



From Corn to Tortillas

Denver Public Schools

In partnership with Metropolitan State College of Denver

El Alma de la Raza Project



From Corn to Tortillas

By Deborah Frances

Grades: Early Childhood Education/Kindergarten

Implementation Time
for Unit of Study: 1–2 weeks

Denver Public Schools

El Alma de la Raza Curriculum
and Teacher Training Program

Loyola A. Martinez, Project Director
Dan Villegas, Curriculum Development Specialist

El Alma de la Raza Series

From Corn to Tortillas

Unit Concepts

- History of the tortilla
- Growth cycle of the corn plant
- Importance of the tortilla in Hispanic culture
- How to make a tortilla
- Significance of clay pottery in Hispanic culture

Standards Addressed by This Unit

Language

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 experiences. (Pathways to Success Continuum)

History

Students will know the physical and human characteristics of places and use this knowledge to define and study regions and their patterns of change. (GH2)

Students understand that societies are diverse and have changed over time. (H3)

Science

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)

Visual Arts

Students know how to apply elements of art, principles of design, and sensory and expressive features of visual arts. (A2)

Introduction

The tortilla is one of the most popular items in Mexican cuisine, and is an important staple in the Mexican diet and culture. There are two types of tortillas: the flour tortilla (which burritos are usually wrapped in) and the corn tortilla. The tortilla is used as a bread and, at times, contains fillings such as rice, beans, or meat. Corn tortillas can be substituted for flour tortillas, depending on the particular dish and cultural preference. This unit of study will focus on the corn tortilla.

Corn is an important product of the Mexican agricultural community. It can be made into a pozole and used to make tortillas and tamales.

The Tortilla Factory by Gary Paulsen, illustrates the growth cycle of the corn plant, and the process of making tortillas. It is representative of the Hispanic culture and its people.

Implementation Guidelines

It is recommended that this unit be used primarily in the Early Childhood and Kindergarten classrooms, and can be used in the fall during studies of the harvest, or during the planting season in the spring. It is a unit that incorporates many areas of the curriculum — art, science, math, and language.

Resources

- Lesson 1 *The Tortilla Factory* by Gary Paulsen
- Lesson 2 *Corn is Maize* by Alikei
- Lesson 3 *Tortillitas Para Mama and Other Nursery Rhymes* selected and translated by Margot Griego, Barbara Cooney, Sharon Gilbert, Laurel Kimball
- Lesson 4 *Too Many Tamales* by Gary Soto
- Lesson 5 All books from previous lessons to be reviewed and viewed

Lesson Summary

Lesson 1	Growth Cycle of the Corn Plant 4 Children will be introduced to the corn plant growth cycle by reading <i>The Tortilla Factory</i> . Planting of corn will culminate the lesson.
Lesson 2	Making Cornmeal 7 The significance and many uses of cornmeal is the focus of this lesson.
Lesson 3	Making Tortillas 9 Each student engages in a kinesthetic, hands-on activity by making tortillas.
Lesson 4	Fun With Tortillas 11 The students will create paper tortillas using a variety of art materials.
Lesson 5	Clay Pottery 14 Using the illustrations from the books used in previous lessons and actual examples, children will create their version of a clay pot. This lesson incorporates design and artwork specific to the indigenous cultures of the southwest.

LESSON 1:

Growth Cycle of the Corn 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 will add new vocabulary to their language experiences. (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

Use specific vocabulary that corresponds with the topic or concept being taught.

Students will identify characteristics of plants.

Students will describe the specific needs of plants.

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

OBJECTIVES

The student will become familiar with the life cycle of plants and what is needed for them to grow.

The student will be introduced to the vocabulary term “tortilla” and its connection to the growing cycle in the story.

What will be done to help students learn this?

INSTRUCTIONAL STRATEGIES

Group discussion of prior knowledge

Read aloud

Planting of seeds and care of plants

Simple graphs/charts

PRELIMINARY LESSON PREPARATION

Make copies of the corn plant life cycle worksheet for students. Gather materials for planting and assemble into planting “kits” for students (a container, some potting soil and corn seeds).

ACTIVITIES

Through discussion, assess students’ knowledge about plants, plant care, and their importance. Introduce a new vocabulary word, *tortilla*, and discuss what students know about them. Read *The Tortilla Factory* and discuss the growth cycle of the corn plant using illustrations from the book. Follow this discussion with an activity where students color, cut out, and sequence pictures of the plant cycle. Then, using a container, potting soil, corn seeds, and water, have students plant their own corn plant. Make a chart for each student to follow in the care of the plant. Using a simple graph, have the students graph the growth of their individual plant indicating number of days and length of growth for each plant.

