



..... THIS MONTH
WE'RE HARVESTING

Tomatoes!

In This Issue



— AND MORE! —

Farmer Spotlight

**CHRIS COELHO- WOOLF FARMING
HURON, CA**

Marinara. Ketchup. Barbecue sauce. These are just a few of the products produced from the 2,600 acres of processing tomatoes managed by farmer Christopher Coelho.

Having grown up on a farming operation, Coelho uses his considerable experience to oversee production at Woolf Farming—from planting to harvest, and everything in between.



For Coelho, tomato season begins in late February when tomato plants are planted in the field as seedlings. Once planted, Coelho cares for the plants to ensure the greatest yield per acre. Technology has made Coelho's job easier. "We use satellite imagery to monitor for moisture stress and disease in the field," Coelho said. "We get an image that shows any color variation in the field, which helps us detect potential problems."

Tomatoes are ready for harvest beginning in early July and continuing through October. Mechanical harvesters move through the fields picking the entire tomato plant and shaking the tomatoes off the vine. Electronic sensors on the harvesters sort the ripe, red tomatoes from the vine and transfer them into a gondola pulled by a tractor following alongside. The tomatoes are immediately transported from the fields by trucks, which can hold approximately 50,000 pounds of tomatoes. "During peak harvest, we're operating 17 tomato harvesters with each harvesting 40 truck loads in one day," Coelho said. "It's a lot of tomatoes."

Within a few hours, Coelho's tomatoes arrive at Los Gatos Tomato Products, where they are first inspected and graded by the USDA for quality, and then processed into a paste used in ketchup, pasta sauce, pizza sauce, juice and more. There are hundreds of ways to consume tomatoes, but for Coelho, the best way is on his pasta. "I am a big pasta sauce guy. My mom's Italian, so pasta was a big part of growing up." Any way you enjoy them, processing tomatoes, picked at peak ripeness, allow consumers to enjoy the taste of summer all year long.

FOOD for FUEL

HERE ARE SOME OF THE
BENEFITS OF EATING TOMATOES
AND TOMATO PRODUCTS:

TOMATOES PROVIDE UNIQUE
health benefits

THEY ARE FULL OF ESSENTIAL
VITAMINS AND FIBER, AND RICH
IN ANTIOXIDANTS.

Healthy SKIN

The beta-carotene and lycopene found in tomatoes makes skin less sensitive to sun damage.

Improved VISION

Vitamin A found in tomatoes can improve vision, help prevent night blindness and may help reduce the risk of macular degeneration.



Strong BONES

The vitamin K, calcium, and lycopene in tomatoes is good for strengthening and repairing bones as well as improving bone mass.

Tomatoes do not lose their health benefits when cooked. In fact, lycopene, a powerful antioxidant that helps prevent cancer, is more easily absorbed by the body when tomatoes have been processed.



PICO DE GALLO

Pico de gallo is a type of salsa that uses fresh ingredients, chopped and diced, to create a flavorful and colorful snack. This recipe uses Roma tomatoes, which are perfect for pico de gallo because they're less watery than other varieties. For maximum flavor, choose ripe, red tomatoes that are firm and plump. If tomatoes are not locally available, substitute a can of diced tomatoes; they are equally nutritious and flavorful.



Ingredients:

- Three Roma tomatoes
- ¼ red onion
- 1 cup cilantro
- One clove garlic
- One lime
- ⅛ teaspoon garlic powder
- ⅛ teaspoon cumin, ground
- ⅛ teaspoon salt
- ½ teaspoon black pepper, ground
- ½ pepper, jalapeño (optional)
- Tortilla chips

Directions:

1. Wash your produce under running water.
2. Using the knife and cutting board, carefully dice the tomatoes into small cubes. Finely chop the onion and cilantro. Mince the garlic. Combine in a medium-sized bowl.
3. Cut the lime in half, and squeeze juice from both halves into the bowl.
4. Add garlic powder, cumin, salt, and black pepper. Stir gently.
5. Optional: Seed and dice jalapeño. Add to the bowl.
6. Enjoy right away, or cover and refrigerate overnight. Serve with tortilla chips.

