheese, grated

Directions

1. Pre-heat oven/toaster oven to 400 degrees.
2. Place mini bagel halves on a baking sheet.
3. Spread 2 Tbsp of pizza sauce on top of each bagel half.
4. Lightly sprinkle Italian Seasoning over the pizza sauce.
5. Place on tomato slice on each bagel half.
6. Sprinkle approximately 1 Tbsp of cheese on top of the tomato slice.
7. Bake for 5-8 minutes, until cheese is melted.
8. Serve warm and taste!

Recipe adapted from 2006 California Tomato Commission

	Snack	
Fruit		
Vegetable		
Grain/Alternative	1/2 serving	✓
Meat/Alternative	.5 oz	✓
Milk		

A ✓ indicates that this food group qualifies for CACFP crediting. If two categories are checked off, then the recipe qualifies for CACFP reimbursement. The nutrition facts are provided to you for CACFP creditable recipes.

Traditional Pico de Gallo

Serves 12 (1/2 cup each) · Prep time: 15 minutes · Cook time: None



Nutrition Facts

Serving Size 1/2 cup (123g)

Servings per Recipe 12

Amount Per Serving

Calories 90 Calories from Fat 30

% Daily Value

Total Fat 3g 5 %

Saturated Fat .5g 3 %

Trans Fat 0g

Cholesterol 0mg 0 %

Sodium 105mg 4 %

Total Carbohydrate 15g 5 %

Dietary Fiber 2g 9 %

Sugars 3g

Protein 2g

Vitamin A 0 % Vitamin C 30 %

Calcium 2 % Iron 4 %

Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.

MATERIALS NEEDED

- Knife
- Cutting board
- Medium bowl
- Plates
- Spoon

CHEF'S NOTES

- Chop onions and garlic finely to reduce exposure to strong taste and odors
- Use purple onions to add color

- 6 medium Roma tomatoes, chopped
- 1 cup chopped red onion
- 4 cloves garlic, minced
- ½ teaspoon salt
- 1 fresh jalapeno pepper, seeded and finely chopped (optional)
- 4 tablespoons lime juice (approximately 4 limes)
- 2/3 cup chopped fresh cilantro
- 1 (6 oz) reduced-fat tortilla chips (or celery sticks)

Directions:

- 1) Combine all of the ingredients except for the tortilla chips or celery sticks in a medium bowl.
- 2) Serve immediately or cover and refrigerate for up to 3 days.
- 3) Serve on plates with the tortilla chips or celery sticks.
- 4) Enjoy!

Recipe adapted from *Healthy Latino Recipes Cookbook- Network for a Healthy California*

	Snack
Fruit	
Vegetable	1/2 cup
Grain/Alternative	0.5 oz ✓
Meat/Alternative	
Milk	

A ✓ indicates that this food group qualifies for CACFP crediting. If two categories are checked off, then the recipe qualifies for CACFP reimbursement. The nutrition facts are provided to you for CACFP creditable recipes.

FARM TO PRESCHOOL

Garden Curriculum: From Seed to Plate

November Theme: Plant Lifecycles



Planting:
Broccoli & Cauliflower
Harvesting:
Pumpkin



Week 1: Growing Vegetable Soup

Week 2: The Lifecycle of a Pumpkin

Week 3: Observing the Garden

Week 4: Harvesting Pumpkins

November – Plant Lifecycles

Week 1: Growing Vegetable Soup

Materials:

- *Growing Vegetable Soup* by Lois Ehlert
- Broccoli, cauliflower and dill seedlings planted last month

Objectives:

- Know the steps in the lifecycle of a plant
- Understand that a seed will only grow into the plant it came from
- Transplant broccoli, cauliflower and dill seedlings

Preparation:

- Prepare the planting bed
- Read the *Broccoli and Cauliflower Fact Sheet*

Directions:

1. *Read Growing Vegetable Soup* by Lois Ehlert. Be sure to point out any vegetables you are growing in your garden.
2. Ask- **What does a plant need to grow?** - Water, Air, Sunshine, Soil and Loving Care.
3. Now tell the children that they will be tiny seeds that will grow into plants. Do the creative movement outlined below a few times.

Creative Movement: Lifecycle of a Plant

(If possible have at least one adult model the movement)

- Ask the children to crouch down into a ball to become tiny "seeds."
 - Pretend to spray them with water.
 - Have them begin to sprout by slowly stretching their legs.
 - Tell them to reach their face to the sun to grow strong.
 - Make their legs and feet firm to make strong roots.
 - Slowly stretch their arms up with their fists closed.
 - Slowly open their "flowers" (hands) to create fruits.
 - Bring hands together to make a circular fruit.
 - The fruit falls to the ground.
 - They plop back down to become seeds again and start the process over.
 - You can also incorporate a slide whistle as they "grow".
4. Thank the children for being such strong plants.
 5. Now, like in the book, we are going to transplant the broccoli, cauliflower and dill seedlings we planted from seed into the garden.
 6. Ask -**How do we know which plant is which?** That's right, the plants we labeled with a "B" are Broccoli, "C" are Cauliflower and "D" are Dill.
 7. Show the small broccoli/cauliflower seeds and the broccoli/cauliflower seedlings to the class. Ask- **Remember we planted this seed- What happened to it? Why did it grow? Will it grow into a carrot? A tomato?** That's right, it is a broccoli seed and a broccoli seed can only grow into a broccoli plant.
 8. Ask- **How do the seedlings look different, or look the same?**
 9. Plant the seedlings into the garden and water. Refer to the *Broccoli and Cauliflower Fact Sheet* for reference.

DRDP -2015

Measures:

Approaches to Learning-
Self Regulation;
ATL-REG1
Social and Emotional
Development; SED3
Language and Literacy
Development; LLD1,
LLD2, LLD4, LLD5,
LLD6, LLD7
English Language
Development;
ELD1, ELD2, ELD3
Cognition-Math &
Science; COG4,
COG8, COG9,
COG11
Physical Development-
Health; PD-HLTH1,
PD-HLTH2
History-Social Science;
HSS5

November – Plant Lifecycles

Week 2: The Lifecycle of a Pumpkin

Materials:

- Pumpkin Life cycle cards- laminated if possible
- Large board or paper

Objectives:

- Children will understand that plants have lifecycles just like people do
- Children will sequence the lifecycle of a pumpkin plant

Preparation:

none

Directions:

1. Explain to the class that today we will be talking about how our pumpkin plant grew from a seed into a pumpkin. Just like we grew from babies into children and will be adults one day, a pumpkin grows from a tiny seed into a large plant- this is called a lifecycle.
2. Explain that the lifecycle of a pumpkin has 6 stages and you need their help to put them in the right order. Tell them to think about the pumpkin growing in their garden.
3. Show and say the 6 stages of the pumpkin cards out of order and ask them which one goes first, then second and so on, placing the cards in a circle to illustrate the cycle. Seed → Seedling → Vine Flower → Green Pumpkin → Pumpkin and then back to Seed. See example attached.
4. Review the pumpkin cycle they just put in order and then sing this song as a class:

From Seed to Pie

Tune: 'The Farmer in the Dell'

The seed is in the ground.

The seed is in the ground.

Hi-ho, the pumpkin patch!

The seed is in the ground.

Additional verses....

The seed grows a sprout...

The sprout grows a vine...

The vine grows a flower...

The flower grows a pumpkin...

We make a pumpkin pie! ...

Adapted Diane Donovan as found in The Mailbox –Preschool Education Center, 2003

To extend: Create more cards and offer them to the children to arrange during free play time.

DRDP -2015 Measures:

Approaches to Learning-Self Regulation; ATL-REG1, ATL-REG4, ATL-REG6

Social and Emotional Development; SED3, SED4

Language and Literacy Development; LLD1, LLD2, LLD6, LLD9

English Language Development; ELD1, ELD2, ELD3

Cognition-Math & Science; COG4, COG9, COG11

Physical Development-Health; PD-HLTH2

History-Social Science; HSS4

Visual and Performing Arts; VPA2

November – Plant Lifecycles

Week 3: Observing the Garden

Materials:

- Paper on a clipboard (or journal) for each child
- Crayons and pencils
- Binder or stapler to bind the “book”

Objectives:

- Use our senses to observe the garden environment
- Identify and document various plants, plant parts and insects in the garden

Preparation:

none

Directions:

1. Explain to the children that today we are going to be like a very quiet ladybugs observing our garden. We will use our eyes to see, our ears to hear and our nose to smell.
2. We are going to observe the different parts of the plants- their roots, stems, leaves and flowers. Are any of them seeds, seedlings or have fruit? Do you see any insects- what are they doing?
3. Give each student a paper and make available pencils and/or crayons. Ask them to find a space near the garden to observe it and then draw what they see.
4. When they are finished you can write down any words or stories they tell you about their picture.
5. Collect and bind the pictures into a book with a title page “Our Garden” and place it in the library for the children to view and read.

DRDP -2015 Measures:

Approaches to Learning-Self Regulation; ATL-REG1, ATL-REG4
Social and Emotional Development; SED3, SED4
Language and Literacy Development; LLD2, LLD4, LLD10
English Language Development; ELD1, ELD2
Cognition-Math & Science; COG5, COG8, COG9, COG10, COG11
Physical Development-Health; PD-HLTH4
History-Social Science; HSS5

November – Plant Lifecycles

Week 4: Harvesting Pumpkins

Materials:

- Pumpkin from the garden (or purchased if the garden pumpkin is not ready)
- Sharp pruners and knife (teacher only)
- Paper plates
- Gloves (if requested by child)
- *Optional:* Paper and Markers to chart inside and outside

Objectives:

- Know how to tell if a pumpkin is ready to be harvested
- Use their senses to describe a pumpkins inside and outside

Preparation:

- If no pumpkin in the garden is ready to be harvested, purchase a pumpkin at the farmers market or store.

DRDP -2015 Measures:

Approaches to Learning-Self Regulation; ATL-REG1, ATL-REG4

Social and Emotional Development; SED3, SED4

Language and Literacy Development; LLD2, LLD4, LLD10

English Language Development; ELD1, ELD2

Cognition-Math & Science; COG5, COG8, COG9, COG10, COG11

Physical Development-Health; PD-HLTH4

History-Social Science; HSS5

Directions:

1. Explain to the children that today you are going to harvest pumpkins. We know pumpkins are ready to pick by using our eyes, ears and hands.
2. Our eyes will see if they pumpkin is orange - **is it orange?**
3. Our ears will listen for a hollow sound when we knock on it. A hollow sound is something that sounds empty when you tap it. Children can take turns knocking on it. **Does it sound empty? Why do you think it makes this sound?**
4. Our hands will feel that the pumpkin is hard- is it hard? Is the stem getting hard? If we've answered yes to all these questions, then the pumpkin is ready to be picked (harvested). If we've answered no, then our pumpkin is not ready to be picked or our pumpkin plant will not fruit this year. It's okay, we will use a pumpkin from the farmers market or store. Skip to #6
5. To harvest the pumpkin, cut the fruit off the vine carefully with sharp pruners; do not tear (teacher only). Be sure not to cut too close to the pumpkin; keep at least 4 inches to increase the pumpkin's keeping time.

If the pumpkins stem is hard and dry you can use the pumpkin in the activities below, if not use a store bought pumpkin and save the classroom pumpkin in a cool and dry place until it is ready for another classroom activity.
6. Ask the children wash their hands and the outside of the pumpkin.
8. Set the pumpkin in the middle of the table or on the rug. Ask the class to use their senses (eyes, ears, hands and nose) to describe the outside of the pumpkin. Some words could be: round, bumpy, hard, rough, smooth, cold, orange, speckled, has a green stem, etc.
9. Ask - **what do you think is inside this pumpkin?** They may or may not say "seeds."

...cont'd on next page

November – Plant Lifecycles

Week 4: Harvesting Pumpkins cont'

Directions cont'd:

Optional: Transcribe the children's words and create a simple poster about the inside and outside of a pumpkin

10. Cut open the top to reveal the seeds. Ask - **What is inside the pumpkin?** Seeds. Ask- **Are the seeds packed tight together or is there space inside for our hands?** That's right, there's space, maybe that's why it sounded empty. As a class estimate how many seeds are inside.
11. Scoop out the seeds and place some on each child's plate. Encourage the children to separate the seeds from the pulp. The pulp is the stringy part attached to the seed. Some children (and teachers) may want to wear gloves for this activity.
12. Be sure to point out where the "flesh" of the pumpkin is- the part we eat. We can also eat the seeds, but all parts of the pumpkin must be cooked before we eat can eat them.
13. Ask the class to use their senses (eyes, ears, hands and nose) to describe the inside of the pumpkin.
14. Identify the parts of the pumpkin: stem, seeds, shell, pulp and flesh.
15. You can extend the activity by following one or more of the following recipes and have children put a sticker on either the ***I Like This*** or ***I Don't Like This Yet*** columns of the taste test sheet, or have them write or initial their names if they are able to do so.

To Extend: Obtain another pumpkin for this activity or do prior to the main activity

Do Pumpkins Float? (explore as a class or in small groups)

- You can create a large graph with the question "Do Pumpkins Float?" and write the children's names in the "yes" or "no" column to chart their predictions or simply ask the students to raise their hands for "yes" or "no" and take a count.
- Fill a large bucket with water. Have a student place a small pumpkin in the water.
- Does it float?
- How about stem up, stem down, sideways?
- Ask the class to guess why it floats. (It floats because it is hollow inside and filled with air like a balloon)
- You can also test if other fruits or vegetables will float, be sure to ask the class what their predictions are before testing.
- Some fruits and vegetables to consider: apples, peppers, carrots, zucchini.

Example of an alternative graph

Pumpkins

“I LIKE THIS”



“ME GUSTA”

“I DON’T LIKE THIS YET”



“NO ME GUSTA TODAVÍA”

Pumpkin Dip/Mini Pumpkin Pies

Serves 16 · Prep time: 70 minutes · Cook time: None



Nutrition Facts

Serving Size 1 Tbsp Dip (57g)

Servings per Recipe 16

Amount Per Serving

Calories 90 Calories from Fat 15

% Daily Value

Total Fat 1.5g 3%

Saturated Fat 0g 2%

Trans Fat 0g

Cholesterol 0mg 1%

Sodium 190mg 8%

Total Carbohydrate 16g 5%

Dietary Fiber Less than 1g 5%

Sugars 8g

Protein 3g

Vitamin A 80% Vitamin C 2%

Calcium 6% Iron 4%

Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.

Ingredients:

- ½ can (15 ounces) pumpkin*
- 8 ounces fat-free cream cheese, softened
- 2 Tablespoons brown sugar
- ½ teaspoon cinnamon
- ½ teaspoon pumpkin pie spice
- 16 rectangle graham crackers

*or use pumpkin puree recipe from optional "Pumpkin Bread" recipe

Directions:

- 1) Open the can of pumpkin and place in a bowl. Cover and refrigerate at least one hour prior to making this recipe (so the dip will be chilled).
- 2) Place the remaining items into the bowl of pumpkin and mix together until creamy.
- 3) Place one tablespoon of the pumpkin dip on each plate with a graham cracker.
- 4) Taste!

MATERIALS NEEDED

- ☐ Bowl
- ☐ Can opener
- ☐ Whisk/fork
- ☐ Plate

CHEF'S NOTES

- Allow crème cheese to warm to ambient temperature for 10 minutes before mixing

Developed by Network for a Healthy California- Merced County Office of Education

	Snack
Fruit	
Vegetable	
Grain/Alternative	1/2 serving ✓
Meat/Alternative	0.5 oz ✓
Milk	

A ✓ indicates that this food group qualifies for CACFP crediting. If two categories are checked off, then the recipe qualifies for CACFP reimbursement. The nutrition facts are provided to you for CACFP creditable recipes.

Pumpkin Apple Butter

Serves 12 (4 tablespoons) · Prep time: 10 minutes · Cook time: 1 ½ hours



Nutrition Facts

Serving Size 4 Tbsp Butter (90g)

Servings per Recipe 12

Amount Per Serving

Calories 120 Calories from Fat 5

% Daily Value

Total Fat .5g 1%

Saturated Fat 0g 1%

Trans Fat 0g

Cholesterol 0mg 0%

Sodium 150mg 6%

Total Carbohydrate 25g 8%

Dietary Fiber 2g 8%

Sugars 6g

Protein 4g

Vitamin A 110% Vitamin C 4%

Calcium 2% Iron 10%

Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.

MATERIALS NEEDED

- ☐ Sauce pan/microwave safe bowl
- ☐ Whisk
- ☐ Plates

CHEF'S NOTES

- Microwave cooking works best for in-classroom activities applying 1 minute cooking intervals to allow for mixing.

Ingredients:

- 1 (15 ounce) can pumpkin
- ½ cup 100% apple juice
- 1 cup apple, peeled and grated
- 2 Tablespoons brown sugar
- ¾ teaspoon pumpkin pie spice
- 6 Cinnamon raisin bagels, sliced into chunks

Directions:

- 1) Combine ingredients in a saucepan and mix together.
- 2) Cook on medium-high heat until the mixture boils.*
- 3) Reduce heat to a low and continue cooking for 1 ½ hours. Stir mixture occasionally.
- 4) Store in an airtight container in the refrigerator.
- 5) Serve cold and spread on graham crackers or the cinnamon bagel chunks.
- 6) Enjoy!