VOCABULARY

Tortilla — a round, thin bread of unleavened cornmeal, usually eaten with some type of meat filling or topping.

Graph

Plant cycle

Chart

RESOURCES/MATERIALS

The Tortilla Factory

Crayons

Scissors

Containers (for planting)

Potting soil

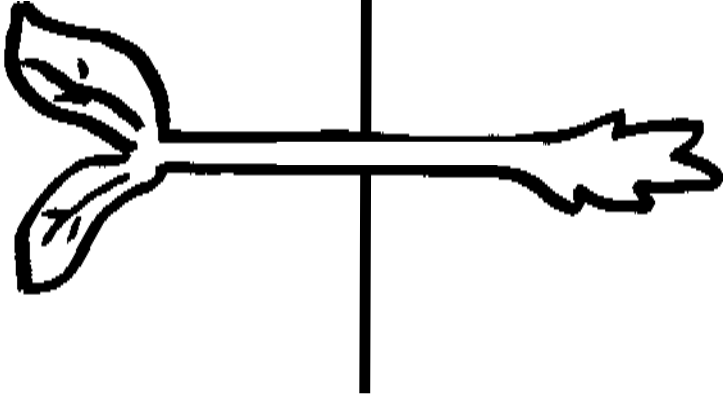
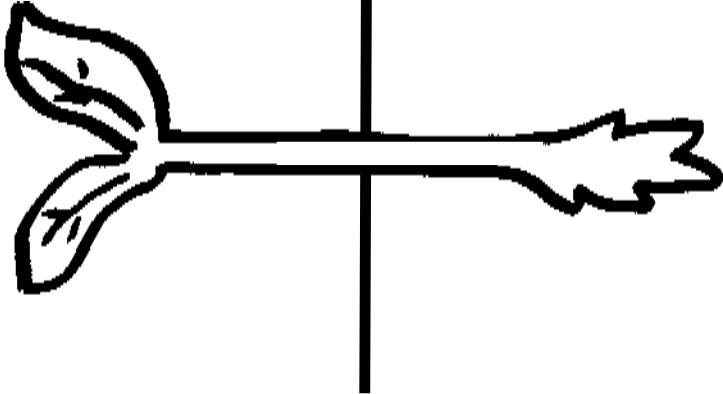