Plus: Sharp knife, cutting board, medium-sized bowl

(Adapted from superhealthykids.com)

CLASSROOM ★ Connection ★ Tomato Truckin'

It's not easy to move a large amount of produce from the field to the processing plant. Immediately after harvesting, semi-trucks transport tomatoes from the field to the processing plant. Each truck can hold 50,000 pounds of tomatoes—equivalent to the weight of four African elephants. The wheel is a simple machine that plays an essential role in transportation.

Materials: Shoebox or other small box, 3 pounds of tomatoes, skateboard or similar rolling object, large rubber band, vegetable oil. Access to smooth and carpeted environments.

Procedure:

1. Read the mini book, *From Soil to Sauce: All About Tomatoes*. After discussing the book, invite students to help make a model of a tomato truck.
2. Loop the rubber band through a hole in the shoe box (make a small hole if necessary) to make a handle. Place the tomatoes in the shoe box. Use the handle to pull the tomatoes a short distance. Work together to identify the different parts of the model: the shoebox is the trailer, the tomatoes are the load, and the force is coming from the person pulling the rubber band. Observe how much force is required to move the tomatoes.
3. Place the shoebox on a skateboard and use the handle to pull it a short distance. Observe how much force is required to move the tomatoes. Complete part one of the student worksheet. Discuss how wheels make work easier.
4. Invite students to test their tomato truck on different road conditions and compare the amount of force required to move the load.
 - a. Pull the tomatoes across a smooth surface to represent **highway** conditions.
 - b. Pull the tomatoes across thick carpet to represent **field** conditions.
 - c. Rub a small amount of vegetable oil on a smooth surface and add drops of water to represent **wet** conditions.*
5. Complete part two of the student worksheet. Discuss students' observations.

*Most dry roads contain a layer of tar, rubber, and oil. When it starts to rain, these substances can mix with the water, creating a greasy layer that can be very slippery.

Objective:

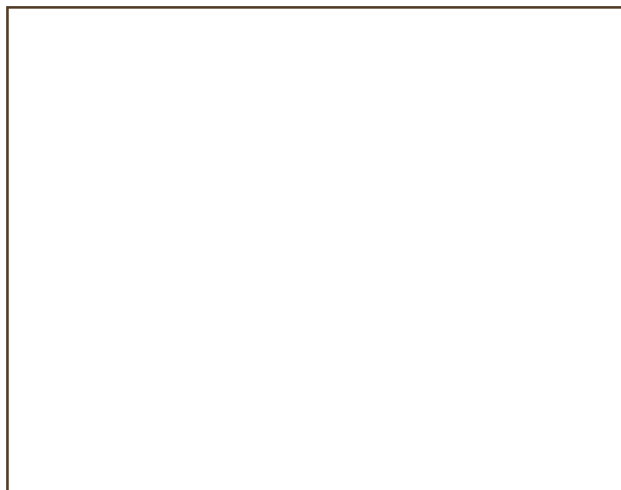
Students will understand how wheels make work easier. Students will conduct an investigation to compare the force required to move a load of tomatoes in different conditions.

California Standards:
NGSS: K-PS2-1, K-2-ETS1-2

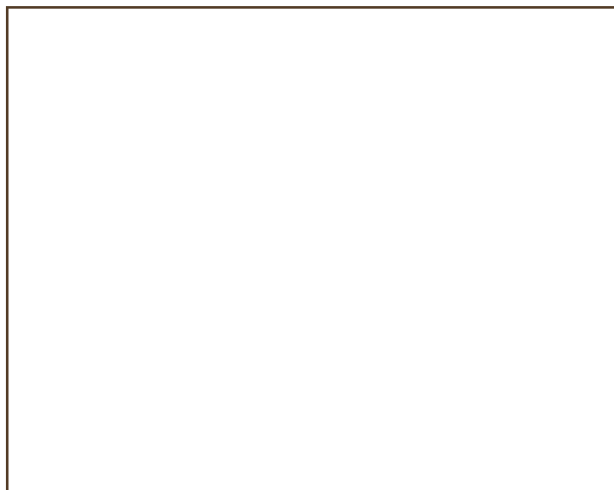
Tomato Truckin'

Part 1

Draw each model. Use an arrow to show the direction of force.
Place a happy face next to the model that was easiest to move.