**This recipe can be made using a microwave. Use a microwave safe container and cook on high heat until mixture boils (stir every minute). Continue to cook until it has thickened.*

Recipe adapted from www.VeryBestBaking.com

	Snack
Fruit	
Vegetable	1/4 cup ✓
Grain/Alternative	1/2 serving ✓
Meat/Alternative	
Milk	

A ✓ indicates that this food group qualifies for CACFP crediting. If two categories are checked off, then the recipe qualifies for CACFP reimbursement. The nutrition facts are provided to you for CACFP creditable recipes.

Food Experience: Roasted Pumpkin Seeds (optional)

Serves 20 (small handfuls) • Prep time: 10 minutes • Cook time: 5-8 minutes

Nutrition Facts

Serving Size

Servings per Recipe

Amount Per Serving

Calories 160

Calories from Fat

% Daily Value

Total Fat

%

Saturated Fat

%

Trans Fat

Cholesterol

%

Sodium

%

Total Carbohydrate

%

Dietary Fiber

%

Sugars

Protein

Vitamin A %

• Vitamin C %

Calcium %

• Iron %

*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.

Ingredients:

- Seeds from a large pumpkin (rinsed and dried)
- 2 Tablespoons olive oil (or olive oil cooking spray)
- Salt/Pepper (if desired)

Directions:

1. Preheat the oven to 375 degrees Fahrenheit.
2. Scatter seeds onto a cookie sheet in a single layer and drizzle with olive oil.
3. Sprinkle with salt (and pepper) and toss to coat.
4. Bake for 5-8 minutes. Seeds are ready when lightly brown and toasty.
5. Taste!

MATERIALS

- ☐ Cookie Sheet
- ☐ Hot pads

CHEF'S NOTES

-
-

Farm to Preschool, Urban & Environmental Policy Institute, Occidental College

CACFP Crediting

	Snack
Fruit	
Vegetables	
Bread/Alternative	
Meat/Alternative	
Milk	

Pumpkin Bread

Serves 20 (1/2 slices) · Prep time: 1 1/2 hours · Cook time: 1 hour



Nutrition Facts

Serving Size 1/2 Slice (66g)

Servings per Recipe 20

Amount Per Serving

Calories 170 Calories from Fat 70

		% Daily Value
Total Fat	8g	12%
Saturated Fat	1g	6%
Trans Fat	0g	
Cholesterol	20mg	7%
Sodium	400mg	17%
Total Carbohydrate	20g	7%
Dietary Fiber	1g	3%
Sugars	11g	
Protein	4g	
Vitamin A	40%	Vitamin C 0%
Calcium	6%	Iron 4%

Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.

MATERIALS NEEDED

- ☐ Mixing Bowl
- ☐ Knife
- ☐ Baking Sheet
- ☐ 9x5x3 inch loaf pan
- ☐ Toothpicks
- ☐ Cooling rack
- ☐ Measuring cup
- ☐ Measuring spoons

CHEF'S NOTES

- Avoid using walnuts if any of the children are allergic to nuts
- Do not cut into the loaf of bread when it is still hot, allow it to cool first

Ingredients:

- 1 ½ cups All-purpose flour
- ½ teaspoon salt
- 1 cup sugar
- 1 teaspoon baking soda
- 1 cup pumpkin purée*
- ½ cup olive oil
- 10 oz Crème Cheese, fat-free
- 2 eggs, beaten
- ¼ cup water
- ½ teaspoon nutmeg
- ½ teaspoon cinnamon
- ½ teaspoon allspice
- ½ cup chopped walnuts

**To make pumpkin purée, cut a pumpkin in half, scoop out the seeds and stringy bits, lie face down on a foil or Silpat lined baking sheet. Bake at 350 degrees Fahrenheit until soft, about 45 minutes to an hour. Cool, scoop out the flesh. Freeze whatever you don't use for future use. Or, if you are working with pumpkin pieces, roast or boil them until tender, then remove and discard the skin.*

Directions:

- 1) Preheat the oven to 350 degrees Fahrenheit.
- 2) Sift together the flour, salt, sugar and baking soda.
- 3) Mix the pumpkin, oil, eggs, ¼ cup water, and spices together. Then combine with the dry ingredients, but do not mix too thoroughly. Stir in the nuts.
- 4) Pour into a well-buttered 9x5x3 inch loaf pan. Bake 50-60 minutes until a thin skewer poked in the very center of the loaf comes out clean. Turn the bread out of the pan and let cool on a rack.
- 5) Spread 1 Tbsp crème cheese.
- 6) Taste!

Recipe adapted from www.simplyrecipes.com

	Snack	
Fruit		
Vegetable		
Grain/Alternative	1/2 slice	✓
Meat/Alternative	0.5 oz	✓
Milk		

A ✓ indicates that this food group qualifies for CACFP crediting. If two categories are checked off, then the recipe qualifies for CACFP reimbursement. The nutrition facts are provided to you for CACFP

FARM TO PRESCHOOL

Garden Curriculum: From Seed to Plate

**December Theme:
Plants Have, Need, and Give**



Planting:
Cooking Greens (Parsley)
Harvesting:
Sugar Snap Peas



Week 1: Planting Leaves We Eat

Week 2: Plants in Our Lives

Week 3: Harvesting and Tasting Peas

December – Plants Have, Need, and Give

Week 1: Planting Leaves We Eat

Materials:

- *From Seed to Plant* by Gail Gibbons
- Small plastic containers (i.e. yogurt cups) with drainage holes or as a class make newspaper pots (Garden Primer p. 11)
- Potting Soil
- Seeds: at least two packets of Kale, Chard, Bok Choy and/or Collards
- One packet of Parsley seeds
- Watering Can
- Fresh Fruit and Vegetable Photo Cards (FFVPC) of leafy vegetables
- Popsicle stick or tape to label cups and markers

Objectives:

- Understand that we eat the leaves of some plants
- Plant seeds and create labels

Preparation:

none

DRDP -2015

Measures:

Approaches to Learning-Self Regulation; ATL-REG1, ALT-REG6
Social and Emotional Development; SED3, SED4
Language and Literacy Development; LLD1, LLD2, LLD3, LLD4, LLD5
Cognition-Math and Science; COG5, COG9, COG10, COG11
Physical Development-Health; PD-HLTH10
History-Social Science; HSS5
Visual and Performing Arts; VPA2

Directions:

1. Read *From Seed to Plant* by Gail Gibbons.
(Note: The book may be too wordy for younger children, you can begin at page 18 beginning with "A flower bed or vegetable garden is beautiful....")
2. Explain that we will be planting seeds of plants which have leaves we eat. They are called leafy vegetables.
3. Show them FFVPC of various leafy vegetables: bok choy, collards, chard, kale, lettuce, spinach, etc.
4. Show and/or pass around the tiny seeds they will be planting. Ask- **What do plants need to grow?** Soil, Water, Air, Sunlight and Loving care.
5. Give each child a small plastic container with drainage holes on the bottom or as a class make newspaper pots on page 11 of the Garden Primer. Fill the container with potting soil. Have each child plant two seeds of one type of plant about a quarter inch in the soil, cover with soil and lightly water. The rule of thumb is to plant a seed twice as deep as its width. Refer to the *Greens Planting Guide* for specific instructions.
6. Have children label each plant. For smaller children, label the first letter of the plant. As the seedlings grow they will look similar and will be hard to know which plant is which.
7. Place the cups or pots on a tray or plate so the excess water can drain. Keep evenly moist and in sunlight, inside near a window or outside until they have at least 3 true leaves and are ready to transplant into the garden.
8. While you are planting seeds you can sing: (repeated from Oct.)

Little Seed

(tune: *I'm a Little Teapot*)

*Here's a little seed in the dark, dark ground.
Out comes the warm sun, yellow and round.
Down comes the rain and now the wind blows
Up comes the little seed, grow, grow, grow!*

Adapted from: <http://home.moravian.edu/children/k/stmak10/lessonplan.htm>

Note: Although each child is planting their own plant, you will only have enough space for a few plants to grow properly in your garden. Encourage students and families to bring home their seedlings to grow at home in a garden or larger container.

December – Plants Have, Need, and Give

Week 2: Plants in Our Lives

Materials:

- A wooden block
- A 6-pack of vegetable seedlings
- Zip-lock plastic bag
- Scissors

Objectives:

- Reinforce the parts of plants (roots, stems, leaves, and fruit)
- Reinforce what plants need to grow and be healthy
- Learn what plants give to benefit people

Preparation:

Cut 6-pack of vegetable seedlings apart, so you have 6 separate containers.

Directions:

1. *Optional:* Re-read From Seed to Plant by Gail Gibbons.
 2. Ask children to name the different parts of plants. Give them clues and explain what each part is for. Use the "Plant Parts" diagram, taping the name of each plant part to the correct space when they name each one. Display in the classroom.
 3. Ask children what plants need to grow. Use the "Plant Needs" diagram. Display in the classroom.
 4. Tell children that we need plants, because plants give us important things. Ask children "what do plants give"? Give them hints if they have trouble.
 - a. Air- tell children that plants breathe a different part of the air than us, so what we breathe out, they breath in, and what they breath out, we breathe in. We need plants so we can breathe the air. As a class breathe in and out.
 - b. Food- ask children to name food that comes from plants. Name some fruits and vegetables if they need clues.
 - c. Clothing- cotton is plant used to make clothes, blankets, and more. Ask the children to touch their shirt, your shirt (most likely) is made of cotton and once grew on a plant.
 - d. Buildings- lumber from trees is used to build houses and furniture. Hold up a wooden block, this was once a tree.
 - e. Other things plants help with is to make our world pretty, like beautiful flowers, for animals to eat and live in, they provide shade, etc.
- Science Experiment:
5. Now, it is time to experiment with what plants need to grow. Put the 6 plants in different places, and check back daily for 1 week or so.

...cont'd on next page

DRDP -2015 Measures:

Approaches to Learning-Self Regulation; ATL-REG1, ATL-REG7

Social and Emotional Development; SED3, SED4

Language and Literacy Development; LLD1, LLD2, LLD3, LLD4, LLD6

English Language Development; ELD1, ELD2

Cognition-Science and Math; COG5, COG8, COG9, COG10, COG11

Physical Development-Health; PD-HLTH4, PD-HLTH10

History- Social Science; HSS5

December – Plants Have, Need, and Give

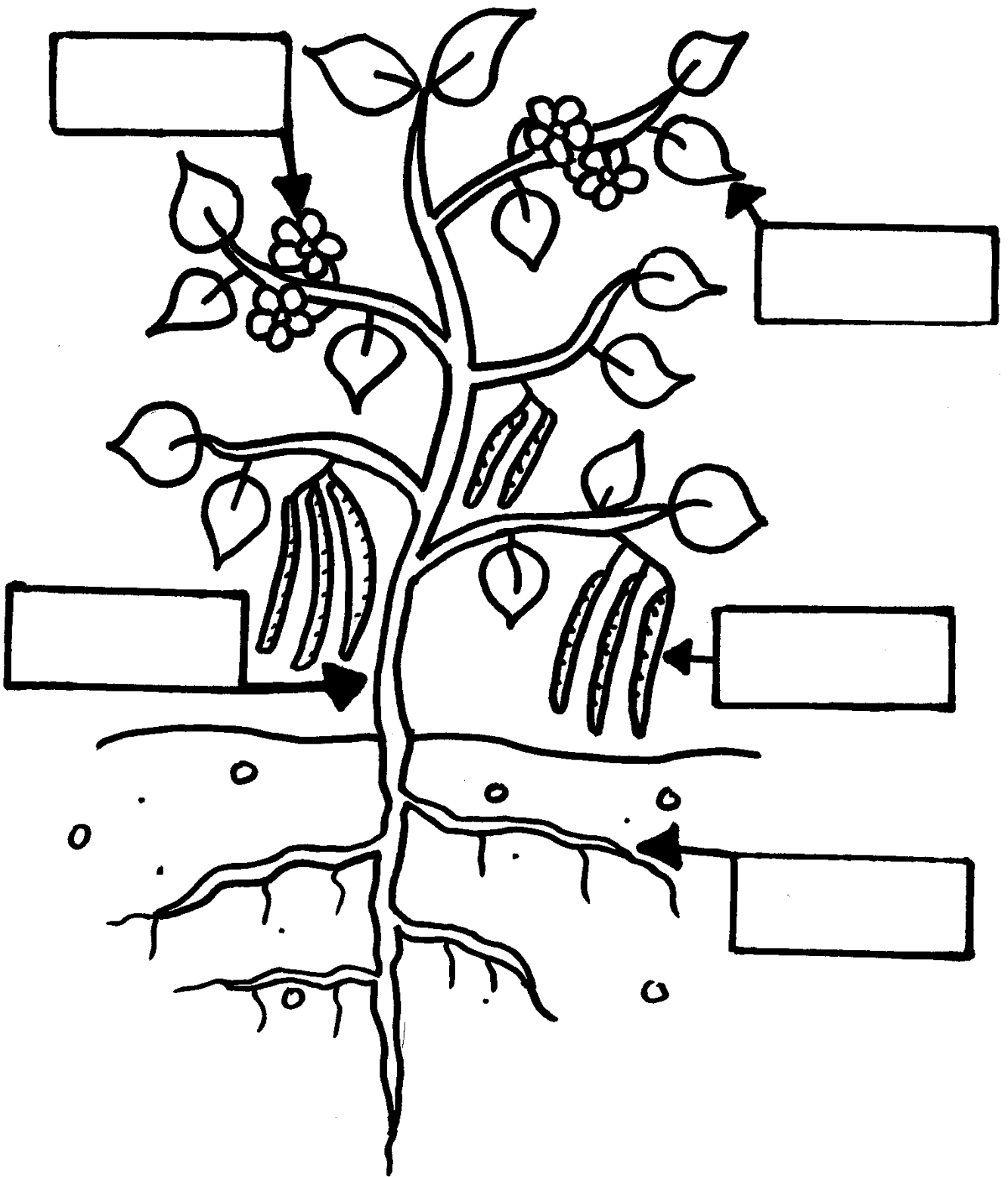
Week 2: Plants in Our Lives, cont'd

Directions cont'd:

- a. Put plant #1 in the window sill, leaving it in the soil it came in, and water it when it starts to dry (should stay healthy, and maybe grow)
- b. Put plant #2 in a closet or under a box, and water it when it gets dry (no light, it may grow tall, weak, or yellow, maybe fall over)
- c. Put plant #3 In the window sill, but do not water it (no water, it will wilt and fall over)
- d. Gently empty the dirt out of the pot of plant #4 and put it in the window sill. Dip the roots in water every day. (no dirt, it will fall over)
- e. Put plant #5 inside a ziplock bag, and seal it tight. (no air, it may mold, or wilt)
- f. Have children pinch the leaves and stem of plant #6. Try not to break the plant off at the stem, but handle it roughly. Put it in the window, and water it when it dries out. (No loving care, it will not do well).

Extension: Visit your garden or stroll the neighborhood or local park and identify what plants have, need, and give. Find an example of roots, leaves, stems, fruit, and flowers. Pull a weed to find roots. Look for where plants get their needs from- soil below, water from the hose or rain, air around us, find the sun in the sky. Connect what plants have with what they give. For example, if there are any fruits, that is our food. Leaves are the part of the plant that breathes fresh air for us. If there are trees, show them the trunk and that this is where wood for furniture comes from. Walk around the and look for things plants have given us- paper, desks, snacks, and clothes. When back in the classroom ask the students to draw what they saw.

