



Plants/Las Plantas

Denver Public Schools

In partnership with Metropolitan State College of Denver

El Alma de la Raza Project



Plants/Las Plantas

By Cleo McElliott

Grade: Early Childhood Education

Implementation Time
for Unit of Study: 2 weeks

Denver Public Schools

El Alma de la Raza Curriculum
and Teacher Training Program

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Plants/Las Plantas

Unit Concepts

- Plant seasonal guide
- Parts of the plant
- Types of seeds
- Plant growth cycle
- Food-producing plants

Standards Addressed by This Unit

Reading and Writing

Students read and understand a variety of materials. (RW1)

Students write and speak for a variety of purposes. (RW2)

Students read and recognize literature as a record of human experience. (RW6)

Science

Student knows and understands the characteristics and structure of living things, the processes of life, and how living things interact with each other and their environment. (S3)

Student knows and understands the processes and interactions of Earth's systems and the structure and dynamics of Earth and other objects in space. (S4)

Oral Language

Student adds new words to vocabulary. (Pathways to Success Continuum)

Student makes comparisons of objects. (ECE8)

Mathematics

Student will describe objects using comparative terms, such as weight, length, size and volume. (Pathways to Success Continuum)

Introduction

When Spring officially begins in North America the weather begins to warm and plants grow once again. Plants are living things that come in various forms including flowers, fruits, vegetables and trees. Spring is the time people plant seeds. Seeds are different in color, size and shape. For a plant to grow from a seed, they require air, water, food and the sun. All plants have a growing cycle that is repeated each time they are planted. There are different parts to each plant that are eaten by people including, leaves of lettuce, stems of celery, the root of a carrot. Animals also eat seeds and other parts of plants.

Implementation Guidelines

It is recommended that this unit be taught in the Early Childhood grade (ECE), possibly as a broader study of the seasons. Young children need to have a “hands-on” experience and always respond well to object use. The lessons are intended to be child-oriented, with the teacher acting as the facilitator. Teachers are welcomed to add their own literature selections on plants by Latino authors.

Resources

- Lesson 1 *After the Storm* by Alma Flor Ada
Pumpkin Fiesta by Caryn Yacowitz
La Primavera by Maria Rius
El Verano by Maria Rius
El Invierno by Maria Rius
El Otono by Maria Rius
Como Sabes ques es verano? por Allan Fowler
Como Sabes ques es otono? por Allan Fowler
- Lesson 2 *After the Storm* by Alma Flor Ada
Wild Wild Sunflower Child Anna by Nancy White Carlstrom
From Seed to Sunflower by Dr. Gerald Legg
Sunflower by David M. Schwartz
- Lesson 3 *The Tortilla Factory* by Gary Paulsen
- Lesson 4 *Carlos and the Squash Plant* by Jan Romero Stevens
Como crece una semilla por Helene J. Jordan
Dig and Sow! How do plants grow? by Janice Lobb
Las Plantas por Jo Ellen Moore and Joy Evans
- Lesson 5 *Carlos and the Cornfield* by Jan Romero Stevens
The Tamale Quilt by Jane Tenorio-Coscarelli
La Tortilleria por Ruth Wright Paulsen

Lesson Summary

Lesson 1	A Story the Year Round	3
	Students are introduced to the seasons through literature and a color and cut activity.	
Lesson 2	Wild Wild Flowers.....	6
	Students learn about seeds and plants through planting and caring for their plants.	
Lesson 3	La Tortilla (The Tortilla)	8
	Student will learn to make connections between seeds and their plant counterparts.	
Lesson 4	<i>Carlos and the Squash Plant</i>	10
	Children will observe the sprouting of seeds through observation of lima beans growing in a contained, moist environment.	
Lesson 5	El Maiz (The Corn)	12
	Students learn about recipes and record keeping through open-ended comparisons and recording observations.	

LESSON 1: A Story the Year Round

What will students be learning?