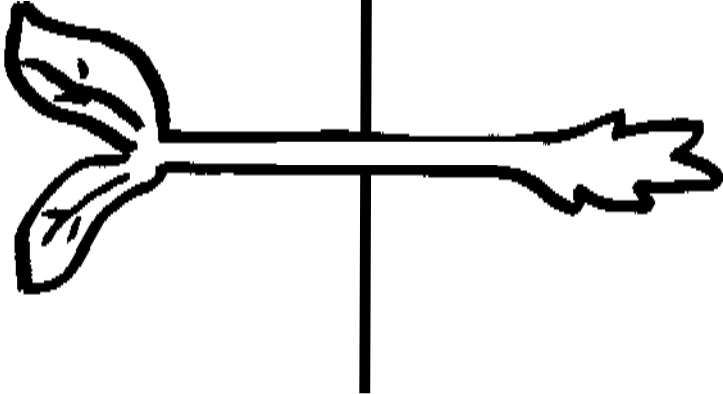
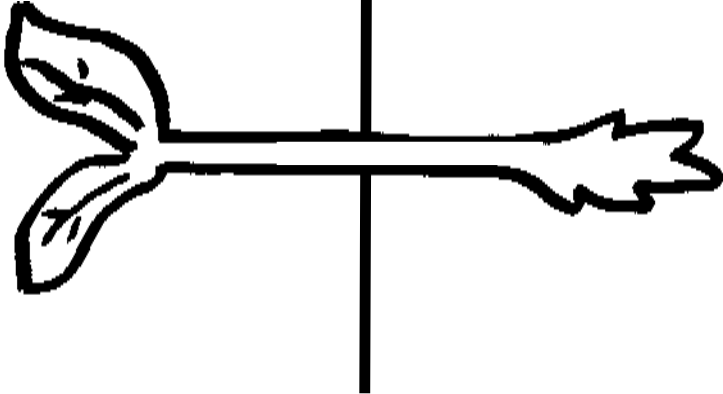
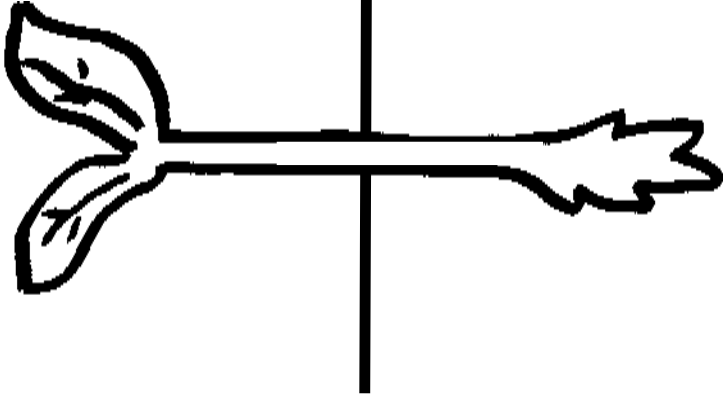
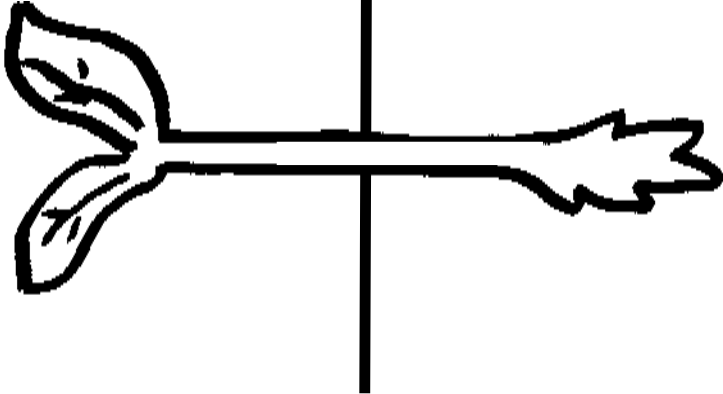
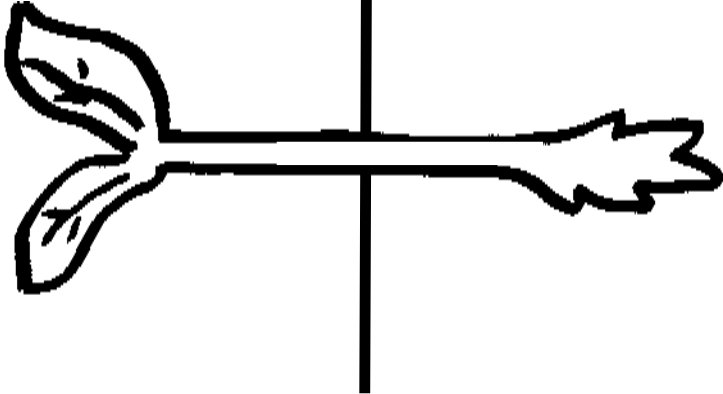
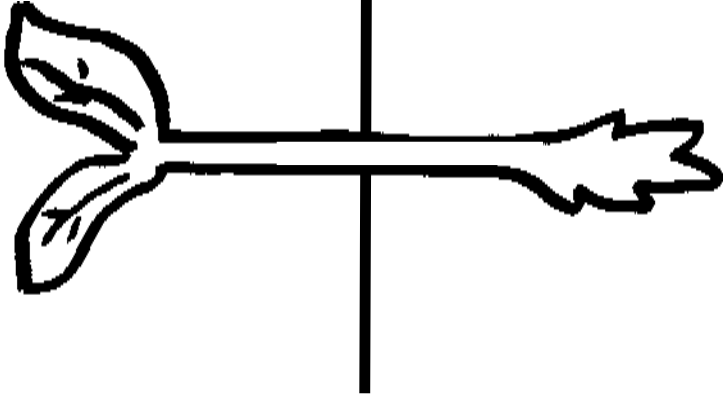
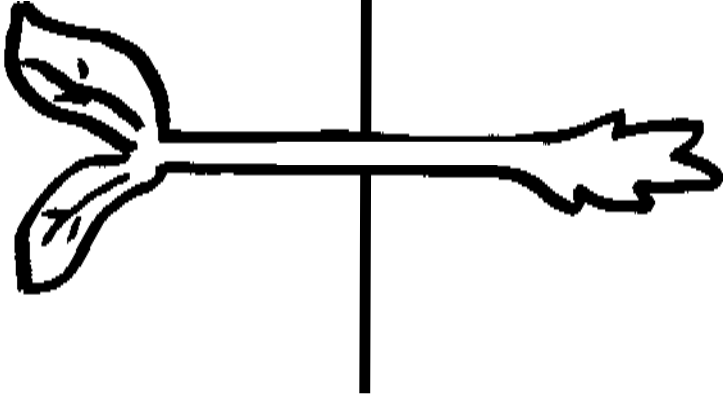
Corn seeds