Optional: Create a chart of what plants have, need and give and display in the classroom.
Example:



ROOTS

To soak up water and keep the plant from falling over

STEMS

The base of a plant. and an elevator for food and water

LEAVES

These turn sunlight into food for the plant to eat

FLOWERS

Attract insects that spread pollen and turns into fruit

FRUITS

Keeps seeds safe, not too hot, and not too cold

SUNLIGHT

Plants turn sunlight into food

WATER

Like all other living things, plants need water to live

SOIL

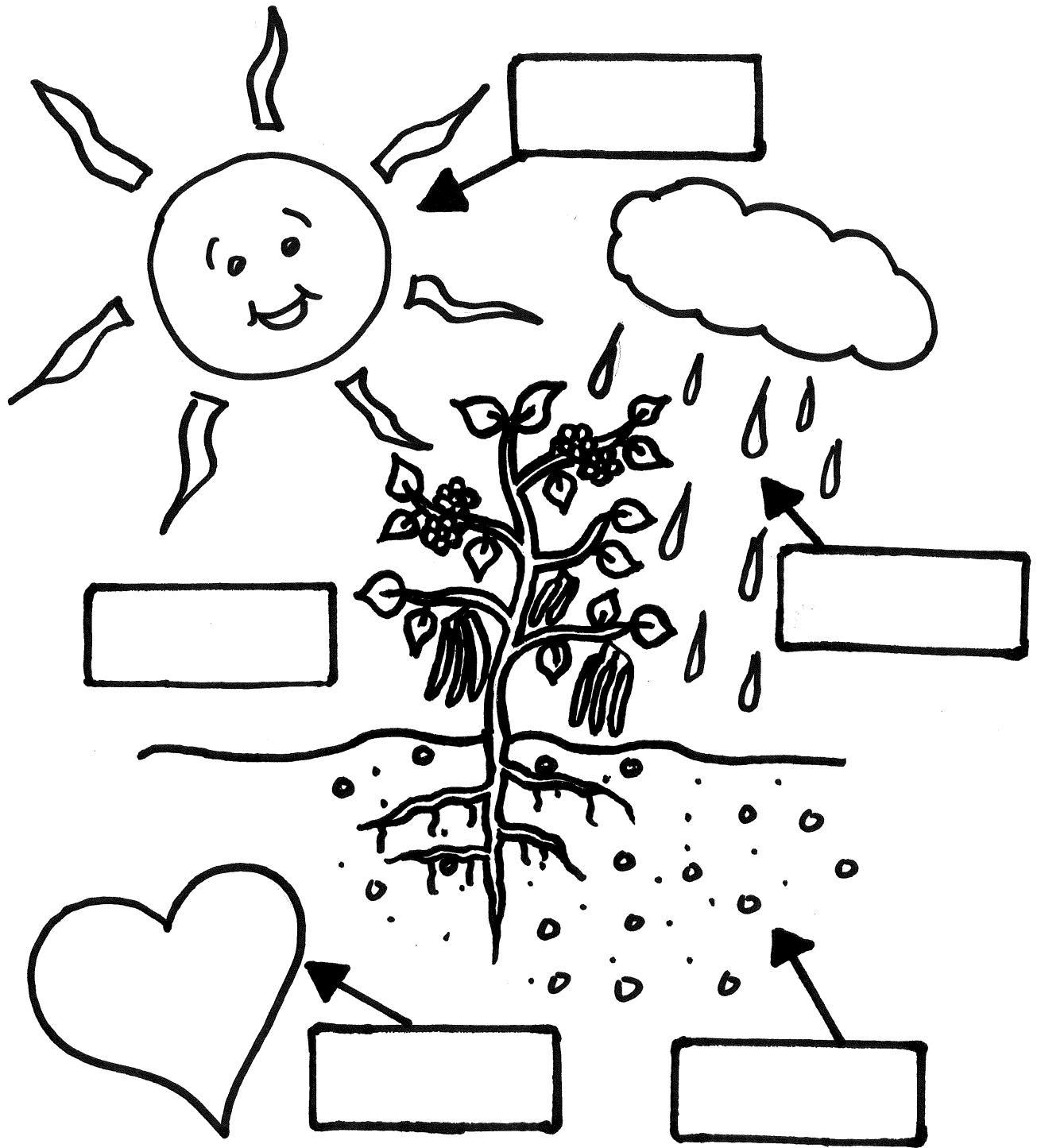
Plants need soil to root into, so they don't fall over

AIR

Plants breathe with their leaves, so they need air too

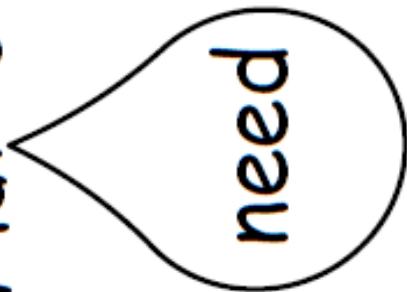
LOVING CARE

If you are not careful with plants, they might break!



Plants









December – Plants Have, Need, and Give

Week 3: Harvesting and Tasting Sugar Snap Peas (and Nasturtiums)

Materials:

- Sugar Snap Peas (from the garden or purchased)
- Basket or bucket
- Cutting shears (optional)

Objectives:

- Learn the process of harvesting, cleaning, preparing, and eating Sugar Snap Peas
- Understand that peas are inside a pea pod
- Learn that Peas are seeds that we eat

Preparation:

If no Sugar Snap Peas are available in the garden, pre-purchase some at the local farmers market or grocery store.

DRDP-2015

Measures

Approaches to Learning-Self Regulation; ATL-REG1, ATL-REG7
Social and Emotional Development; SED1, SED3, SED4
Language and Literacy Development; LLD1, LLD2, LLD3, LLD6
English Language Development; ELD1, ELD2
Cognition-Math and Science; COG9, COG10, COG11
Physical Development-Health; PD-HLTH10
History-Social Science; HSS5

Directions:

1. Harvesting: The first peas will be ready to harvest ~1 week after blossoms fade. Pick sugar snap peas by hand when the pea pods become flat and before the peas grow too large. The pea pods will resemble green beans. Remove entire pea pods from the vines by hand or with small pruners and collect them in a basket or bucket. If any nasturtium flowers have blossomed, pick them as well (they have a peppery taste).
2. Return to the garden to pick again every 1-3 days. If you do not harvest sugar snap peas regularly, the pods will become tough. Continue harvesting sugar snap peas as long as the pea plants produce peas - they should continue to produce throughout the cool spring weather.
3. Washing: As a class wash hands and wash pea pods. Put most aside for tasting but save a few to examine as a class.
4. Examining Pods: Hold up a pea pod & ask- **what do you think is inside this pod?** Open pod to reveal the peas inside. Count the peas. Explain that the peas inside are the seed of the plant.
5. Estimating Peas: Hold up another pea pod, ask- **how many peas do you think are inside this pod?** Open pod and count peas as a class- was there the same number of peas, more or less? Repeat as necessary.
6. Taste Test: Explain that peas are vegetables. Ask the students if they have ever eaten peas, snap peas, or snow peas before. Discuss that peas help you grow healthy. Green vegetables help our eyes see better, and help us have strong bones and teeth. Explain that Sugar Snap Peas are vegetables we can eat raw- that means we don't need to cook them- we can eat the peas and the pea pod. Peas taste best when they are freshly picked, like from our garden or from a farmer at the farmers market.
7. Pass around at least one pea pod for each student. Taste the peas as a class or prepare the "Peas in Dip" Food Experience and then taste. Use the "Conducting An In-class Taste Test" as a guideline for questions to ask the children.
8. Have students put a sticker on either the "I Like This" or "I Don't Like This Yet" columns of the taste test sheet, or have them write or initial their names if they are able to do so.

Sugar Snap Peas

“I LIKE THIS”



“ME GUSTA”

“I DON’T LIKE THIS YET”



**“NO ME GUSTA
TODAVÍA”**

Food Experience: Peas in Dip (optional)

Serves 24 • Prep time: 10 minutes • Cook time: None

Nutrition Facts

Serving Size

Servings per Recipe

Amount Per Serving

Calories 160

Calories from Fat

% Daily Value

Total Fat

%

Saturated Fat

%

Trans Fat

Cholesterol

%

Sodium

%

Total Carbohydrate

%

Dietary Fiber

%

Sugars

Protein

Vitamin A %

• Vitamin C %

Calcium %

• Iron %

*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.

Ingredients:

- 6 cups fresh peas, snow peas or snap peas (or a mix, whatever is available)
- 2 cups fat free sour cream or plain yogurt (verify as CACFP accredited)
- 2 cups fresh salsa

Directions:

1. Mix yogurt or sour cream and salsa. Place 2 tbsp of the dip on each student's plate.
2. Serve ¼ cup or peas to each student.
3. Dip and taste.

Makes 20 (1/4 cup each) Taste Test

MATERIALS

CHEF'S NOTES

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Recipe adapted from www.harvestofthemonth.com, Educator Newsletter (Green Beans)

CACFP Crediting

	Snack
Fruit	
Vegetables	
Bread/Alternative	
Meat/Alternative	
Milk	

Food Experience: Pea Salad with Fresh Herbs (optional)

Serves 30+ • Prep time: 15 minutes • Cook time: 2 hours

Nutrition Facts

Serving Size

Servings per Recipe

Amount Per Serving

Calories 160

Calories from Fat

% Daily Value

Total Fat

%

Saturated Fat

%

Trans Fat

Cholesterol

%

Sodium

%

Total Carbohydrate

%

Dietary Fiber

%

Sugars

Protein

Vitamin A %

• Vitamin C %

Calcium %

• Iron %

*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.

Ingredients:

- ½ pound snow peas
- 1 pound of fresh or frozen peas
- ½ bunch mint, finely chopped (use your mini chopper)
- ½ bunch cilantro, finely chopped (use your mini chopper)
- ½ bunch Italian Parsley, finely chopped (use your mini chopper)
- 1 TBSP olive oil
- 2 TBSP rice vinegar
- 1/8 tsp salt

Directions:

1. Wash peas and remove any stems.
2. Combine all peas in large bowl.
3. Blend herbs, oil, vinegar and salt until smooth.
4. Pour mixture over peas and serve.

Makes 20 (1/4 cup each) Taste Tests

MATERIALS

□

CHEF'S NOTES

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Recipe adapted from www.harvestofthemonth.com, Educator Newsletter (Peas)

CACFP Crediting

	Snack
Fruit	
Vegetables	
Bread/Alternative	
Meat/Alternative	
Milk	

FARM TO PRESCHOOL

Garden Curriculum: From Seed to Plate

January Theme: Exploring Leaves and Photosynthesis



Planting:
Lettuce & Cilantro
Harvesting:
Broccoli & Cauliflower



Week 1: Planting Lettuce

Week 2: Focus on Plant Parts - Leaves

Week 3: Exploring the Shapes, Sizes, and Colors of Leaves

Week 4: Harvesting Broccoli & Cauliflower

January – Exploring Leaves and Photosynthesis

Week 1: Planting Lettuce & Cilantro

Materials:

- Small plastic containers (i.e. yogurt cups) with drainage holes or as a class make newspaper pots (Garden Primer p. 11)
- Tape and cardstock
- Potting Soil
- Watering Can
- Fresh Fruit and Vegetable Photo Cards (FFVPC) of lettuce varieties: Endive, Escarole, Iceberg Lettuce, Leaf Lettuce and Radicchio.
- Popsicle stick or tape to label cups and markers
- Seeds: at least two different packets of lettuce . Some easy to grow varieties are: Romaine- leaves are flavorful and crunchy; Butterhead, Bibb or Boston - leaves are soft and green; Red Leaf and Green Leaf- leaves are ruffly, deeply colored fronds; Mesclun (spring mix) - mix of loose, tender baby lettuce leaves.
- One packet of cilantro (herb)

Objectives:

- Understand that we eat the leaves of some plants
- Understand there are many lettuce varieties
- Plant seeds and create labels

Preparation:

Tape some seeds to card stock so the children can look at the seeds without dropping them.

DRDP-2015 Measures

Approaches to Learning- Self Regulation; ATL-REG1, ATL-REG7
 Social and Emotional Development; SED3, SED4
 Language and Literacy Development; LLD1, LLD2, LLD6, LLD9
 English Language Development; ELD1, ELD2
 Cognition-Math and Science; COG5, COG8, COG9, COG10, COG11
 Physical Development-Health; PD-HLTH10
 History-Social Science; HSS3, HSS5
 Visual & Performing Arts; VPA2

Directions:

1. Explain to the class that we will be planting seeds of plants that we eat their leaves. They are called leafy vegetables. These seeds are similar to the plants we planted last month, but are called lettuce and are usually eaten raw- which mean they do not need to be cooked. Lettuce is a vegetable that we can put in salad. Another plant we eat its leaves is an herb called cilantro. Has anyone ever eaten lettuce or cilantro?
2. Lettuce can come in different shapes and colors such as light green, dark green and red. Show the class a Fresh Fruit and Vegetable Photo Card for each different type of lettuce as you name them and have the students say what color each one is: Endive, Escarole, Iceberg Lettuce, Leaf Lettuce (can be green or red though the photo says only the green variety), and Radicchio (ra-di-key-o).
3. Review the concept of plant parts from last month (root, stem, leaf, flower, fruit, and seed) and ask the class -What plant part is lettuce ? That's right, it's the leaves.
4. Name the varieties of lettuce your class will be growing. Show and/or pass around the tiny seeds they will be planting. These seeds are very tiny, so you may want to use clear tape and tape some to a sturdy piece of paper before passing it around. Ask- what do plants need to grow? Soil, Water, Air, Sunlight and Loving Care.
5. Give each child a small plastic container with drainage holes on the bottom or as a class make newspaper pots on page 11 of the Garden Primer. Fill the container with potting soil. Have each child place a few seeds of one type of plant on top of the soil, cover with soil and lightly water. Lettuce leaves are very tiny so they do not need to be planted deeply. Do the same for each lettuce variety and cilantro seeds. Refer to the Lettuce Planting Guide for specific instructions.

...cont'd on next page

January – Exploring Leaves and Photosynthesis

Week 1: Planting Lettuce & Cilantro

Directions cont'd:

6. As the seedlings grow, they will look similar and will be hard to know which plant is which. Have children label each plant with popsicle stick or tape. For smaller children, label the first letter of the plant.
7. Place the cups or pots on a tray or plate so the excess water can drain. Keep evenly moist and in sunlight, inside near a window or outside until they have at least 2 true leaves and are ready to transplant into the garden. While you are planting seeds you can sing:

Little Seed

(tune: *I'm a Little Teapot*)

*Here's a little seed in the dark, dark ground.
Out comes the warm sun, yellow and round.
Down comes the rain and now the wind blows
Up comes the little seed, grow, grow, grow!*

Adapted from: <http://home.moravian.edu/children/k/stmak10/lessonplan.htm>

Note: Although each child is planting their own plant, you will only have enough space for a few plants to grow properly in your garden. Encourage students and families to bring home their seedlings to grow at home in a garden or larger container.

Extension - Seed Cards. Create a seed card for a variety of seeds you have planted in the garden for children to examine and compare in the science area. You can also add the corresponding Fresh Fruit and Vegetable Photo Card (FFVPC) so they can compare the seed to the full-grown vegetable picture.

January – Exploring Leaves and Photosynthesis

Week 2: Focus on Plant Parts - Leaves

Materials:

- *Leaves* by Vijaya Khisty-Bodach
- Crayons or colored pencils

Objectives:

- Learn why plants have leaves- to make food and to breathe
- Photosynthesis basics- leaves turn sunlight into food for plant
- Learn which plant leaves we eat

Preparation:

Make copies of the attached worksheet, one for each child.

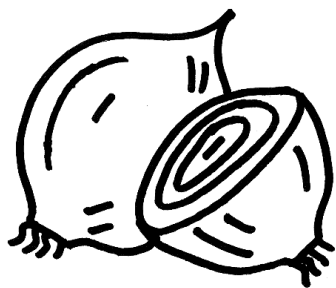
Directions:

1. Ask children to name the plant parts (leaves, roots, stems, flowers, and fruit). Tell them - you are going to learn more about leaves.
2. Read *Leaves* by Vijaya Khisty-Bodach
3. Ask- **What are two reasons why plants need leaves?** To make food, and breathe. Leaves are like our mouth- it's how we eat & breathe. Have children practice breathing through their mouths, all breathe in and out at the same time. Have kids pretend to eat, taking imaginary bites & chewing. Alternate between breathing & eating to emphasize 1 part (the mouth) can do 2 jobs (eating and breathing).
4. Plants breathe air too, but a different part of the air. Plants breathe out oxygen. Oxygen is what people and animals breathe in every time they take a breath. Without plants, we would run out of oxygen to breathe. Plants breathe in carbon dioxide. We breathe out carbon dioxide.
5. Ask- **what do plants need to grow?** (soil, water, air, loving care, and sunlight) Plants use their leaves to turn sunlight into food that gives it energy to grow.
6. Ask- **what room do we make meals in our house or at school?** That's, right, the kitchen. The leaves are like the kitchen of a plant. It is where the food is made!
7. For older children: When we cook at home or school, we use a recipe. A recipe is all the different parts needed to make food. Sunlight isn't the only ingredient in the recipe for plant food- plants also need water from soil, & air around them, for the leaves to make their recipe.
8. All plants make food in leaves. Some leaves make good food for people too! Give a copy of the worksheet to each child. Have them draw circles around the leafy vegetables They can color the whole page.
9. **Extension- Matching Game:** Print out two copies of the attached worksheet, laminate if possible, cut out each veggie square and set on table for children to match the picture or flip over to play memory.
10. **Garden Extension:** Tell children that only healthy green leaves turn sunlight into food. Leaves that are brown, yellow, or shriveled up aren't very good at making the plant food! Look for leaves around the garden you can trim to make the plants healthier. Leaves that are brown, yellow, or shriveled can be cut or pinched off and put in the compost, worm bin, or trash. When they are finished, say "we helped the plants, now they will be better at making food for themselves!" and give yourself a round of applause.