STANDARDS

Students read and understand a variety of materials. (RW1)

Students read and recognize literature as a record of human experience. (RW6)

Student adds new words to vocabulary. (Pathways to Success Continuum)

Student knows and understands the characteristics and structure of living things, the processes of life, and how living things interact with each other and their environment. (S3)

Student knows and understands the processes and interactions of Earth's systems and the structure and dynamics of Earth and other objects in space. (S4)

BENCHMARKS

Student will identify and describe the four seasons.

Student will use information from their reading to increase vocabulary and language.

Student will state a fact learned from class.

Student will express ideas and feelings orally and in pictures.

Student will describe the characteristics and structure of living things.

Student will use vocabulary that corresponds with topic being taught.

OBJECTIVES

Student will be introduced to the four seasons and key characteristics common to each season.

Student will be introduced to the growth cycle of a plant through the literature of Alma Flor Ada.

Students will use new words learned through a vocabulary component.

What will be done to help students learn this?

INSTRUCTIONAL STRATEGIES

Group discussion

Read aloud

Graphing/charts

Children's dictations

Questioning

PRELIMINARY LESSON PREPARATION

Student's background knowledge of seasons will be established and reinforced. Teacher will assess the level of conceptual understanding of each student through visual identification of the seasons. Students not familiar with the key characteristics of the seasons will review them at this time. Preteaching of the seasons can be done through the use of visuals or literature selections. Teacher will introduce the vocabulary words specific to this lesson during this time.

ACTIVITIES

Students will provide key characteristics of each season orally. Students will have *After the Storm* by Alma Flor Ada read to them. Students will color and cut out pictures of various seasons and arrange them in proper order. Students will present their arrangement orally using key vocabulary words learned in this lesson.

VOCABULARY

Season — period of year marked by special occasions

Spring/Primavera

Summer/Verano

Fall/Octano

Winter/Invierno

Fact — piece of information

Seed growth cycle

Plant

Hot

Sunny

Rainy

Snowy

Cold

Cloudy

Windy

RESOURCES/MATERIALS

After the Storm by Alma Flor Ada

Pumpkin Fiesta by Caryn Yacowitz

La Primavera by Maria Rius

El Verano by Maria Rius

El Invierno by Maria Rius

El Otono by Maria Rius

Como Sabes ques es verano? por Allan Fowler

Como Sabes ques es otono? por Allan Fowler

ASSESSMENT

Students will use three or more vocabulary words introduced in the lesson. Using the story pictures, students will arrange the seasons in sequential order and provide one key characteristic for each season.

Sequencing Activity: The Four Seasons

Have students draw an appropriate scene (or cut a picture out of a magazine) and color it for each season. They should put the seasons in the correct sequence.

Season: _____	Season: _____
Season: _____	Season: _____

LESSON 2: Wild Wild Flowers

What will students be learning?

STANDARDS

Students read and understand a variety of materials. (RW1)

Students read and recognize literature as a record of human experience. (RW6)

Students add new words to vocabulary. (Pathways to Success Continuum)

Students know and understand the characteristics and structure of living things, the processes of life, and how living things interact with each other and their environment. (S3)

Students will describe objects using comparative terms, such as weight, length, size and volume. (Pathways to Success Continuum)

BENCHMARKS

Student will describe characteristics and structure of living things.

Student answers questions about a story that has been read aloud.

Student will use information from their reading to increase vocabulary.

Student will state a fact learned from class.

OBJECTIVES

Student will learn the growth cycle of plants, the properties of seeds, the characteristics of a sunflower and different kinds of soil.

Students will learn the planting process and will chart their daily observations of plant growth and water content.

Students will compare a variety of seeds.

What will be done to help students learn this?