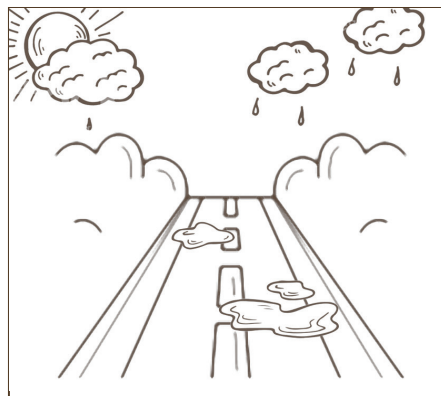
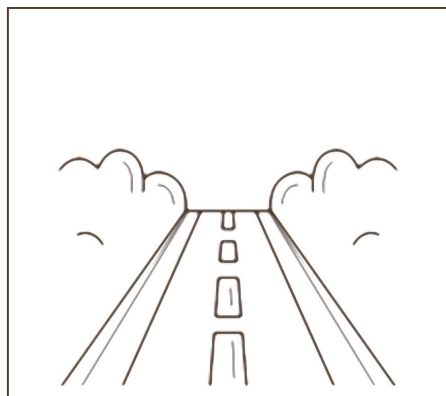
No Wheels

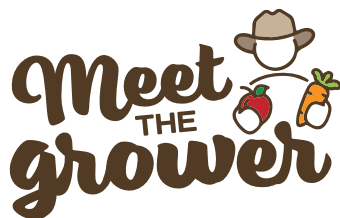


Wheels

Part 2

Tomato trucks are driven in different conditions. Label each road condition, and circle the road condition that requires the most force.





In this video interview, tomato farmer Chris Coelho shares the juicy (tomato juice, that is!) details about his farming operation, including why he's always wanted to be a farmer and the unique qualities of processing tomatoes.



SCAN ME

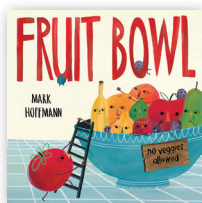
DIG DEEPER

These books, websites, and other resources will help you and your students learn more about tomatoes.

BOOKS

Fruit Bowl by Mark Hoffman

Who belongs in the fruit bowl? When Tomato tries to hop in, the rest of the fruit bowl objects. Can Tomato use scientific thinking to convince the others that he belongs?



From Tomato to Ketchup

by Roberta Basel

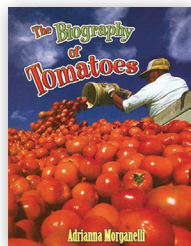
This nonfiction book provides an introduction to the basic concept of food production, distribution, and consumption by tracing the production of ketchup from tomatoes to the finished product.



The Biography of Tomatoes

by Adrianna Morganelli

This fact-filled and descriptive book will help readers learn the tomato's history, how tomatoes have become a major part of our diet, and whether a tomato is a fruit or vegetable.



WEBSITES

tomatowellness.com

Representing all tomato products, the Tomato Wellness Council educates consumers about the many health benefits of tomato consumption. This consumer-focused website features recipes, videos, and more.

ctga.org

The California Tomato Growers Association website highlights tomato facts, production statistics, and health information. Consumers will enjoy featured chef profiles and related recipes.

learnaboutag.org

The California Foundation for Agriculture in the Classroom provides free resources to teachers. The resources highlight many of California's 350 agricultural commodities, including processing tomatoes.

RESOURCES

Lesson Plan: Tomato Trivia (Grades K-2)

By California Foundation for Agriculture in the Classroom

Using tomatoes as a theme, students will practice their math and science skills of estimating, measuring, counting, graphing, and sequencing.

Lesson Plan: Tomato Exploration (Grades K-5)

By Growing Minds

Introduce students to different varieties of tomatoes, how they grow, and how they taste. Students will create a three-dimensional model of a tomato using basic craft supplies.