DRDP-2015 **Measures**

Approaches to
Learning-Self
Regulation; ATL-
REG1, ATL-REG7
Social and Emotional
Development;
SED3, SED4
Language and Literacy
Development;
LLD1, LLD2, LLD3,
LLD4, LLD6, LLD8,
LLD9
English Language
Development;
ELD1, ELD2, ELD3,
ELD4
Cognition-Math and
Science; COG2,
COG4, COG9,
COG10, COG11
Physical Development-
Health; PD-
HLTH10
History-Social Science;
HSS3, HSS5

ONION



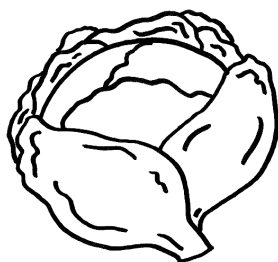
CORN



LETTUCE



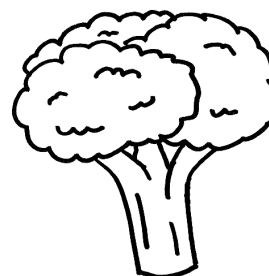
CABBAGE



EGGPLANT



BROCCOLI



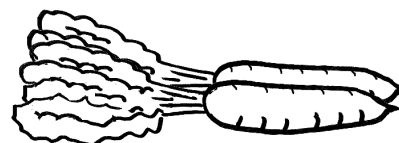
BOK CHOY



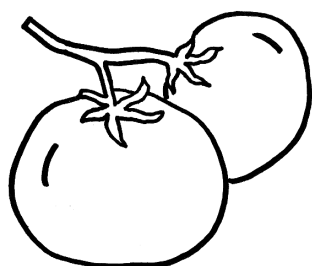
PUMPKIN



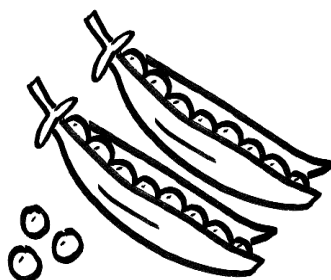
CARROT



TOMATO



PEAS



CHARD



Teacher Answer Key

Onion- we eat the root

Corn- We eat the cornels (seeds)

Lettuce- we eat the leaves

Cabbage- we eat the leaves

Eggplant- we eat the fruit

Broccoli- we eat the flower

Bok Choy – we eat the leaves

Pumpkin- we eat the flesh and seeds of the fruit

Carrot- we eat the root

Tomato- we eat the fruit

Peas- We eat the fruit- the pod and peas (seeds)

Chard- We eat the leaves

January – Exploring Leaves and Photosynthesis

Week 3: Exploring the Shapes, Sizes, and Colors of Leaves

Materials:

- Construction paper
- Glue
- Many small leaves (for collage)
- An assortment of different leaves (for comparing)

Objectives:

- Learn about the different sizes, shapes, and colors of leaves
- Compare and contrast leaf traits

Preparation:

Collect as many different sizes, shapes, & colors of leaves as you can for class. Collecting leaves can be part of the project, if your preschool has lots of different plants accessible to the children in the area; if not, collect them from around your neighborhood or school beforehand. Set aside most leaves for collage making (Activity #6) & choose a sample of leaves for Activities #1-5. Suggested: maple, oak, sycamore, pine needles, palm fronds & grass.

*Avoid potentially toxic or allergic leaves. For more information go to <http://landarchs.com/to/> OR http://ucanr.edu/sites/poisonous_safe_plants/Toxic_Plants_by_common_Name_659/ for a list of potentially poisonous plants in SoCal

DRDP-2015 Measures

Approaches to Learning-Self Regulation;
ATL-REG1, ATL-REG7
Social and Emotional Development;
SED3, SED4
Language and Literacy Development;
LLD1, LLD2, LLD3, LLD4, LLD6,
LLD8, LLD9, LLD10
English Language Development; ELD1,
ELD2
Cognition-Math and Science; COG2,
COG7, COG9, COG10, COG11
Physical Development-Health; PD-
HLTH10
History-Social Science; HSS3, HSS5

Directions:

1. Show the children all the leaves you collected. Ask - are all leaves exactly the same? What is the same about them? What is different?
2. **SIZE** - ask: Can you find the biggest leaf? Smallest? Ask - are these leaves the same? How are they different? Can we find two leaves that are the same size?
3. **SHAPE** - ask them to find leaves with different shapes. Ask them what shape the different leaves are. They might be oval, circle, pointed, triangle, rounded, heart shaped. Help them describe leaf shapes. Ask them to find leaves that have the same shape, but are a different size.
4. **COLOR** - Ask them if all the leaves are all the same color. Ask them what colors they can find. Try and match leaves with the same colors. Try and find leaves with different colors. Ask them, "are all the green leaves exactly the same color?" Explain to them that even though many of the leaves are green, they can still be a little different color. Find darker and lighter greens, or greens that have more yellow in them.

...cont'd on next page

January – Exploring Leaves and Photosynthesis

Week 3: Exploring the Shapes, Sizes, and Colors of Leaves

Directions cont'd:

5. Help children use their five senses to compare and contrast the leaves.
 - a. **Smell**- do some of the leaves smell different? Do some smell the same?
 - b. **Sight**- Find leaves that look different, and look similar (almost the same).
 - c. **Touch**- Do all leaves feel the same? Some are smooth, some are rough, some may be fuzzy. Find leaves that are the same, and different.
 - d. **Taste**- Tell the children we are not going to eat these leaves, because we don't know what kind of leaves they are and they might not be safe to eat! Ask them what kind of leaves we do eat. Do all leaves taste the same? No! Remind them that cabbage, lettuce, cilantro, and cooking greens are all leaves we eat, and all taste different.

*If you have greens (ie. Lettuce, herbs such as dill) growing in the garden, you can pick a few leaves to compare tastes.
 - e. **Sound**- What sound do leaves make? Tell children that leaves don't talk, so they can't make a sound alone. They need other leaves to rub against to make a sound. Practice rubbing leaves together to see what sounds they make. You should do this last, because the leaves may be destroyed in the process. (Leaves for collage should be set aside already).
6. Make available craft supplies- construction paper for each child, glue, and an assortment of small leaves to construct a leaf collage. Write down any comments they make about the leaves they are drawing. Display the collages in the classroom.

In the Garden Extension - Caring For Our Leaves: Take a walk around the garden, looking for leaves of different shapes, sizes, and colors. Ask children to compare leaves to each other, picking two leaves and asking, "How are they the same?" and "How are they different?" Try and find as many different leaves as you can to compare.

January – Exploring Leaves and Photosynthesis

Week 4: Harvesting Broccoli & Cauliflower

Materials:

- Broccoli and cauliflower crowns (from the garden or purchased)
- Basket or bucket
- Knife (teacher use)

Objectives:

- Understand that broccoli & cauliflower are flowers we eat
- Taste broccoli & cauliflower and understand they are nutritious vegetables.

Preparation:

If the broccoli and cauliflower crowns are not ready to harvest from the garden, pre-purchase a few crowns of each at the local farmers market or grocery store. Consider purple and orange varieties of cauliflower for comparison.

Directions:

1. As a class go visit the broccoli and/or cauliflower in the garden. Identify parts of the plant (even if the crowns are not ready for harvest). Ask - where are the roots? That's right, underground. Next, ask - where is the stem and where are the leaves? Finally, ask - where is the flower? The broccoli and cauliflower crown is the flower. When we eat broccoli and cauliflower we eat the plant's young flower. If we left this crown on the plant, it would grow tiny yellow flowers with seeds inside.
2. Harvesting: The broccoli and cauliflower plant can grow quite tall and has large blue green leaves growing from underneath the head. When the head is about 6 inches long (it may be smaller or larger depending on its growing area) and the flower buds are deep green (broccoli) and tightly packed, the broccoli or cauliflower crown has hit its full size and begins to stop growing but starts to loosen up. The individual florets will get fatter and will spread apart *slightly* and take on a less tightly packed quality. This is ideal time for harvest. Use a knife to cut the stem about 4 inches below it at an angle. Leave the rest of the broccoli plant in the ground as small bonus florets will keep growing and these can be harvested later on, though each cauliflower plant will only produce one crown.
3. Washing: As a class wash hands and wash the broccoli and cauliflower crowns. Keep one whole for the class to examine. Cut the remaining crowns into bite size florets.
4. Comparing the crowns: While holding up a broccoli and cauliflower crown ask the class – how are they different? How are they the same? Compare their size, shape, color, texture, smell.
5. Taste Test: Explain that broccoli and cauliflowers are vegetables. Discuss that vegetables help us grow healthy. Broccoli and cauliflowers give us energy to play and grow. Broccoli and cauliflower are vegetables we can eat raw- that means we don't need to cook them or we can cook them and eat them steamed, in stir fries and stews.

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DRDP-2015 Measures

Approaches to Learning-
Self Regulation; ATL-
REG1, ATL-REG7
Social and Emotional
Development; SED3,
SED4
Language and Literacy
Development; LLD1,
LLD2, LLD3, LLD4,
LLD6, LLD8, LLD9,
LLD10
English Language
Development; ELD1,
ELD2
Cognition-Math and
Science; COG2, COG7,
COG9, COG10, COG11
Physical Development-
Health; PD-HLTH10
History-Social Science;
HSS3, HSS5

January – Exploring Leaves and Photosynthesis

Week 4: Harvesting Broccoli & Cauliflower

Directions cont'd:

They taste best when they are freshly picked, like from our garden or from a farmer at the farmers market. Ask the students if they have ever eaten broccoli or cauliflower before? Did you eat it raw or cooked?

Pass around at least one floret of broccoli and cauliflower for each student. Taste the florets as a class or prepare the optional Food Experience and then taste. Use the "Conducting An In-class Taste Test" as a guideline for questions to ask the children.

6. Have students put a sticker on either the "I Like This" or "I Don't Like This Yet" columns of the taste test sheet, or have them write or initial their names if they are able to do so.

Extension of Activity #4: Comparing Broccoli and cauliflower:

Create a chart with 2 columns, write "broccoli" on side and "cauliflower" on the other. Ask the children to describe each and write their words in each column. Describe their shape, color, texture, smell. Display in the classroom.

In the Garden Extension- Transplanting lettuce seedlings: If the lettuce seedlings have grown 2-3 true leaves, find a space in the garden to transplant a couple of each variety in the garden. Spacing them about 6 inches apart.

X	X
X	X

Four plants in a square (6-inch space between the plants)

Food Experience: Raw Broccoli and Cauliflower

Serves 16 • Prep time: 10 minutes • Cook time: None

Nutrition Facts

Serving Size

Servings per Recipe

Amount Per Serving

Calories

Calories from Fat

% Daily Value

Total Fat

%

Saturated Fat

%

Trans Fat

Cholesterol

%

Sodium

%

Total Carbohydrate

%

Dietary Fiber

%

Sugars

Protein

Vitamin A %

• Vitamin C %

Calcium %

• Iron %

*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.

Ingredients:

- 5 carrots, peeled and sliced in quarters, lengthwise
- 2 cups of broccoli florets
- 2 cups of cauliflower florets
- 1 cup of hummus or low-fat ranch dressing (1/2 TBSP per student)

Directions:

1. Wash all the vegetables.
2. Slice the broccoli and cauliflower into bite-sizes florets.
3. Give each child 2-3 florets of broccoli and 2-3 florets of cauliflower on a plate.
4. Spoon the hummus or ranch dressing onto the plate.

Makes 20 Taste Tests

MATERIALS

CHEF'S NOTES

-
-

Adapted from the *Network for a Healthy California*

CACFP Crediting

	Snack
Fruit	
Vegetables	
Bread/Alternative	
Meat/Alternative	
Milk	

Broccoli

"I LIKE THIS"



"ME GUSTA"

"I DON'T LIKE THIS YET"



"NO ME GUSTA TODAVÍA"

Cauliflower

"I LIKE THIS"



"ME GUSTA"

"I DON'T LIKE THIS YET"



"NO ME GUSTA TODAVÍA"

Food Experience: Broccoli Salad (optional)

Serves 32 (1/4 cup) • Prep time: 15 minutes • Cook time: None

Nutrition Facts

Serving Size

Servings per Recipe

Amount Per Serving

Calories Calories from Fat

% Daily Value

Total Fat %

Saturated Fat %

Trans Fat

Cholesterol %

Sodium %

Total Carbohydrate %

Dietary Fiber %

Sugars

Protein

Vitamin A % • Vitamin C %

Calcium % • Iron %

*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.

Ingredients:

- 4 cups broccoli, cut into small pieces
- 2/3 cup raisins
- 1 small red onion, peeled and diced
- 2 TBSP sugar
- 1 TBSP + 1 tsp lemon juice
- ½ cup low-fat mayonnaise

Directions:

- Combine all ingredients in a medium bowl and mix well.
2. Chill for 1-2 hours before serving.

Makes approximately 23 (1/4 cup each) Taste Tests

MATERIALS

CHEF'S NOTES

-
-

Recipe adapted from www.harvestofthemonth.com

CACFP Crediting

	Snack
Fruit	
Vegetables	
Bread/Alternative	
Meat/Alternative	
Milk	

Food Experience: Roasted Cauliflower & Broccoli Recipe (optional)

Serves 32 (1/4 cup) • Prep time: 5 minutes • Cook time: 25-30 min

Nutrition Facts

Serving Size

Servings per Recipe

Amount Per Serving

Calories

Calories from Fat

% Daily Value

Total Fat

%

Saturated Fat

%

Trans Fat

Cholesterol

%

Sodium

%

Total Carbohydrate

%

Dietary Fiber

%

Sugars

Protein

Vitamin A %

• Vitamin C %

Calcium %

• Iron %

*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.

Ingredients:

- 1 head of cauliflower, cut into small pieces (about 4 cups)
- 1 head of broccoli, cut into small pieces (about 4 cups)
- 1/3 cup Olive oil
- 1/4 cup Lemon Juice
- 1/4 cup Parmesan Cheese
- Salt & pepper to taste

Directions:

1. Preheat oven to 400 F.
2. Cut cauliflower and broccoli into florets.
3. Toss with garlic, lemon, oil, salt and pepper.
4. Place in a single layer on an oven proof baking dish in the oven for 25-30 minutes until lightly brown.
5. Remove from oven and sprinkle with parmesan cheese

Makes approximately 32 (1/4 cup each) Taste Tests

Recipe adapted from Simply Recipes

MATERIALS

CHEF'S NOTES

-
-

CACFP Crediting

	Snack
Fruit	
Vegetables	
Bread/Alternative	
Meat/Alternative	
Milk	

FARM TO PRESCHOOL

Garden Curriculum: From Seed to Plate

February Theme: Exploring Roots & Water



Planting:
Carrots & Radishes
Harvesting:
Cooking Greens



Week 1: Planting Carrots & Chives

Week 2: The Form and Function of Roots

Week 3: Caring for our Garden

Week 4: Harvesting & Cooking Greens

February – Exploring Roots & Water

Week 1: Planting Carrots & Chives

Materials:

- Potting Soil
- Watering Can
- Fresh Fruit and Vegetable Photo Cards (FFVPC) of carrots and radishes
- Popsicle stick to label area in garden bed or container
- One or two packets of Carrot Seeds: a rainbow blend of orange, red, purple, yellow and white carrots for variety
- One or two packets of Radish Seeds: round, stipey and icicle varieties in a rainbow of colors
- One packet of Chives (herb)
- Sand
- Large pot at least 12" deep (if not planting directly in ground)

Objectives:

- Understand that a carrot seed will grow into a carrot plant and a radish seed into a radish plant
- Understand that radishes and carrots are root vegetables we eat.
- Plant seeds and create labels

Preparation:

- Prepare the planting bed
- Read the Carrot and Radish Factsheet
- Tape some seeds to card stock so the children can look at the seeds without dropping them.

DRDP-2015 Measures

Approaches to Learning-
Self Regulation;
ATL-REG1, ATL-
REG7

Social and Emotional
Development; SED1,
SED3, SED4

Language and Literacy
Development; LLD1,
LLD2, LLD3, LLD4,
LLD6, LLD9

English Language
Development; ELD1,
ELD2

Cognition-Math and
Science; COG2,
COG9, COG10,
COG11

Physical Development-
Health; PD-HLTH10

History-Social Science;
HSS5

Directions:

1. Explain that we will be planting carrot and radish seeds in our garden. These are plants with *roots*, which we eat. They are called *root vegetables*. These seeds are small like the lettuce seeds we planted last month.
2. Explain that after we plant them in our garden we will take care of them by watering them every day until they are ready to harvest. The part of the carrot and radish we eat is underground, so we will only see their green tops growing above the soil but when we harvest them we will see their colorful roots and eat them.
3. Display the Fresh Fruit and Vegetable Photo Cards (FFVPC) of carrots and radishes. This is what they will look like when we harvest them.
4. Carrots and radishes can come in different shapes and colors such as orange, red, purple, yellow and white. Some even have stripes. Ask - have you ever eaten a carrot or a radish? What color was it?
5. Review the concept of plant parts from last month (root, stem, leaf, flower, fruit, and seed) and ask the class what plant parts are carrots and radishes? (answer is "roots").
6. Name the varieties of carrots and radish your class will be growing. Show and/or pass around the tiny seeds they will be planting. These seeds are very tiny, you may want to use clear tape to tape some onto a sturdy piece of cardstock before passing it around. Ask- what do plants need to grow? Soil, Water, Air, Sunlight and Loving care.
7. As a class, go to the area the carrots and radish seeds will be planted (i.e. garden bed or large pot). Refer to the *Carrot and Radish Factsheet* for specific instructions. Have a few students sprinkle the seed mixture onto the soil and another group of students sprinkle a light layer of potting soil on top of the seeds. Lightly water. Label with popsicle stick.
8. If time permits, plant some chive seeds along the edges, cover with soil and lightly water.

Science Expansion: Create a root view planter

PLANTING AND GROWING

Root View Cups

Time: 45 minutes **Any Season** **Indoor/Outdoor**

While plants grow stems, leaves, flowers, fruits and seeds that we can see above the ground, they also grow roots hidden down below the soil. Some roots are short and wide, while others are long and wispy; some are brown or gray, whereas others are brightly colored. In this activity, you'll make a special container that allows you to see the hidden plant roots grow!