ASSESSMENT

Observe students in the process of planting and how they answer questions on the sequence of the plant life cycle as a check for knowledge.

Corn Plant Growth Cycle

Have students color the drawings below, then cut them out and put them in the order of the plant growth cycle.

LESSON 2: Making Cornmeal

What will students be learning?

STANDARDS

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

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

Students understand that societies are diverse and have changed over time. (H3)

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

Students will use information from *Corn is Maize* to increase vocabulary and language usage.

Students will become aware, through the reading, that societies have various uses for corn, and the importance of corn in their lives.

Students will begin to understand the diversity of life and how living things interact with each other and with their environment.

OBJECTIVE

The student will be involved in the creative process of converting maize (corn) into cornmeal for the purpose of making tortillas.

What will be done to help students learn this?

INSTRUCTIONAL STRATEGIES

Read aloud

Kinesthetic/hands-on activities

Rebus charts

Group discussions

Drawing as assessment

PRELIMINARY LESSON PREPARATION

Distribute small bags containing corn kernels to students for grinding. Copy recipe onto chart paper.

ACTIVITIES

Read *Corn is Maize*. Discuss the new vocabulary words. List on chart paper some of the products made from corn. Review the steps to plant, grow, harvest, and grind corn into “meal.” Using a metate (stone bowl and stone grinder), let students grind their own cornmeal. Save the meal for making tortillas (in Lesson 3). Using store-bought cornmeal, along with a rebus recipe, mix together cornmeal play dough and let the children experience, through sensory motor skills, rolling, shaping, and folding their own tortilla.

VOCABULARY

maize — corn

teosinte — a type of grass, before it becomes a corn plant

metate — a flat stone used for grinding

pozole — ground and boiled corn

tamales — spiced meat and cornmeal wrapped in cornhusks

misickquatash — beans and corn cooked together (succotash)

RESOURCES/MATERIALS

Corn Is Maize: The Gift of Indians

Reproduce rebus recipe on chart paper

Corn kernels

Metate (stone bowl and grinder)

Cornmeal (store-bought)

Oil

ASSESSMENT

Using drawing paper, let each student illustrate what they have learned through the lesson (how corn is planted, care and harvest, and grinding into meal). Let them dictate a “story” about their picture. Encourage use of new vocabulary.

Copy this recipe onto chart paper. You may want to double the recipe for larger groups

Cornmeal Play Dough

2-1/2 cups cornmeal

1 tablespoon oil

1 cup cornmeal

1 cup water

Thoroughly mix together ingredients in the order listed above.
Water may need to be adjusted for the right consistency.

LESSON 3: Making Tortillas

What will students be learning?

STANDARDS

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

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

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

BENCHMARKS

Comparing objects that are heavy/small, full/empty, etc.

Use specific vocabulary that corresponds with topic or concept being taught.

OBJECTIVES

The student will become familiar with food from another culture.

The student will be involved in the process of measuring and mixing, plus the use of a recipe.

What will be done to help students learn this?

INSTRUCTIONAL STRATEGIES

Use of a rebus recipe

Poetry

Measuring of ingredients

Kinesthetic/hands-on activity of measuring and mixing

PRELIMINARY LESSON PREPARATION

Copy the tortilla recipe onto chart paper. Gather the ingredients for tortillas (and for the filling if desired), measuring cups and spoons, and mixing bowl(s).

ACTIVITIES

NOTE: TO INSURE THE SAFETY OF YOUR STUDENTS, THE TORTILLAS MUST BE COOKED BY ADULTS!