INSTRUCTIONAL STRATEGIES

Read aloud

Group discussion

Chart observations

Sequencing

Vocabulary building

Hands-on experience

PRELIMINARY LESSON PREPARATION

Materials needed include pint-size milk cartons that have been cleaned and cut, potting soil, a variety of seeds, and small water pitchers for watering plants. Chart paper, rulers or yardsticks and markers are needed for recording plant growth.

ACTIVITIES

Teacher will provide a large sunflower pod for students to examine and extract seeds. The children will remove seeds from the pod and follow a simple chart (teacher made) for proper sequence of the planting process. Students will compare sunflower seeds with various other seeds before planting sunflower seeds. Students will check seedling growth daily and measure their plants using rulers. Teacher will record growth on each student's chart.

VOCABULARY

Pod

Measure

Chart

Flower

Soil

Water

Sun

Sandy

Clay

Rocky

RESOURCES/MATERIALS

After the Storm by Alma Flor Ada

Wild Wild Sunflower Child Anna by Nancy White Carlstrom

From Seed to Sunflower by Dr. Gerald Legg

Sunflower by David M. Schwartz

Empty pint milk cartons

Potting soil

Plastic watering pitchers

Seeds

Small, resealable plastic bags

Sunflower pods

ASSESSMENT

Student may be evaluated individually or as a group. Students will be asked to identify the process of planting in sequential order and point to key growth indicators in their daily observations charts. Children will use a minimum of five vocabulary words introduced in the lesson. Children can provide one descriptive word for the soil used in the planting process.

LESSON 3: La Tortilla (The Tortilla)

What will students be learning?

STANDARDS

Students read and understand a variety of materials. (RW1)

Students read and recognize literature as a record of human experience. (RW6)

Students will add new vocabulary to their language. (Pathways to Success Continuum)

Student knows and understands the characteristics and structure of living things, the processes of life, and how living things interact with each other and their environment. (S3)

Students will describe objects using comparative terms, such as weight, length, size and volume. (Pathways to Success Continuum)

BENCHMARKS

Student will use vocabulary that corresponds with the topic being taught.

Listens to a story read aloud.

Student looks at books, pictures and other printed materials.

Student retells a story using illustrations.

Student draws pictures.

OBJECTIVES

Students will become familiar with the different colors, sizes, and shapes of seeds.

Student will become familiar with the connection between seeds, plants and food.

Students will match seeds to a food derived from that source.

Students will increase their vocabulary.

What will be done to help students learn this?

INSTRUCTIONAL STRATEGIES

Read aloud

Matching

Group discussion

Hands-on

Comparative language

Checking for understanding

Wait time

ACTIVITIES

Students will bag and chart five types of seeds according to plant or food category. Students will have their seed bag stapled to a poster board illustrating the corresponding plant or food. Special attention will be given to the different-colored corn seeds, the corn plant and the flour that comes from the different colored corn (i.e. blue flour from blue corn, yellow flour from yellow corn).

VOCABULARY

Tamales

Tortilla

Flour

Plant

Seeds

RESOURCES/MATERIALS

The Tortilla Factory by Gary Paulsen

Poster board

Resealable plastic bags

Different-colored cornseeds

ASSESSMENTS

Students will demonstrate an understanding of food sources through:

- matching the food source with the appropriate plant;
- providing one factual statement about each of the literature selections; and
- completing a drawing of corn seeds, a corn plant and a tortilla.

LESSON 4: *Carlos and the Squash Plant*

What will students be learning?

STANDARDS

Students read and understand a variety of materials. (RW1)

Students read and recognize literature as a record of human experience. (RW6)

Students know and understand the characteristics and structure of living things, the processes of life, and how living things interact with each other and their environment. (S3)

Students add new words to vocabulary. (Pathways to Success Continuum)

BENCHMARKS

Student will use information from their reading to increase vocabulary.

Student will state a fact learned from class.

Student will express ideas and feelings orally and in pictures.

Student will describe the characteristics and structure of living things.

Student will sequence three or four items.

OBJECTIVES

Student will observe the sprouting of a lima bean in a controlled environment.