Let's Gather:

scissors
2 clear, plastic cups that are the same size
a marker
a piece of dark paper

for an adult helper: a nail and hammer, or a drill
seed-starting mix
seeds of 4 different plants with roots that interest you!
tape

ALWAYS ASK A GROWN-UP BEFORE YOU START

Let's Get Started:

1. Ask an adult to help you cut straight down one side of one cup. Once you reach the bottom of the cup, cut the entire bottom out.
2. Lay the remaining part of the cup flat on the piece of dark paper, where it will create an arc shape.
3. Trace this arc onto your paper. Add about 1 inch (2.5 cm) to one end, and cut out the arc shape.
4. Ask an adult to use the nail or drill to poke 4 holes in the bottom of the second cup. This will be your Root View Cup.
5. Fill your Root View Cup with seed-starting mix.
6. Plant different seeds along the very outer edges of the cup, so that you will be able to see the roots as they grow. Use the information on the seed packet to decide how deep to plant your seeds.
7. Wrap your cup in the dark paper cover that you created and tape it closed. This cover blocks the light inside the cup so that your roots can grow. Give your seeds some water.
8. Every few days, pull the paper cover down off of the cup and see what the plant roots look like. You can try this with different seeds to compare how their roots look and how they grow over time.
9. Water your seeds regularly and watch your plants grow, both above ground and below!



Carrots & Radishes Factsheet

Seed Starting



- Carrots and radish seeds should be grown in the pot they are planted in or directly in the ground.
- Do not plant in small pots and transplant.
- Choose a large container with at least a 12" diameter and 12" deep or plant directly in the ground in loose soil mixed with compost.
- Since the seeds are very small, consider mixing radish and carrot seeds together with sand. Sprinkle this mixture into a shallow furrow. Cover, water and lightly tamp.
- Since radishes sprout faster, as you harvest the radishes, you open space for the carrots to grow to full size

Transplanting & Thinning



- After the carrots have sprouted and are about 1" tall, thin them out (pull some of the sprouts out). Use your hand or tweezers to pull them out so they are about ½" apart. When they are a few more inches taller, thin them out to 1" apart. These carrots are delicious baby carrots. If you do not thin them out, they will be too crowded and will grow intertwined.

Harvesting



1. Radishes will be ready to harvest in as little as one month after planting.
2. To harvest radishes, use a spade to loosen the soil around the radish. Then, grasp the green leaves at their base and tug them gently with a twisting motion so the leaves don't break off in your hand.
3. Carrots are ready for harvest two to three months after planting. They should be about ½ inch in diameter before pulling them. Leave carrots in the ground until you're ready to use them.
4. The older the carrots get, the woodier their texture will be and the higher their natural sugar content
5. Harvest carrots as you would radishes

Storage



6. Store carrots and radishes you plan to use within a week or so by sealing them in plastic bags to retain moisture and putting them in the refrigerator.
- 7.

Controlling Pests in Your Garden Organically

Interplant garlic, onions and marigolds between and around your vegetables to repel insects. Plant flowers and herbs to attract beneficial insects like lady bugs, butterflies and bees.

Aphids and others:

1. Wipe leaves to remove
2. Make a solution of 9 parts water, 1 part vegetable oil and a few squirts of dish soap and spray the plant
3. Purchase lady bugs at your local garden nursery



Slugs

- Fill small low container with cheap beer (remove when children are present)
- Crumble eggshells near the base, they won't cross



Mildew on leaves

1. Water in the morning and be sure to water the soil not the leaves.



February – Exploring Roots & Water

Week 2: The Form & Function of Roots

Materials:

- *Roots* by Vijaya Khisty Bodach (Or *Carrots Grow Underground* by Mari Schuh)
- Small plants with roots attached
- Magnifiers
- Rulers and/or scales
- Paper
- Crayons

Objectives:

- Understand that roots grow underground
- Understand that roots have two functions
 - to hold the plant in place
 - help get water and minerals (vitamins) to the rest of the plant

Preparation:

Gather a variety of small plants and weeds with roots from the garden to observe and investigate as a class (read activity #3).

Directions:

1. Read *Roots* by Vijaya Khisty Bodach (Or *Carrots Grow Underground* by Mari Schuh).
2. Ask- What are roots and why do plants need roots? That's right, the roots are the part of the plant that grows underground. They have two jobs: hold the plant in place and help get water and minerals (vitamins) to the rest of the plant.
3. Hold up one of the small plants with roots you have gathered. Ask the class to help you identify which part are the leaves, the stem and the root (and flower, if the plant has one).
4. Ask- are the roots under or above the ground? Yes, they are underground. Have the students stand up and pretend they are plants and their legs are the roots. When the wind blows, do you fall over? No, because your legs keep you in place just like a plant's roots keeps the plant in place.
5. Ask if anyone has ever tried to drink water from a straw. Explain that the roots and stem of the plant are like a straw, bringing water and minerals (vitamins) to the rest of the plant. Plants need minerals to grow just like we need vitamins to grow.
6. In small groups, let the children explore the various plants you have gathered with magnifiers, rulers and scales.
7. Provide paper & crayons and ask children to draw one of the plants. Remind them to draw all plant parts: roots, stem, leaves, flower.
8. Display their pictures in the classroom.

Expanding the Experience at lunch or snack time:

Pass out straws and a beverage to each student. As they drink the beverage, remind them that plant roots are like straws, bringing water and minerals to the rest of the plant. Just like the straw will bring *water* and vitamins to the rest of your body.

DRDP-2015 Measures

Approaches to Learning-
Self Regulation; ATL-
REG1, ATL-REG7
Social and Emotional
Development; SED1,
SED3, SED4
Language and Literacy
Development; LLD1,
LLD2, LLD3, LLD4,
LLD5, LLD7, LLD10
English Language
Development; ELD1,
ELD2, ELD3, ELD4
Cognition-Math and
Science; COG4, COG5,
COG9, COG10, COG11
Physical Development-
Health; PD-HLTH4,
PD-HLTH10
History-Social Science;
HSS2, HSS5

February – Exploring Roots & Water

Week 3: Caring for Our Garden – Weeding & Watering

Materials:

- Garden gloves
- Water can and/or spray bottles

Objectives:

- Learn how to identify plants that don't belong in the garden
- Learn to water soil and not the plant

Preparation:

Identify which plants are weeds in the garden and which are vegetable or herb plants prior to visiting the garden with the class.

Directions:

1. Explain to the class that today you will be caring for our garden by removing weeds and watering our plants.
2. A weed is a plant that is growing where it is not wanted. At school we are growing vegetables and herbs, so we need to pull out other plants that are growing in our garden in order for the vegetables and herbs we have planted have more space to grow in.
3. Walk with the children outside for a "Weed Spy" game. Ask the children to silently walk through the garden looking for weeds to pull.
4. When finished spying weeds, ask a few children to show you weeds they spied so that you can check if they are indeed weeds or a seedling or a plant you are intentionally growing.
5. If the plant is a weed, the child can uproot it (with the teacher's assistance if necessary) and place in the trash bin. Avoid placing in the compost bin or you will continue to sprout new weeds when you use the composted soil from the compost bin.
6. Next, have the students water the garden with spray bottles and/or watering cans. Remind them that since the roots are the part of the plant that "drinks" the water, that we should water the soil and not the plant leaves or stems.

DRDP-2015 Measures

Approaches to Learning-
Self Regulation; ATL-

REG1, ATL-REG7

Social and Emotional
Development; SED1,
SED3, SED4

Language and Literacy
Development; LLD1,
LLD2, LLD3, LLD4,
LLD5, LLD7, LLD10

English Language
Development; ELD1,
ELD2, ELD3, ELD4

Cognition-Math and
Science; COG4, COG5,
COG9, COG10, COG11

Physical Development-
Health; PD-HLTH4,
PD-HLTH10

History-Social Science;
HSS2, HSS5

Art Expansion: In small groups, create a garden label for "Carrot", "Radish" and "Chives" and any other vegetables and herbs growing in the garden. You can use popsicle sticks, construction paper, rocks, etc. See next page for some examples.



Please take photos of garden signs you create for your garden!

February – Exploring Roots & Water

Week 4: Harvesting & Cooking Greens

Materials:

- Scissors or garden sheers
- Large bowl
- Sink
- Strainer
- Large pot
- Wooden spoon
- Recipe ingredients

Objectives:

- Learn how to harvest cooking leaves
- Learn how to prepare and taste cooking leaves

Preparation:

Identify which plants are weeds in the garden and which are vegetable or herb plants prior to visiting the garden with the class.

DRDP-2015 Measures

Approaches to Learning-

Self Regulation-
ATL-REG1, ATL-
REG7

Social and Emotional
Development-SED1,
SED3, SED4

Language and Literacy
Development; LLD1,
LLD2, LLD3

English Language
Development; ELD1,
ELD2

Cognition-Math and
Science; COG8,
COG9, COG10,
COG11

Physical Development-
Health; PD-HLTH-4,
PD-HLTH10

History-Social Science;
HSS2, HSS5

Directions:

1. *Harvesting:* You do not have to harvest all the leaves from cooking greens all at the same time. Try to avoid cutting more than half of the leaves for continuous growth all season long. Use scissors or shears to harvest the larger, outside leaves of cooking greens. That way, you do not risk accidentally pulling the whole plant from the ground by trying to pull or tear leaves from the center. Sometimes, the outside leaf or two of cooking greens may be discolored, eaten by bugs, or too tough. It is okay to compost an outside leaf or two, and harvest the better looking inner greens. Greens are best cooked fresh out of the garden, so harvest just as much as you need. However, cooked greens take up less space than fresh greens, so make sure you pick enough! If you would like to clear space in the garden for other plants, it is also okay to harvest the whole plant. Just cut off all of the leaves first, followed by exacting the roots, to keep dirt from scattering around the leaves you intend to eat.
2. *Cleaning:* It is very important to clean greens thoroughly before cooking. Fill a large bowl with cold water, and submerge the leaves. Swirl them around to loosen dirt and insects. Lift greens out of the water- do not pour the leaves and water into a strainer, as this will pour the dirt back on the leaves! If the water is dirty after you lift the leaves out, empty and refill the bowl with fresh water, and submerge, swirl, and lift them out again. Remove large stems, discolored parts, or insect bites now. Select at least one leaf of each variety to examine and compare as a class.
3. *Comparing the leaves of cooking greens:* Ask- how are they the same? How are they different? Suggest looking at their size, shape, color, smell? don't need to cook them- but most people prefer them cooked and that is why they are usually called "cooking greens". Greens taste best when they are freshly picked, like from our garden or from a farmer at the farmers market.

...cont'd on next page

February – Exploring Roots & Water

Week 4: Harvesting & Cooking Greens, cont'd

Directions cont'd:

4. Cooking & Taste Test: (Use recipe below or one of the optional recipes) Remind the children that when we eat “greens” we are eating the plants leaves. Ask the children if they have ever eaten greens before. Discuss that greens help you grow healthy. Green vegetables help us stay healthy and give us energy. They contain Vitamin A which helps our eyes see better and calcium which helps us have strong bones and teeth. Explain that most greens are vegetables we can eat raw- that means we don’t need to cook them- but most people prefer them cooked and that is why they are usually called “cooking greens”. Greens taste best when they are freshly picked, like from our garden or from a farmer at the farmers market.
5. After each child has tasted cooked greens, have each child put a sticker on either the “I Like This” or “I Don’t Like This Yet” columns of the Taste Test Sheet, or have them write or initial their names, if they are able to do so.

Food Experience: Cooking Greens

Serves 20+ • Prep time: 15 minutes • Cook time: ~5min

Nutrition Facts

Serving Size	
Servings per Recipe	
Amount Per Serving	
Calories	Calories from Fat
% Daily Value	
Total Fat	%
Saturated Fat	%
Trans Fat	
Cholesterol	%
Sodium	%
Total Carbohydrate	%
Dietary Fiber	%
Sugars	
Protein	
Vitamin A %	Vitamin C %
Calcium %	Iron %
*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.	

MATERIALS

- ☐ Knife
- ☐ Salad bowl
- ☐ Jar with a lid
- ☐ Plates

CHEF'S NOTES

-
-

Ingredients:

- 12 cups of harvested greens
- Dressing

Dressing: (per 3 cups of cooked greens)

- 1 TBS sesame oil
- 1 TBS rice vinegar
- 1 TBS fresh squeezed lime juice
- Salt and Pepper to taste

Optional Dressing Ideas:

Try different combinations of oil, citrus, and vinegar. Olive oil, lemon, and balsamic vinegar is a good alternative combination.

Directions:

1. Wash the greens and tear or dice into bit sized pieces.
2. Boil water in a large pot. There should be enough water so that when you put the greens in, they will be completely underwater. Remember, more water will take longer to boil, so try and use less water to save time and energy. Cover the pot with a lid to make the water boil quicker. Different greens take different times to cook. Some cook fast (like spinach) and some cook slower (Like bok choy). Cooking greens have been cooked perfectly when they are wilted, soft, and brightly colored. If they are tough or ridged, they are undercooked; if they are mushy or become a dull color or brown, they are overcooked.
3. When water is boiling, add washed greens. Boil greens for 30 seconds to 5 minutes. You need to keep a constant eye on them to tell when they are done.
4. Stir the greens with a wooden spoon, and keep stirring every 30 seconds to ensure even cooking.
5. When greens are wilted, soft, but still bright, lift greens out of water with the spoon and put them in a strainer. This is safer than trying to move a large pot with boiling water.
6. Rinse greens in cool water to stop the cooking process.
7. Drain out water, add dressing and serve

Draft Recipe from Farm to Preschool Program, UEPI, Occidental College

CACFP Crediting

	Snack
Fruit	
Vegetables	
Bread/Alternative	
Meat/Alternative	
Milk	

(cooking greens)

"I LIKE THIS"



"ME GUSTA"

"I DON'T LIKE THIS YET"



**"NO ME GUSTA
TODAVÍA"**

Bok Choy Cole Slaw

Serves 10 · Prep time: 15 minutes · Cook time: None



Nutrition Facts

Serving Size 1 cup (301g)
Servings per Recipe 10

Amount Per Serving

Calories 160 Calories from Fat 60

% Daily Value

Total Fat 7g 10 %

Saturated Fat 1g 4 %

Trans Fat 0g

Cholesterol 0mg 0 %

Sodium 300mg 13 %

Total Carbohydrate 24g 8 %

Dietary Fiber 4g 18 %

Sugars 18g

Protein 4g

Vitamin A 50 % Vitamin C 170 %

Calcium 20 % Iron 10 %

Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.

Ingredients

- 2 large Bok Choy or 4 Baby Bok Choy, chopped
- 1 cup shredded carrots
- ½ cup of sesame seeds, toasted
- Dressing
- 10 large mandarins

Dressing*

- 3 Tablespoons oil (sesame oil is best, olive oil is okay)
- 4 Tablespoons vinegar (rice is best, cider or white work)
- 3 Tablespoons Honey
- 2 Tablespoons Soy Sauce

Optional

- 1 can of mandarin oranges
- 1 cup slivered almonds
- 1 cup of raisins
- 1 cup chopped green onion
- ½ (6 ounces) packaged chow mein noodles

Directions

- 1) In a glass jar with a lid, mix together the dressing ingredients: oil, vinegar, honey (or sugar) and soy sauce. Close the lid and shake until well mixed.*
- 2) Combine the bok choy, carrots and sesame seeds in a salad bowl. Toss with the dressing and any additional optional ingredients, and then serve.

**May also substitute ¾ cup of "Asian-Style"*

Recipe from Farm to Preschool Program, UEPI, Occidental

MATERIALS NEEDED

- ☐ Knife
- ☐ Cutting board
- ☐ Salad bowl
- ☐ Jar with a lid
- ☐ Plates
- ☐ Forks

CHEF'S NOTES

- Avoid using almonds if any of the children in the class have allergies to nuts

	Snack
Fruit	1/2 cup ✓
Vegetable	1/2 cup ✓
Grain/Alternative	
Meat/Alternative	
Milk	

Simmered Greens

Serves 15 (1/2 cup) · Prep time: 10 minutes · Cook time: 35-45 minutes



Nutrition Facts

Serving Size 1/2 cup (177g)

Servings per Recipe 15

Amount Per Serving

Calories 100 Calories from Fat 40

% Daily Value

Total Fat 4.5g 7%

Saturated Fat .5g 3%

Trans Fat 0g

Cholesterol 0mg 0%

Sodium 610mg 25%

Total Carbohydrate 13g 4%

Dietary Fiber 3g 13%

Sugars 4g

Protein 3g

Vitamin A 0% Vitamin C 35%

Calcium 8% Iron 8%

Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.

MATERIALS NEEDED

- ☐ Knife
- ☐ Cutting board
- ☐ Large pot
- ☐ Hot Plate
- ☐ Plates

CHEF'S NOTES

- For "greens" avoid using lettuce and lettuce varieties.