Introduce the lesson with the poem, "Tortillitas," from *Tortillitas Para Mama and Other Nursery Rhymes*. Display the rebus recipe for tortillas. Explain the ingredients and amounts. Have the students wash their hands and then let them help measure and mix the ingredients (let the dough cool slightly before letting students help with mixing). Once the dough has cooled enough to handle, give each student their own dough ball to shape into a tortilla. Teachers will then cook the tortillas on a griddle. When cool, fill and eat!

VOCABULARY

Burrito — a soft, filled tortilla

Chimichanga — a burrito that is deep-fried

Tortillitas — little tortilla

Las quemaditas — the burned ones

Las bonitas — the good ones

Comal — Mexican griddle

RESOURCES/MATERIALS

Chart paper with recipe

Tortillitas Para Mama and Other Nursery Rhymes

Ingredients for tortillas and fillings

Mixing bowl(s), measuring cups and spoons

Griddle

ASSESSMENT

Using the literacy concept of modeled writing*, have the children discuss the steps they took to make the tortillas. Have the students use correct vocabulary terms they have learned in this lesson and previous lessons. Write their thoughts and steps on a large sheet of chart paper. Students may add illustrations.

*Modeled Writing: Teacher writes in front of the group, possibly what they are dictating, and shares a different strategy every day, such as spaces, letter patterns, periods, etc., and then rereads what they have shared.

Copy this recipe onto chart paper. Draw appropriate illustrations for each ingredient.

Corn Tortillas

1 cup boiling water

1 cup cornmeal

1 tsp. Salt

Gradually add boiling water to cornmeal. Carefully stir until thick.

Add salt and mix well.

Shape into flat cakes and bake on a non-greased heavy griddle until brown on each side.

Burrito Filling

If desired, make the filling for burritos using the following ingredients:

1 lb. ground beef, cooked and drained

16-ounce can of refried beans, add to beef

Spoon mixture inside the tortillas and roll

Top with shredded lettuce, cheese, and tomatoes

LESSON 4: Fun With Tortillas

What will students be learning?

STANDARDS

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

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

Students know how to apply elements of art, principles of design, and sensory and expressive features of visual arts. (A2)

BENCHMARKS

Use specific vocabulary that corresponds with topic or concept being taught.

Use of kinesthetic and sensory activities to create a visual art piece.

Students know and are able to use materials, tools, techniques, and processes to make works of art.

OBJECTIVES

Students will create their own filled “tortilla.”

Students will use fine motor skills for creating an art piece.

Students will use new vocabulary to write their “recipe.”

What will be done to help students learn this?

INSTRUCTIONAL STRATEGIES

Read aloud

Independent and guided writing

Creative art process

Fine motor skills (tearing, cutting)

Individual presentation

PRELIMINARY LESSON PREPARATION

Cut circles out of light brown-colored paper to resemble tortillas. Gather scraps of green, red, yellow, brown and orange construction paper. Copy the recipe worksheet for students.

ACTIVITIES

After reading *Too Many Tamales*, hand out tortilla-shaped (round) pieces of light brown paper to students. Have scraps of green, red, yellow, brown, and orange construction paper. Have the students cut and tear the colored paper and “fill” a tortilla. After their tortilla is completed, help students fill out a recipe card and then have them draw a picture for each ingredient. Have students explain their recipe.

VOCABULARY

Tamales — meat seasoned with chili and rolled in cornmeal dough then wrapped in a cornhusk and steamed.

Masa — cornmeal dough used in tamales

RESOURCE/MATERIALS

Too Many Tamales

Recipe Worksheet

Light brown paper cut into large circles (to resemble tortillas)

Construction paper — red, green, yellow, brown, and orange

Glue, scissors

Markers, pencils

ASSESSMENT

Using the student's recipe card, check for knowledge through pictures and use of vocabulary words they have learned. Students' presentation will also provide a check for knowledge learned throughout the unit.

Recipe Worksheet

MY RECIPE FOR: _____

NAME: _____

INGREDIENTS

PICTURE

LESSON 5: Clay Pottery

What will students be learning?

STANDARDS

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

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

Students understand that societies are diverse and have changed over time. (H3)

Students know how to apply elements of art, principles of design, and sensory and expressive features of visual arts. (A2)

BENCHMARKS

Use specific vocabulary that corresponds with the topic or concept being taught.

Students will become aware, through literature, that societies have various uses for pottery.

Students will begin to understand the diversity of life.