Student will chart the growth cycle of a lima bean.

Students will sequence picture cards (teacher made).

What will be done to help students learn this?

INSTRUCTIONAL STRATEGIES

Small group discussion

Read aloud

Simple graphing

ACTIVITIES

Students will place a lima bean in a moistened paper towel and then seal in a plastic bag. The sealed bags will be placed in direct sunlight (windowsill) with the students' name. Students will check bags daily to ensure moisture level and bean growth. Students will chart growth after sprouting begins. Students will orally describe various types of squash and feel different textures and shapes of each one.

VOCABULARY

Bean

Squash

Sprout

Moisture

Measure

Chart

RESOURCES/MATERIALS

Carlos and the Squash Plant by Jan Romero Stevens

Como crece una semilla por Helene J. Jordan

Dig and Sow! How do plants grow? by Janice Lobb

Las Plantas por Jo Ellen Moore and Joy Evans

Lima beans

Paper towels

Resealable plastic bags

Squash (in a variety of shapes and textures)

ASSESSMENT

Teacher will assess students using the following criteria:

- Student is able to explain the lima bean growth process.
- Student demonstrates skill in a dramatic presentation about the planting process.
- Student tells something about the literature selections that were read to them.

LESSON 5: El Maiz (The Corn)

What will students be learning?

STANDARDS

Students will read and understand a variety of materials. (RW1)

Students will read and recognize literature as a record of human experience. (RW6)

Students will add new vocabulary to their language. (Pathways to Success Continuum)

Students know and understand the characteristics and structure of living things, the processes of life, and how living things interact with each other and their environment. (S3)

BENCHMARKS

Student will answer questions about a story that has been read aloud.

Student will use information from their reading to increase vocabulary.

Student will express ideas and feelings orally and in pictures.

Student will connect book to own experiences during class discussions.

Student will use comparative language when describing things.

OBJECTIVES

Student will be introduced to recipes and why we use them.

Student will complete an activity on stretchers (worksheet).

Students will engage in a cooking activity.

Students will increase their vocabulary.

What will be done to help students learn this?

INSTRUCTIONAL STRATEGIES

Read aloud

Simple recipes/follow charts

Children's dictations

Group discussions

ACTIVITIES

Teacher will read *Carlos and the Cornfield*, *The Tamale Quilt* and *La Tortilleria* to students.

Students will follow a recipe for cornmeal pancakes with teacher assistance, complete with the mixing and cooking process. Student will then complete simple story stretchers and draw simple picture stories depicting the proper sequence of cooking.

VOCABULARY

Recipe

Hoe

Field/Campos

Corn/Maiz

Ingredients/Ingredientes

Farm/Granja

Harvest/Cosechar

Kitchen/Cocina

RESOURCES

Carlos and the Cornfield by Jan Romero Stevens

The Tamale Quilt by Jane Tenorio-Coscarelli

La Tortilleria por Ruth Wright Paulsen

Cooking utensils and supplies

Cornmeal recipe

ASSESSMENT

Students will use at least three new vocabulary words introduced in this lesson. Students will participate in a cooking activity. Students will orally describe at least three steps in the cooking process. Each student will have completed four out of the seven open-ended questions on the Story Stretchers worksheet.

Cornmeal Pancakes

- 1 egg
- 1 cup buttermilk
- 2 tablespoons salad oil
- 1/2 cup flour
- 1/2 cup cornmeal
- 1 tablespoon sugar
- 1 teaspoon baking powder
- 1/2 teaspoon baking sod
- 1/2 teaspoon salt

Directions:

Beat egg.

Add all other ingredients and beat.

Grease heated griddle.

Pour batter into small pancakes on griddle.

Turn pancakes.

Serve with butter and syrup.

Story Stretchers

Tell a story with open-ended comparisons. All students should try to complete the sentences and teacher will take student dictations.