Ingredients:

- ¼ cup olive oil
- 2 cloves garlic, minced
- 2 cups green onion, chopped
- Salt and Pepper to taste, optional
- 8 wheat rolls, cut in half
- 2 cups onions, chopped
- 2 cups tomato juice
- 2 cups low-sodium vegetable broth
- 2 pounds Greens (mixture of kale, mustard or collard greens, Swiss chard, turnip greens)

Directions:

- 1) In a large pot sauté the garlic and onions in the olive oil.
- 2) Add the broth and tomato juice and bring to a boil.
- 3) Add the greens and season with salt and pepper as desired.
- 4) Cover and cook over low heat for 35 minutes or until tender.
- 5) Serve warm for tasting.

Recipe adapted from *Harvest of the Month* Educator Newsletter (Cooked Greens)

	Snack
Fruit	
Vegetable	1/2 cup ✓
Grain/Alternative	1/2 slice ✓
Meat/Alternative	
Milk	

A ✓ indicates that this food group qualifies for CACFP crediting. If two categories are checked off, then the recipe qualifies for CACFP reimbursement. The nutrition facts are provided to you for CACFP

Popo's Bok Choy Stir Fry

Serves 10 · Prep time: 10 minutes · Cook time: 5 minutes (dish) 30 minutes(rice)



Nutrition Facts

Serving Size 1/2 cup (184g)

Servings per Recipe 10

Amount Per Serving

Calories 130 Calories from Fat 20

% Daily Value

Total Fat 2.5g 4%

Saturated Fat 0g 2%

Trans Fat 0g

Cholesterol 0mg 0%

Sodium 460mg 19%

Total Carbohydrate 25g 8%

Dietary Fiber 2g 6%

Sugars 1g

Protein 4g

Vitamin A 0% Vitamin C 70%

Calcium 10% Iron 6%

Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.

MATERIALS NEEDED

- ☐ Knife
- ☐ Pan or wok
- ☐ Hot plate
- ☐ Cooking spoon
- ☐ Forks
- ☐ Plates

CHEF'S NOTES

- Avoid using peanut oil, if any child has peanut/nut allergies

Ingredients:

- 2 pounds Bok Choy
- 1 ½ Tablespoons of Peanut, Sesame, Canola or Vegetable oil
- 1 teaspoon of fresh Ginger, grated (optional)
- 2 cloves garlic, minced
- 1/3 teaspoon of Salt (or substitute 1 Tablespoon of Oyster sauce)
- 1 cup low-sodium Vegetable Broth or water
- 2.5 cups steamed Rice (to accompany dish)

Directions:

- 1) Prepare the rice by boiling in water.
- 2) If the bok choy is small, use it whole. If it is large, cut it length-wise or into smaller bite size pieces.
- 3) Heat the oil and sauté the garlic and ginger for 1 minute.
- 4) Add the bok choy (if it is cut, add the stalks first) and salt and cook for 2 minutes.
- 5) Remove from the pan/wok and serve with rice.

Recipe from Farm to Preschool Program, UEPI, Occidental College

	Snack	
Fruit		
Vegetable	1/2 cup	✓
Grain/Alternative	1/4 cup	✓
Meat/Alternative		
Milk		

A ✓ indicates that this food group qualifies for CACFP crediting. If two categories are checked off, then the recipe qualifies for CACFP reimbursement. The nutrition facts are provided to you for CACFP

FARM TO PRESCHOOL

Garden Curriculum: From Seed to Plate

March Theme: Exploring Seeds



Planting:
Beans (Sunflowers)
Harvesting:
Lettuce



Week 1: Inside a Seed

Week 2: How Are Our Seeds Growing?

Week 3: Seeds We Eat

Week 4: Harvesting & Tasting Lettuce

March – Exploring Seeds

Week 1: Inside a Seed

Materials:

- *Seeds* by Vijaya Khisty Bodach
- PART ONE: Lima beans (purchased at grocery store—not from a seed packet) to soak overnight for classroom activity, Paper towels, Paper plates, Quart ziplock bags, & (optional but helpful) magnifying glasses to share
- PART TWO: Green bean seeds (such as bush beans or pole beans, for planting in the garden), Soil, Ruler

Objectives:

- Understand that each seed contains a tiny plant and food for it to grow
- Know what a seed needs to grow into a plant
- Plant bean seeds and observe growth

Preparation:

-Soak lima beans at least overnight, or up to 24 hours.

For the lesson, each student will need 1- 2 soaked lima bean seeds on a paper towel.

Reserve some soaked seeds and place on paper towels in ziplock bags to observe germination for next weeks' lesson.

- Prepare the garden bed

Directions:

PART 1

1. Read *Seeds* by Vijaya Khisty Bodach. Talk about the different seeds planted since starting the garden (peas, broccoli, kale, lettuce, carrots, herbs). How did they look? How were they different? Did they grow?
2. Plants make seeds - each seed can grow into a new plant. Ask- students if they can remember what seeds need to grow - water, soil, warmth and loving care.
3. Ask students if they know what is inside a seed? Tell them they are going to look inside a seed to see the tiny baby plant that's inside. The baby plant, called an embryo, has a tiny root and tiny leaves. The rest of the seed is food for the baby plant to help it grow until it has leaves and is able to make its own food.
4. As a class review the "Looking Inside a Seed" handout. Give copies to the class for them to identify parts and compare with their own seed.
5. Pass out a paper plate to each child with a 1-2 soaked beans. Ask them to very gently and carefully split the lima bean seeds in half; you may need to assist them.
6. Ask- Can you see the baby plant, with the tiny leaves and root? They can use the magnifying glass, although it's not necessary.

*After the activity the seed remains can be added to the compost
7. Next, dampen a paper towel and place the folded towel in the bag. Place extra soaked beans seeds on the damp paper towel inside ziplock bags, 3 or 4 seeds per bag. Paper towels should be damp enough to provide moisture for the bean, but not dripping (could cause mold).

...cont'd on next page

DRDP-2015 Measures

Approaches to Learning-
Self Regulation; ATL-
REG1, ATL-REG7

Social and Emotional
Development; SED3

Language and Literacy
Development; LLD1,
LLD2, LLD3, LLD4,
LLD5, LLD9

English Language
Development; ELD1,
ELD2, ELD3

Cognition-Math and
Science; COG3,
COG4, COG5, COG9,
COG10

Physical Development-
Health; PD-HLTH4

March – Exploring Seeds

Week 1: Inside a Seed

Directions cont'd:

8. Next, dampen a paper towel and place the folded towel in the bag. Place extra soaked beans seeds on the damp paper towel inside ziplock bags, 3 or 4 seeds per bag. Paper towels should be damp enough to provide moisture for the bean, but not dripping (could cause mold).
9. Explain that this will let everyone see how the seeds germinate, or begin to grow, because when we put the seed in the soil we are unable to see the seed sprout. The bags can be placed on paper plates on the windowsill or taped directly to the window as long as it is a warm location. The seed mostly needs warmth at this stage, not light – so prioritize for warmth. A window helps for viewing the seed as it germinates.

PART 2

10. Next, plant beans in the school garden. Explain that we will plant bean seeds in the garden to grow a bean plant. For **bush beans**, ask a child to push their finger up to their second knuckle (about one inch) and place 1-2 seeds into the hole. Use a ruler to measure 6 inches between each bean seed. Cover the hole with soil and lightly pat. Gently water.
11. For **climbing beans**, follow the same directions as bush beans but be sure that there will be support above (fence, trellis, tomato cage) to support the bean vine as it grow up.
12. Label the type of bean planted, especially if there are a variety of beans being planted. Keep soil moist but do not overwater.
13. Explain that now that the seeds are in soil, if they are kept watered and stay warm, the tiny plant inside the seed will begin to grow. The soil is like a blanket that will help the seeds stay warm.

Science Expansion:

Now that we know how a new plant grows, do all seeds grow? What does a plant need to grow? What are some things that you need to grow? Water, food, sunlight – what would happen if one of these were missing? We are going to be scientists again to find the answer to our questions.

Put beans in ziploc bags to test the following conditions:

- no water (no wet paper towel)
- no light (cover in black, put in closet)
- no food (take seed apart–baby plant w/o bean)

Check bags periodically to see what happens and discuss results.

DRDP-2015 Measures

Approaches to learning-Self Regulation; ATL-REG1, ATL-REG7

Social and Emotional Development; SED3, SED4

Language and Literacy Development; LLD1, LLD2, LLD3, LLD4, LLD6, LLD9

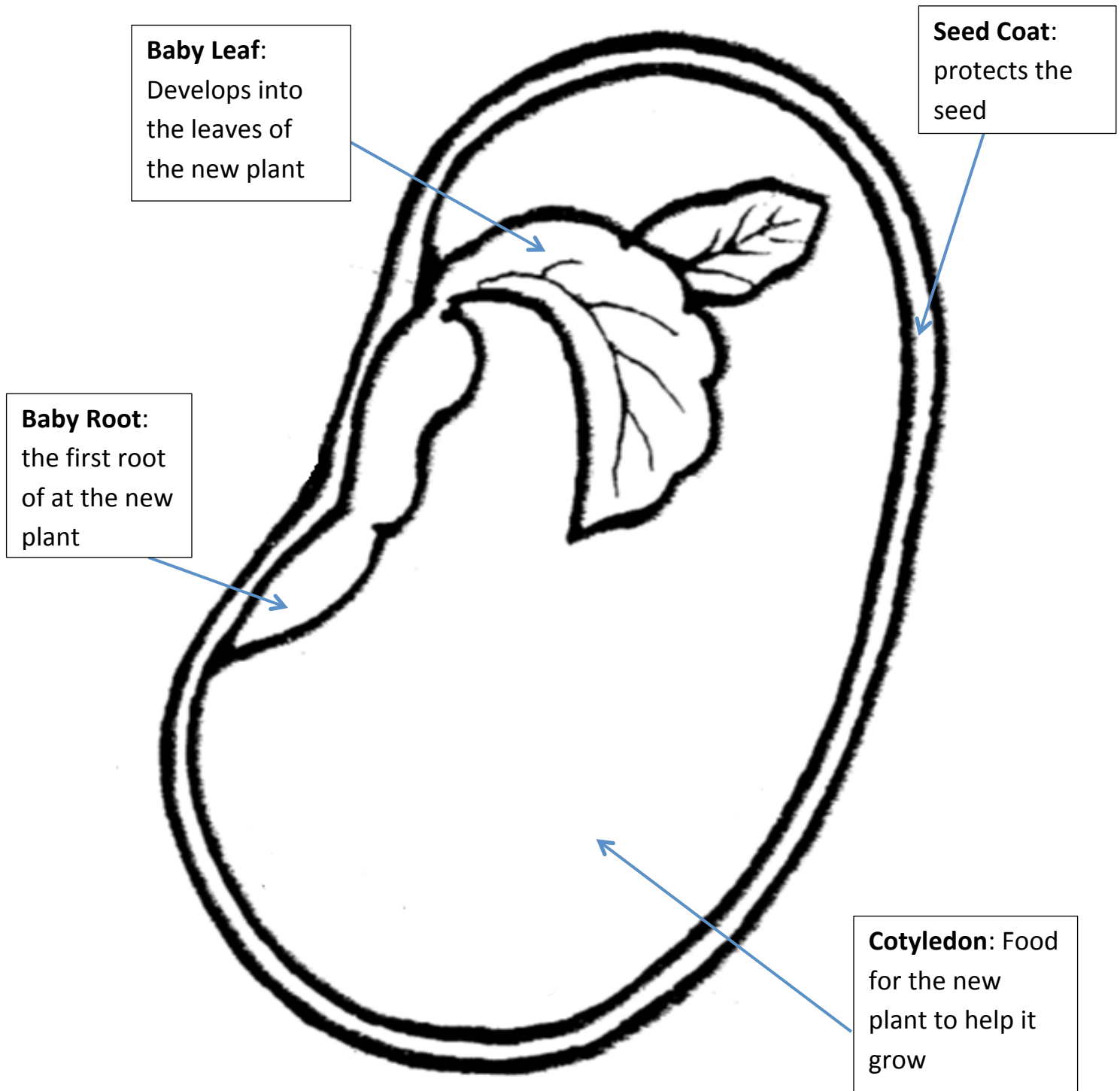
English Language Development; ELD1, ELD2, ELD3

Cognition-Math and Science; COG1, COG3, COG5, COG8, COG9, COG11

Physical Development-Health; PD-HLTH4, PD-HLTH10

History-Social Science; HSS2, HSS5

Looking Inside a Seed



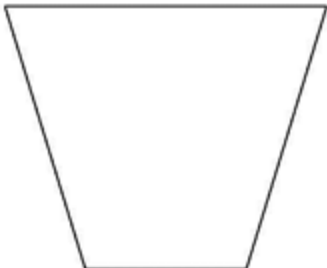
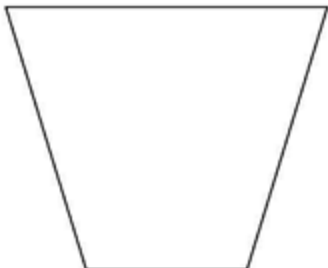
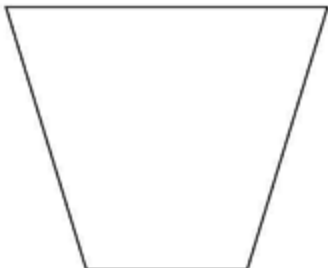
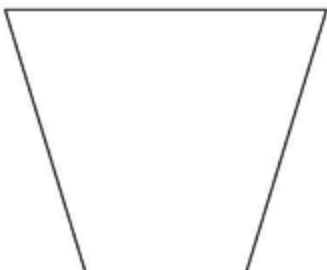
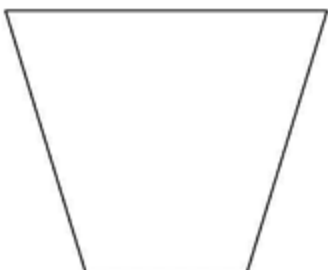
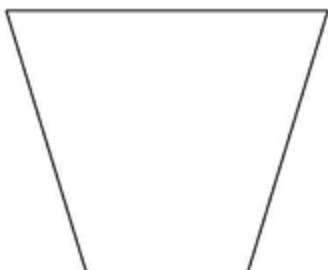
Modified from the National Garden Association, *Garden Adventures*, "Inside a Seed"

Measurement and Observation Expansion: Plant Growth Chart

Monitor the plants growth every few days with this chart below. Use a ruler to record height. Be sure to observe new leaves and if they are different from the first leaves.

Classroom: _____

Planting Date: _____

Day _____ 	Day _____ 	Day _____ 
Day _____ 	Day _____ 	Day _____ 

March – Exploring Seeds

Week 2: How Are Our Seeds Growing?

Materials:

- Copy or Construction Paper
- Crayons and pencils
- Clipboards or other hard surface to draw on.
- The ziplock-bagged germinating bean seeds from week 1

Objectives:

- Observe growth of seeds in the garden and in the classroom
- Reinforce understanding of seeds and what they need to grow into plants
- Describe and record what is happening this week in the garden

Preparation:

-Over the course of the week, keep an eye on the beans seeds in the ziplock bags and make sure they don't dry out. Sprinkle or spray water on the paper towels if necessary, and re-seal the ziplock bags.

DRDP-2015 Measures

Approaches to learning-
Self Regulation; ATL-
REG1, ATL-REG7

Social and Emotional
Development; SED3,
SED4

Language and Literacy
Development; LLD6,
LLD9, LLD10

English Language
Development; ELD1,
ELD2,

Cognition-Math and
Science; COG5,
COG8, COG9, COG11

Physical Development-
Health; PD-HLTH4,
PD-HLTH10

History-Social Science;
HSS2, HSS5

Directions:

1. Distribute paper plates with bags of sprouted bean seeds to groups of children to observe the growth of the sprouting seeds.
2. Ask them to describe what they see - Did the seeds grow? What do they look like? Did all the seeds grow? Are there some that didn't grow? Can they see the root and leaves of the baby plants?
3. Ask them if they remember what seeds need to grow—water, soil, warmth and loving care. Did the seeds have everything they needed to grow?
4. Go to the garden to see if the bean seeds planted in the garden have come up yet. Have students take paper, a crayon or pencil, and a clipboard to draw what they see in the garden.
5. Look at the area where beans were planted last week and observe. Can any green shoots be seen poking up through the ground yet? If so, have students describe what they see. If not, discuss why it may take a little bit longer. A lot may be happening under the ground but not visible yet above the soil line.
6. Observe other plants in the garden. Are there any other plants that have grown from seeds? What are they? What did their seeds look like? Are they different from the bean seeds?
7. Have students draw what they observe in the garden, and especially draw any plants that have grown from seeds they planted.
8. Back in the classroom, have students color their garden drawings. Write any words they use to describe their drawing.
9. Display their drawings in the classroom.

March – Exploring Seeds

Week 2: How Are Our Seeds Growing?

Physical Activity Expansion: Yoga Pose- Bean Sprout

1. Start on your hands and knees and take a deep breath in (A).
2. Breathe out while you sit back on your heels, rest your forehead on the floor with your arms extended out in front of you... looking like a seed (B).
3. Take 2 breaths and prepare to grow into a “bean sprout.”
4. Breathe in as you sprout back up to your hands and knees (A).
5. Return to start position (A).