OBJECTIVE

The student will create a piece of pottery such as the pottery illustrated in the literature in this unit and as seen in the Hispanic culture.

What will be done to help students learn this?

INSTRUCTIONAL STRATEGIES

Read aloud

Kinesthetic “hands-on”

Creation of visual art piece

Oral presentation

PRELIMINARY LESSON PREPARATION

Distribute plastic bags containing 2 cups of flour and 1 cup of salt to each student, along with bowls for mixing ingredients. Gather paints or markers.

ACTIVITIES

Show pictures of pottery in the various books used in this unit. Talk to the students about the Hispanic culture and the pottery that some Hispanic people make to use and sell. Point out the different designs and patterns seen on the bowls. Help students make clay by mixing 2 cups flour, 1 cup salt and water (for desired consistency). Students will use the clay to make desired forms. Then, place on a shallow baking sheet and bake at 300 degrees for 20-30 minutes until dry. Let cool and then let students decorate with paints (or markers to alleviate messes and for faster drying).

VOCABULARY

Pottery — earthen clay, or stoneware

RESOURCES/MATERIALS

All books from previous lessons to review and view pictures

Flour, salt, water

Mixing bowls (one per student); shallow baking sheet

Poster paints or markers

ASSESSMENT

After the children have completed their pottery, help them label it and then present it to the class explaining their design, the process, and what they have made. How will it be used?

Unit Assessment

How will students demonstrate proficiency?

PERFORMANCE TASK

In a group setting, students will write a story (through modeled writing — *see page 10*) about the tortilla, its importance in the Hispanic culture, and the cycle of the corn plant to a tortilla (seed to plant to cornmeal to tortilla).

Students will:

- Describe what a tortilla is.
- Describe the life cycle of the corn plant to a tortilla.
- Explain the importance of the tortilla in the Hispanic culture.
- Describe various ways to use tortillas.

ASSESSMENT

Use the following rubric to determine the success of your unit.

<u>Rubric Points</u>	<u>Description</u>
4	Exceeds all expectations.
3	Correct answers and information given.
2	Some information given in discussion.
1	Little correct information/little or no contribution to discussion.

Bibliography

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The story and history of popcorn.
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The story of a sunflower seed and the plant cycle.
- Jordan, Helene. *Como Crece Una Semilla*. Harper Collins Publishers, USA: 1992.
Story tells about all kinds of seeds and the plant cycle.
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Story describes the cycle of the corn plant from seed to tortilla.
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Story tells of Carlos and his love of gardening, and what happens when he does not listen to his mother about washing away the dirt.
- Tenorio-Coscarelli, Jane. *The Tamale Quilt*. 1/4 Inch Designs & Publishing, Murrieta, CA: 1998.
The story of a family tradition that tells the story of tamales and their importance in a family holiday. Recipe at the end.
- Tortillitas Para Mama and Other Nursery Rhymes*. Selected and translated by Margot Griego, Barbara Cooney, Sharon Gilbert, and Laurel Kimball. New York: Henry Holt and Company, 1981.
A collection of nursery rhymes and poems translated in both English and Spanish.

About the Author

Deborah Francis received her Masters Degree in Curriculum and Instruction, specializing in creative arts, from Lesley College in Boston. Her Bachelor of Arts in Early Childhood Education (with an emphasis in language arts) is from the University of Northern Iowa.

Deborah has taught Early Childhood in the Denver Public Schools for the past 12 years. Previously she taught kindergarten and second grade, and was the director of a day care facility for the Department of Defense Mapping Agency in Glen Echo, Maryland.

She is employed in Denver Public Schools teaching Early Childhood in an inclusive setting, serving children with special needs.

Yield: 16 to 24 tortillas. The trick to making tortillas is to get a rhythm going so that you can make more than one at a time, though at the beginning you may want to go slowly. It's a good idea to get a comal or griddle that is about 12 inches wide or use a long double griddle that will fit over two burners. Ingredients. 2-1/2 cups instant corn masa flour or masa harina, such as Maseca; more as needed. 1/2 tsp. kosher salt. 1-1/2 cups warm water; more as needed. This week, we're spotlighting recipes from *Tacos: Recipes and Provocations* by Alex Stupak and Jordana Rothman (Clarkson Potter). Stupak is the owner of Empellón Cocina, Empellón Taqueria, and Empellón al Pastor in New York City. Try making the recipes at home and let us know what you think! Corn Tortillas.