We planted a seed that was as big as a _____

We watered it with water that was as wet as _____

The seed grew as fast as _____

The plant grew tall like a _____

The new plant had many leaves that looked like _____

The ground was as brown as _____

The sun was bright and yellow like _____

UNIT ASSESSMENT

PERFORMANCE TASK

Students will respond to the following: “What I learned about plants.” Student should be able to:

1. Identify the four seasons and provide one descriptive word about each one.
2. Name three parts of a plant and one attribute of a seed.
3. Briefly explain the growing process of plants.
4. Name three foods that come from plants.

SCORING RUBRIC

Use the rubric below to assess the answers to the questions above.

<u>Rubric Points</u>	<u>Description</u>
4	Exceeds expectations.
3	All questions answered completely and correctly.
2	Partially correct answers.
1	Lack of understanding of concept/unable to verbalize correct information.

Annotated Bibliography

- Ada, Alma Flor. *After the Storm*. Santillana, 1993.
Book about the flight of a small seed through the seasons.
- Carlstrom, Nancy White. *Wild Wild Sunflower Child Anna*. Aladdin Books, Macmillan Publishing Co., 1987.
Delightful book about a young girl running through the fields and enjoying the many flowers and fruits.
- Carratello, John and Patty Carratello. *Plantas*. Teacher Created Materials Inc., 1994.
Book has simple teacher activities and fun tasks for children in Spanish.
- Herr, Judy and Yvonne Libby. *Creative Resources For the Early Childhood Classroom*, Delmar Publishers, Inc., 1990
Teacher guide with themes, goals, concepts and activities on various subjects that pertain to ECE.
- Jordan, Helene J. *Como crece una semilla*. Harper Collins Publishers, 1988.
Spanish version of how a seed grows.
- Legg, Dr. Gerald. *Lifecycles — From Seed to Sunflower*. Franklin Watts, 1998.
Simple process of germination of seed through the seasons.
- Lobb, Janice. *At Home with Science — Dig and Sow! How do Plants Grow?* Kingfisher, 2000.
Amazing facts about plants and their growth. Some very helpful information.
- Moore, Jo Ellen and Joy Evans. *Las Plantas*. Laminas y Paginas para Copiar, Evan-Moore Corp. 1992.
Spanish version of a book about fruit trees and seedling process.
- Paulsen, Gary. *The Tortilla Factory*. Harcourt Brace & Co., 1995.
Corn plants growing in fields, processing and back to kitchen table.
- Schwartz, David M. *Sunflower*. Creative Teaching Press, 1999.
Real pictures of the sunflower growing from simple seed to flower.
- Stevens, Jan Romero. *Carlos and the Squash Plant*. Rising Moon, 1995.
Fun to read book about a small boy who does not listen to his mother's warning to clean his ears and a plant begins to grow. Written in English and Spanish with wonderful recipes in back.
- Stevens, Jan Romero. *Carlos and the Corn Field*. Rising Moon, 1995.
Delightful book about a young boy who tries to cut his work short to receive pay and ends up in a dilemma. Written in Spanish and English with good Mexican recipes in back.
- Tenorio-Coscarelli, Jane. *The Tamale Quilt*. Quarter-Inch Publishing, 1998.
This book is about family and the many gifts you receive including recipes and quilts. Book is written in English with Spanish words added to use with children. Good book to recommend to all.
- Yacowitz, Caryn. *Pumpkin Fiesta*. Harper Collins Publishers, 1998.
Story about Juana who grows the best pumpkins and Foolish Fernando who tries to steal the secrets.

About the Author

M. Cleo McElliott received her master's in Special Education from the University of Northern Colorado in Greeley, specializing in Early Childhood. Her bachelor of arts degree in Sociology is from Colorado State University in Fort Collins.

She has worked in several school districts in various states and has an extensive background in special education with both adults and small children. She has worked in social agencies before entering education.

Currently she is a special education early childhood teacher working in a Denver Public School.