DRDP-2015 Measures

Approaches to Learning-
Self Regulation; ATL-
REG1, ATL-REG3
Language and Literacy
Development; LLD2
Physical Development-
Health; PD-HLTH1,
PD-HLTH2, PD-
HLTH9

March – Exploring Seeds

Week 3: Seeds We Eat

Materials:

PART ONE

- A variety of dried, edible seeds from the grocery store (i.e. rice, variety of dried beans, peas, lentils, sunflower seeds, popcorn, etc.)
- Sample of a food made out of seeds—for example, whole wheat crackers or whole-wheat bread, rice cakes, or tortillas.
- Muffin tin, ice cube tray, egg carton, cups or simply drawn areas on a large paper for sorting
- Spoons (optional)

PART TWO

- Packet of sunflower seeds for planting in the garden (some grow 12ft!)
- Cups for each child to grow their own with drainage holes on the bottom (paper cups, yogurt cups, etc.)
- Potting Soil

Objectives:

- Understand that many foods we eat are actually seeds.
- Plant sunflower seeds
- Observe the growth of the beans planted in the garden in week #1

Preparation:

- Prepare the planting bed
- Set out bowls of edible seeds and something to sort them in
- Make drainage holes in the planting cups

Directions:

1. Ask the students, “How many of you like to eat seeds?” Ask for examples of seeds they eat. If they don’t have examples, ask them if they like peanut butter, bread, coconuts, rice, tortillas, popcorn, peas, and beans. All of these are seeds or made out of seeds.
2. Sometimes, seeds are inside a fruit. Ask if they have ever seen the seeds inside fruit, for example, in an orange or an apple? These are seeds you do not eat, but there are some seeds that are great to eat.
3. Some foods are made out of seeds, but the seeds have to be prepared. Did you know crackers, bread, tortillas and rice cakes are made out of seeds? To make crackers or bread, grain seeds are grounded to make flour, and then the flour is baked into the food we eat like bread and crackers. Some seeds are too hard to eat without cooking them first. Seeds are good for us because they give us energy, vitamins and minerals when we eat them. The energy and nutrients in the seed also helps the baby plant to grow.
4. Distribute a piece of bread or cracker. Have them examine it.

...cont’d on next page

DRDP-2015 Measures

Approaches to learning-
Self Regulation; ATL-
REG1, ATL-REG7
Social and Emotional
Development; SED1,
SED3, SED4
Language and Literacy
Development; LLD1,
LLD2, LLD3, LLD6,
LLD9, LLD10
English Language
Development; ELD1,
ELD2
Cognition-Math and
Science; COG9
Physical Development-
Health; PD-HLTH10

March – Exploring Seeds

Week 3: Seeds We Eat (Part 1)

Directions for Part 1:

5. **Seed-sorting activity.** Next explain that beans are seeds that we eat. They come in a variety of shapes and sizes
Show students the variety of seeds you have on the “Seeds We Eat” handout. Explain that there are many types of seeds we eat. Beans and peas are seeds that grow in a pod on a plant and we usually cook them. Grains are seeds that we use to make breads and crackers and even popcorn. Pumpkins are large fruits that grow on a plant vine and have seeds inside of them that we can eat. And Sunflowers grow seeds in the middle of their flower that we can also eat.
6. Individually or in small groups ask them to sort them. Make available edible seeds, such as beans, peas, rice grains, corn kernels, sunflower seeds, etc., a bean soup mix is great for bean varieties.
7. Children can sort the varieties individually or in small groups into a muffin tin, ice cube tray, egg carton, cups or simply drawn areas on a large paper for sorting. Fingers or spoons can be used to sort the items. Sorting examples below:

DRDP-2015 Measures

Approaches to learning-Self Regulation; ATL-REG1, ATL-REG6, ATL-REG7
Social and Emotional Development; SED4
Language and Literacy Development; LLD1, LLD2, LLD3, LLD4
English Language Development; ELD1, ELD2
Cognition-Math and Science; COG2, COG3, COG4
Physical Development-Health; PD-HLTH10

Reminder: Observe the growth of the bean seeds from Week #1. If you could not see the seeds growing last week, can you see them now? What do you observe? Record your observation in the Plant Growth Chart.

March – Exploring Seeds

Week 3: Seeds We Eat (Part 2)

Directions to Part 2:

1. Planting sunflower seeds. Explain that each child will be planting a sunflower plant to grow in the school garden or to bring home to their own garden. The plants will grow big yellow flowers, like the ones on the seed packet, and those flowers will produce lots of seeds that we can eat.
2. Have each child fill their cup with soil. Ask them to push their finger up to their second knuckle (about one inch) and place 1 seed into the hole. Cover the hole with soil and lightly pat. Sprinkle gently with water.
3. Label the type of sunflower planted. Place cups on window seal on top of trays or plates and water throughout the week as needed.
4. Explain that now that the seeds are in soil, if they are kept watered and stay warm, the tiny plant inside the seed will begin to grow. The soil is like a blanket that will help keep the seeds warm.

DRDP-2015 Measures

Approaches to learning-Self Regulation; ATL-REG1, ATL-REG6, ATL-REG7

Social and Emotional Development; SED4

Language and Literacy Development; LLD1, LLD2, LLD3, LLD4

English Language Development; ELD1, ELD2

Cognition-Math and Science; COG9, COG10, COG11

Physical Development-Health; PD-HLTH10

Art Expansion: Seed mosaic

After sorting the seeds, encourage children to create a mosaic with the seeds.

DRDP 2015-Measures

Physical Development-Health; PD-HLTH4

Visual and Performing Arts; VPA1

Sensory Expansion: Alphabet Soup

At the sensory table mix: alphabet letters, beans, spoons, and bowls for children to play experience.

DRDP 2015

Approaches to Learning-Self Regulation; ATL-REG4

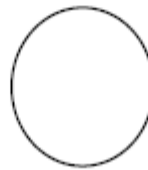
Social and Emotional Development; SED4

Physical Development-Health; PD-HLTH4

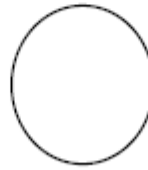
History-Social Science; HSS5

Seeds we eat

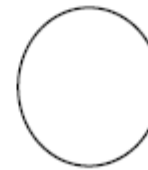
Beans and Peas are seeds



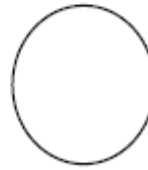
Lima Bean



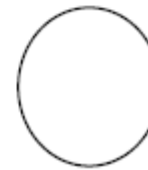
Split Pea



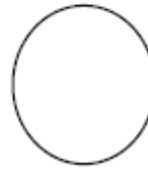
Black Bean



Red Kidney Bean

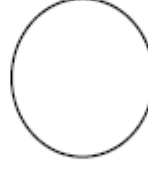


Pinto Bean

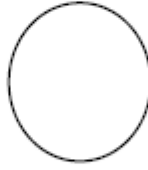


Lentil Bean

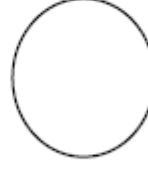
Grains are seeds



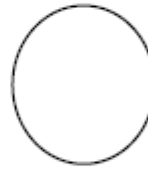
Corn Kernel



Barley Grain

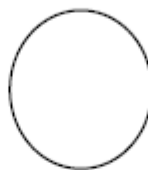


Brown Rice Grain



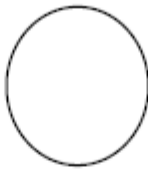
White Rice Grain

Pumpkins have seeds



Pumpkin seed

Sunflowers have seeds



Sunflower seed

March – Exploring Seeds

Week 4: Harvesting & Tasting Lettuce

Materials:

- Scissors or garden shears
- *Food Experience: Bountiful Salad* ingredients in separate bowls
- Colander/strainer to use for washing lettuce
- Paper towels to dry lettuce (or alternately, you can use a salad spinner if you have one)
- Small bowls (one for each child) and forks

Objectives:

- Learn to harvest lettuce
- Prepare and taste a simple salad
- Describe the growth of lettuce plants from seed to harvest

Preparation:

- If the amount of lettuce from the garden is limited, purchase additional heads of lettuce from the farmers market or a Root-ball lettuce (lettuce with roots still attached) from the grocery store.
- Have any additional salad ingredients ready for the *salad bar* or allow for prep time to cut and assemble with the children
- Have students wash hands before preparing and eating salad

Directions:

1. *Harvesting:* Go to the garden and look at the lettuce plants. Ask- Do you remember planting the seeds? What did the seeds look like? What did the plants look like when they first started to grow? Do they look different now?

Explain that we do not need to cut the entire lettuce plant to eat it, if we only harvest the outside leaves, the plant will make more leaves to eat another time!

Use scissors to harvest the larger, outer leaves of the plant. That way, you do not risk accidentally pulling the whole plant from the ground by trying to pull or tear leaves from the center. The outer leaf or two of the lettuce plant may be discolored, bug-bitten, or tough. It's okay to compost an outside leaf or two - harvest the better looking inner greens. Lettuce tastes best fresh, so harvest only as much as you need. To clear space in the garden for other plants, it is also okay to harvest the whole lettuce head. Just cut off all of the lettuce head (base) and pull the roots. Keep dirt from scattering around the good lettuce leaves.

2. *Cleaning:* It's very important to clean lettuce thoroughly before eating. Fill a large bowl with cold water, and submerge the leaves. Swirl them around to loosen dirt and insects. Lift leaves out of the water. Do not pour the leaves and water into a strainer- this will pour the dirt back on the leaves! If the water is dirty after you lift leaves out, empty and refill the bowl with fresh water, and submerge, swirl, and lift them out again. Dry the lettuce between paper towels (or use salad spinner). Remove discolored parts or insect bites now. Select at least one leaf of each variety to examine and compare as a class.

Have children wash their hands before sitting at the table for the Food Experience.

DRDP-2015 Measures

Approaches to Learning-Self Regulation; ATL-REG1, ATL-REG7

Social and Emotional Development; SED1, SED3, SED4

Language and Literacy Development; LLD1, LLD2, LLD3, LLD4, LLD5, LLD6

English Language Development; ELD1, ELD2,

Cognition-Math and Science; COG9, COG10, COG11

Physical Development-Health; PD-HLTH4, PD-HLTH10

History-Social Science; HSS2, HSS5

March – Exploring Seeds

Week 4: Harvesting & Tasting Lettuce

Directions cont'd:

3. Comparing lettuce leaf varieties: Ask- how are they the same? How are they different? Suggest looking at their size, shape, color, smell. Pass a sample leaf of each variety around for each child to experience.
4. Cooking & Taste Test: Follow the recipe- *Bountiful Salad*. Remind the children that when we eat “lettuce” we are eating the plants leaves. Discuss that lettuce helps us grow healthy. Green vegetables help us stay healthy and give us energy. They contain *Vitamin A* which helps our eyes see better and *calcium*, which helps us build strong bones and healthy teeth. Explain that lettuce is a vegetable we can eat raw- that means doesn’t need to be cooked. Lettuce taste best when they are freshly picked, like from our garden or from a farmer at the farmers market.

Ask the children if they have ever eaten lettuce before- in a salad? - in a sandwich?

Explain that today we will be making a salad with our lettuce. Talk about how salads can have a lot of different ingredients. Every salad can be a little bit different. Show them the salad ingredients that have been assembled.

After each child has tasted their lettuce salad, have each child put a sticker on either the “I Like This” or “I Don’t Like This Yet” columns of the Taste Test Sheet, or have them write or initial their names, if they are able to do so.

Garden Extension:

Observe the bean and sunflower seeds planted in weeks 2 and 3. Are they growing? Compare the bean seedlings and sunflower seedlings, if both are now growing above ground. How do they look different or the same? Record the beans growth in the Plant Growth Chart from Week 1.

DRDP-2015 Measures

Language and Literacy Development; LLD1, LLD2, LLD3, LLD4, LLD5, LLD6, LLD10
English Language Development; ELD1, ELD2,
Cognition-Math and Science; COG5, COG9, COG10, COG11

Lettuce

"I LIKE THIS"



"ME GUSTA"

"I DON'T LIKE THIS YET"



"NO ME GUSTA TODAVÍA"

Food Experience: Bountiful Salad

Serves 20-30 • Prep time: 15 minutes • Cook time: None

Nutrition Facts

Serving Size

Servings per Recipe

Amount Per Serving

Calories

Calories from Fat

% Daily Value

Total Fat

%

Saturated Fat

%

Trans Fat

Cholesterol

%

Sodium

%

Total Carbohydrate

%

Dietary Fiber

%

Sugars

Protein

Vitamin A %

• Vitamin C %

Calcium %

• Iron %

*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.

Ingredients:

- 2-3 heads of lettuce, different types such as: Bibb, Romaine, Green Leaf, Red Leaf, Butter, Radicchio
- 2 or more salad fruits or vegetables in season, such as: avocado, carrots, broccoli, baby spinach, shredded cabbage, tomatoes, orange segments
- Optional: Edible seeds such as sunflower seeds and garbanzo beans.
- 1 cup low fat salad dressing

Directions:

1. Wash all the vegetables.
2. Allow class to see the whole lettuce leaves before cutting into bite sized pieces.
3. Cut other salad vegetables into bite sized pieces.
4. Lay out the salad add-ons in a salad-bar style.
5. Give each student a few cut leaves of each type of lettuce and allow them to add in the remaining choices as they desire (encourage them to pick at least other offering).
6. Add dressing to taste (about ½ TBSP per student).

Makes approximately 25 Taste Tests

MATERIALS

CHEF'S NOTES

-
-

Developed by Network for a Healthy California

CACFP Crediting

	Snack
Fruit	
Vegetables	
Bread/Alternative	
Meat/Alternative	
Milk	

Food Experience: Lettuce Wraps (optional)

Serves 24 • Prep time: 20 minutes • Cook time: 5-10 minutes

Nutrition Facts

Serving Size	
Servings per Recipe	
Amount Per Serving	
Calories	Calories from Fat
% Daily Value	
Total Fat	%
Saturated Fat	%
Trans Fat	
Cholesterol	%
Sodium	%
Total Carbohydrate	%
Dietary Fiber	%
Sugars	
Protein	
Vitamin A %	• Vitamin C %
Calcium %	• Iron %
*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.	

MATERIALS

CHEF'S NOTES

•

Ingredients:

- 2 heads Romaine lettuce
- 2 packages sliced turkey
- 2 packages slice cheese
- 2 Avocados
- 2 Tomatoes
- 1/2 cup Ranch or other salad dressing not accredited for CACFP

Directions:

1. Follow the pictorial directions on the following as to assembling the wrap.

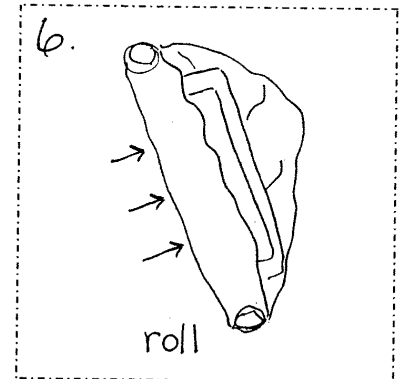
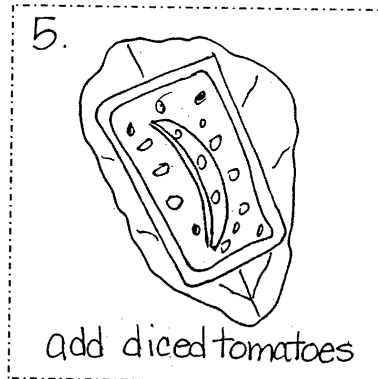
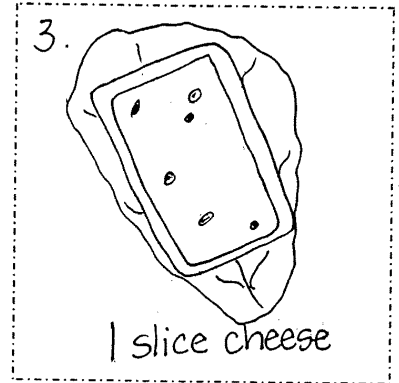
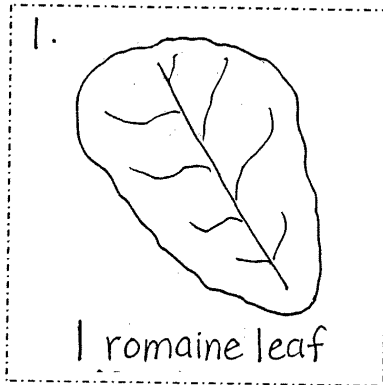
Makes approximately 24 Taste Tests

Recipe adapted from Centralia School District Nutrition Network, State Preschool Programs

CACFP Crediting

	Snack
Fruit	
Vegetables	
Bread/Alternative	
Meat/Alternative	
Milk	

Lettuce Wraps



Lettuce Wraps

1 Head Romaine Lettuce
1 pkg. Sliced Turkey
1 pkg. Sliced Cheese
1 Avocado
1 Tomato
1 Bottle Ranch Dressing

Directions:

1. Wash lettuce and pat dry
2. Place 1 turkey slice on lettuce
3. Add 1 slice cheese
4. Slice avocado, add to wrap
5. Dice tomato, add to wrap
6. Roll lettuce
7. Dip in Ranch dressing

Serves 12

FARM TO PRESCHOOL

Garden Curriculum: From Seed to Plate

April Theme: Garden Friends (Insects)



Planting:
Zucchini & Basil
Harvesting:
Carrots



Week 1: Planting Zucchini & Basil

Week 2: Observing Insects & Other Creatures in Our Garden

Week 3: Form & Function of Garden Friends

Week 4: Harvesting & Tasting Carrots

April – Garden Friends (Insects)

Week 1: Planting Zucchini & Basil

Materials:

- Potting Soil
- Watering Can
- Plastic/paper cups, small pots or make newspaper pots on page 11 of the Garden Primer. One per child.
- Fresh Fruit and Vegetable Photo Cards (FFVPC) of zucchini and basil
- Popsicle sticks to label area in garden bed or container
- One or two packets of zucchini seeds: look for “scallop” or “container” varieties if short on space.
- One or two packets of basil seeds: any variety is suitable
- Large pot at least 12” deep (if not planting directly in ground) to transplant seedling in about a month

Objectives:

- Understand that a zucchini seed will grow into a zucchini plant and a basil seed into a basil plant
- Understand that zucchini is the edible fruit of a vining plant.
- Plant seeds and create labels

Preparation:

- Prepare the planting area
 - Read zucchini and basil factsheet
 - Tape some basil seeds to card stock so the children can look at the seeds without dropping them. The zucchini seeds are large enough for them to handle, but you may want to tape them to a card stock as well for viewing.
- *Ask parents to bring in toilet and paper towel rolls for next week’s lesson**

DRDP-2015 Measures

Approaches to Learning-Self Regulation; ATL-REG1, ATL-REG7
Social and Emotional Development; SED3, SED4
Language and Literacy Development; LLD1, LLD2, LLD3, LLD4, LLD6, LLD9
English Language Development; ELD1, ELD2, ELD3
Cognition-Math and Science; COG5, COG9, COG10, COG11
Physical Development-Health; PD-HLTH4, PD-HLTH10
History-Social Science; HSS5
Visual and Performing Arts; VPA2

Directions:

1. Explain to the class that we will be planting zucchini and basil seeds in our garden. Explain that when we eat zucchini, we are actually eating a fruit, even though it’s not sweet! We know this because fruits have seeds inside, and a zucchini has seeds. Ask: can you think of any other vegetables you eat that have seeds inside? We are also going to plant a “friend” of the zucchini today: basil! We call these two plants friends because they taste very good in the same recipe and like to grow next to each other.
2. Explain that after we plant the seeds we will take care of them by watering them every day until they are ready to harvest. We will observe the zucchini plant, which is a vine, wind around the soil until first it forms flowers, and then watch as the zucchini (fruit) appears.
3. Display the Fresh Fruit and Vegetable Photo Cards (FFVPC) of zucchini and basil (herbs). This is what they will look like when we harvest them.
4. Ask the class: have you ever eaten zucchini before? It’s also called “summer squash” because it is a type of squash that’s ripe in the summer. We can grow winter squashes too, like pumpkins, which we harvest in the winter months.
5. Name the varieties of zucchini and basil your class will be growing. Show and/or pass around the seeds they will be planting. Introduce the concept that we as a class are “friends” of the garden and that we take care of it by making sure the plants have what they need to grow: soil, water, air, sunlight and loving care.

...continued on next page

April – Garden Friends (Insects)

Week 1: Planting Zucchini & Basil

Directions cont'd:

6. Give each child a small plastic or paper container with drainage holes on the bottom or as a class make newspaper pots on page 11 of the Garden Primer. Fill the containers with potting soil. Have each child choose which plant they want to plant and place 1-2 seeds of one type of plant in each container. Zucchini is planted about a half inch deep in the soil, and the basil with about a quarter inch. The rule of thumb is to plant a seed twice as deep as its width. Cover with soil and lightly water.
7. Have children label each plant. For smaller children, label the first letter of the plant. As the seedlings grow they will look similar and will be hard to know which plant is which.
8. Place the cups or pots on a tray or plate so the excess water can drain. Keep evenly moist and in sunlight, inside near a window or outside until they have at least 3 true leaves and are ready to transplant into the garden.
9. While you are planting seeds you can sing: (repeated from previous months)

Little Seed

(tune: *I'm a Little Teapot*)

*Here's a little seed in the dark, dark ground.
Out comes the warm sun, yellow and round.
Down comes the rain and now the wind blows
Up comes the little seed, grow, grow, grow!*

Adapted from: <http://home.moravian.edu/children/k/stmak10/lessonplan.htm>

Note: Although each child is planting their own plant, you may only have enough space for a couple of zucchini plants to grow properly in your garden (they spread out over a large area, so just plant one per 12-18" pot, or one per three square feet if in the ground). Encourage students and families to bring home their seedlings to grow at home in a garden or larger container.

April – Garden Friends (Insects)

Week 2: Observing Insects & Other Creatures in Our Garden

Materials:

- *Over in the Garden* by Jennifer Ward
- Toilet paper and paper towel rolls (cut in half if paper towel roll)
- If no rolls are available construction paper and water bottles (See #5)
- Tape (duct tape is best)
- Hole puncher
- Yarn
- Scissors

Objectives:

- Create binoculars to observe the garden
- Identify insects and other creatures in the garden
- Observe and compare various “garden friends”

Preparation:

Make a pair of binoculars as a sample

Directions:

1. Read *Over in the Garden*, by Jennifer Ward
2. Talk about the different insects described in the book. Ask if anyone has ever seen these insects in the garden. Which ones?
3. Ask – Are there other garden friends that aren’t in the book? Ask them to think about something from the sky and something underground- birds and worms.
4. Explain that today we will be making binoculars to help us look for insects and other garden friends in the garden.
5. In small groups make binoculars out of toilet paper and paper towel rolls. If you do not have rolls you can simply roll construction paper around water bottles to create a cylinder. See example photos on next page.
6. Place two similar sized rolls side by side and tape around to them to form binoculars.
7. Use the hole punch to make a hole on each side of the binoculars (the outside of each roll) and tie the end of an 18-20 inch strand of yarn through each hole. The yarn should be long enough to hang loosely around the neck of a preschooler. Children this young should only use the binoculars when supervised, to avoid danger of choking.
8. Write each child’s name on her or his binoculars. If time permits, have the children decorate their binoculars with stickers, drawings or other materials.
9. Go outside in small groups to find and identify any garden friends with your binoculars.

DRDP-2015

Measures

Approaches to Learning-Self Regulation; ATL-REG1, ATL-REG7
Social and Emotional Development; SED3, SED4
Language and Literacy Development; LLD1, LLD2, LLD3, LLD5, LLD6, LLD7
English Language Development; ELD1, ELD2, ELD3
Cognition-Math and Science; COG9, COG10, COG11
History-Social Science; HSS5



Please take photos of the binoculars & drawings your classroom makes!!

Art Expansion:

Drawing our garden and garden friends

After searching the garden ask the children draw any garden friends they saw. What color were they? How many legs did they have? Did they have wings? Display drawings in the classroom.

DRDP-2015 Measures

Language and Literacy
Development;
LLD10
Visual and Performing
Arts; VPA1

April – Garden Friends (Insects)

Week 3: Form & Function of Garden Friends

Materials:

- Flashcards - bee, butterfly, lady bug and worm
- Optional: *Over in the Garden*, by Jennifer Ward

Objectives:

- Describe characteristics of helpful garden friends: bees, butterflies, lady bugs and worms.
- Understand how these insects help our garden

Preparation:

Cut out flashcards,
clear rug/ play area

Directions:

- Optional: Re-read *Over in the Garden* by Jennifer Ward
- In small groups or a large group, have the children sit on one side of rug. (Make sure rug area is clear so children can move across it.)
- Explain that we are going to talk about 4 “garden friends”- the bee, the butterfly, the lady bug and the worm.
- Explain that we call them “garden friends” because they help our garden grow big & healthy so we can eat vegetables that make us big and healthy.
- Show them the flashcard of the **bee** and **butterfly**. Ask the class to describe them- color, wings, antenna, etc. Ask- how do these insects move? That’s right, they fly.
- Ask everyone to “fly” like a butterfly to other side of the rug. But be sure your wings don’t touch each other.
- Ask them to “fly” like a bee back to the other side of the rug. “Bzzz!”
- Explain that when the butterfly and bees flutter their wings by a plants’ flowers they help the plant make seeds. Without them we wouldn’t have the yummy fruits and vegetables that we like to eat tomatoes, cucumbers, zucchini, watermelons, apples and pumpkins.
- Next, show them the flashcard for **ladybug**. Ask the class to describe them- color, spots, wings, number of legs, antenna, etc. Ask- how do these insects move? That’s right they fly and they also crawl.
- Ask everyone to “fly” like a ladybug to other side of the rug. But be sure your wings don’t touch each other.
- Next, ask them to “crawl” like a ladybug back to the other side of the rug. Explain that ladybugs help our garden by eating small insects that eat our plants. Without ladybugs, these small insects might eat all our vegetables and fruit and we wouldn’t have fruit or vegetables to eat.
- Finally, show the class the flashcard for **worm**. Ask the class to describe them – color, shape, legs? arms? antenna? Ask- how do worm insects move? That’s right they wiggle.
- Ask everyone to “wiggle” like a worm to other side of the rug.
- Explain that worms help our garden by eating garden garbage to create new soil and wiggle to make room for plant roots and water.

DRDP-2015

Measures

Approaches to Learning-Self Regulation; ATL-REG1, ATL-REG7
Social and Emotional Development; SED3, SED4
Language and Literacy Development; LLD1, LLD2, LLD3, LLD4, LLD5, LLD9
English Language Development; ELD1, ELD2, ELD3
Cognition-Math and Science; COG9, COG11
Physical Development-Health; PD-HLTH2, PD-HLTH3
History-Social Science; HSS5

April – Garden Friends (Insects)

Week 3: Form & Function of Garden Friends

Art Expansion

Color an insect coloring page. While coloring be sure to help them identify the insects and how they help our garden grow. Display in the classroom.

Memory Game Expansion

Print and cut 2 sets of flashcards on cardstock (laminates if possible) and in pairs, children can play a simple memory game.

Music Expansion

THE INSECTS OUTSIDE

Original Author Unknown

Sung to: "The Wheels on the Bus"

*The bees in the flowers go buzz, buzz, buzz
Buzz, buzz, buzz, buzz, buzz, buzz
The bees in the flowers go buzz, buzz, buzz
Out in the garden.*

*Butterflies/garden/flutter
Ladybugs/on the leaves/munch
Worms/in the ground/ wiggle and squirm
Spiders/in the bush/ spin their webs*

<http://www.kcfb.info/updown/documents/Complete%202010%20Toolkit.pdf>

April – Garden Friends (Insects)

Week 4: Harvesting & Tasting Carrots

Materials:

- Spade
- Bucket or sink to use for washing carrots with brushes
- Paper towels to dry carrots
- Small plate (one for each child)
- Knife and cutting board

Objectives:

- Learn to harvest carrots
- Identify a carrot as a root vegetable
- Describe a carrot using their five senses
- Compare and taste carrots

Preparation:

If the amount of carrots from the garden is limited, purchase additional carrots (with tops and more than one variety- orange, red, purple, white) from the farmers market.

DRDP-2015 Measures

Approaches to Learning-
Self Regulation;
ATL-REG1, ATL-
REG6, ATL-REG7
Social and Emotional
Development;
SED1, SED3, SED4
Language and Literacy
Development; LLD1,
LLD2, LLD3, LLD4,
LLD6, LLD9
English Language
Development; ELD1,
ELD2, ELD4
Cognition-Math and
Science; COG2,
COG4, COG5,
COG9, COG10,
COG11
Physical Development-
Health; PD-HLTH10
History-Social Science;
HSS5

Directions:

1. **Harvesting:** Go to the garden and look at the carrot plants. Ask the children - Do you remember planting the seeds? What did the seeds look like? What did the plants look like when they first started to grow? Do they look different now?

Carrots are ready for harvest two to three months after planting. They should be about ½ inch in diameter (carrots top is as wide as your thumb or larger) before pulling them, but are edible at any size.. If you have space in the garden you can leave small carrots to grow larger and harvest later. Leave carrots in the ground until you're ready to use them. The older the carrots get, the woodier their texture will be and the higher their natural sugar content

To harvest carrots, use a spade to loosen the soil around the carrot. Then, grasp the green leaves at their base and tug them gently with a twisting motion so the leaves don't break off in your hand. If you don't have a spade, harvest by twisting and pulling.

2. **Cleaning:** It is very important to clean carrots thoroughly before eating. Set up a wash station with brushes for the children to wash carrots thoroughly. Fill a large bowl with cold water, and submerge the carrots. Use a scrub brush or new sponge to help remove the dirt. Rinse under running water and pat to dry. Do not remove the carrot tops so the children can observe the entire plant.

Have each child wash her or his hands with soap and water.

3. **Carrots are root vegetables:** Show the class the carrot with its green top. Ask- what part of the plant do we eat - the green or the orange part? That's right we eat the orange part. The orange part is called a "root." The root is the part of the plant that grows in the ground.

Roots are the part of the plant that "drinks" water for the plant. Pass a carrot around. Can you feel the tiny hair-like strings on the skin of the carrot? Those are the smaller roots of the carrot.

...continued on next page

April – Garden Friends (Insects)

Week 4: Harvesting & Tasting Carrots

Directions:

5. Comparing carrots shapes and sizes: Show two different carrots. Ask- how are they the same? How are they different? Suggest looking at their size, shape, color, smell. Pass around a couple of carrots with tops for each child to experience. Tell the children that though many of the carrots we see are orange, carrots can also be purple, red, white and yellow. These carrots can be found at farmers' markets, which are sold by the farmer. Carrots grow throughout the whole year in California. Most of the carrots sold in the United States are grown in our state.
6. Cooking & Taste Test: Discuss that carrots are a healthy snack that gives us energy, makes us strong and helps our eyes see better. Talk about different ways to eat a carrot (such as drinking carrot juice, eating raw carrots, cooked carrots, in a salad, etc.). Ask if anyone has ever eaten carrots before? How did you eat it? Explain that today we will taste carrots raw- which means not cooked.

Prepare the taste test with several types of carrots if possible, or choose one of the optional recipes. Ask them to describe the carrot with their senses – What does it look like? Smell like? Feel like? Now let's find out what it tastes like? Taste the carrots as a group, then ask -What does it feel like in your mouth? What does it sound like? If you have a variety of carrots- ask them if they taste the same or different? (Red vs orange vs white). Refer to Teacher Tips: Conducting a Group Taste Test for more ideas on how to engage the children.
7. After each child has tasted carrots, have each child put a sticker on either the "I Like This" or "I Don't Like This Yet" columns of the Taste Test Sheet, or have them write or initial their names, if they are able to do so.

Garden and Tasting Expansion:

Harvest some chives while harvesting carrots and taste them along with the carrots. How are they the same and how are they different? Chives are leaves, carrots are roots, chives are soft, carrots are crunchy, etc. Create a comparison chart to hang in the classroom.

Math Chart Expansion:

(if tasting a variety of colored carrots) Create a chart and graph which variety was liked the most and least. Display in the classroom.

Food Experience: Carrot Sticks

Serves 24 • Prep time: 10 minutes • Cook time: None

Nutrition Facts

Serving Size

Servings per Recipe

Amount Per Serving

Calories 160

Calories from Fat

% Daily Value

Total Fat

%

Saturated Fat

%

Trans Fat

Cholesterol

%

Sodium

%

Total Carbohydrate

%

Dietary Fiber

%

Sugars

Protein

Vitamin A %

• Vitamin C %

Calcium %

• Iron %

*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.

Ingredients:

8 large carrots, peeled and sliced into sticks

(Ideal: 2 orange, 2red, 2purple, 2 white)

Directions:

1. Wash and peel sweet potatoes and carrots.
2. Slice the sweet potatoes and carrots into small sticks and set aside (keep separated).
3. Place 4 carrot sticks on each student's plate with a dollop of dressing or hummus. (verify type of dressing for nutritional standards)

Makes 20 Taste Tests

MATERIALS

□ 20 plates

CHEF'S NOTES

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Modified from Network for a Healthy California-Merced County Office of Education

CACFP Crediting

	Snack
Fruit	
Vegetables	
Bread/Alternative	
Meat/Alternative	
Milk	

Carrots

"I LIKE THIS"



"ME GUSTA"

"I DON'T LIKE THIS YET"



"NO ME GUSTA TODAVÍA"

Shredded Carrot Salad (Optional)

Materials:

A grater
Small
Large mixing bowl
Measuring cups and spoons
Sink and strainer
Peeler

Chef's Notes

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Ingredients:

5-10 carrots (if the carrots are small, 10; if they are big, use 5)
½ cup shredded coconut (optional)
2 Tbs lemon juice
1 Tbs oil
Pinch of salt
Pinch of pepper
¼ cup raisins

Directions:

1. Mix lemon juice, olive oil, salt, and pepper well in a small mixing bowl
2. Shred carrots into large mixing bowl
3. Add coconut and raisins to carrots. Mix thoroughly.
4. Drizzle dressing on top of carrot/coconut/raisin mix.
5. Mix thoroughly.
6. Serve cold. This salad will taste better if you chill it in the refrigerator for at least 1 hour before serving.