



TOMATO TIME

A year of activities for second graders exploring tomatoes and tomato production in the Sacramento Region of California

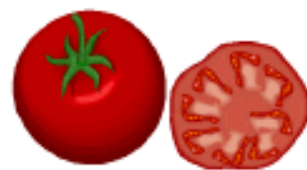
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Tomato Time

A Brief Introduction



Tomato Time is an integrated set of lessons for second graders designed to be presented throughout a single school year. The lessons use garden based education to support certain core subject area standards while exploring one of the most important food crops in California. As a whole, ***Tomato Time*** provides the opportunity to study many facets of food production, preparation, consumption, and even waste management. These comprise a set of concepts that the California Department of Education (CDE) and UC Davis Children's Garden Program refer to as "Seed-to-Table."

Tomato Time was created as part of a CDE Nutrition Services Division grant titled "Farmers Market Salad Bars Link Gardens and Nutrition Education for Healthy Students and Enhanced Learning" awarded to Davis Joint Unified School District (DJUSD) in 2001. Davis Farm to School was instrumental in securing the grant. (www.davisfarmtoschool.org)

The ***Tomato Time*** activities were developed with a DJUSD teacher team that included teachers at all grade levels from three elementary schools. With cafeteria salad bars and school garden programs in mind, teachers explored a number of ideas for nutrition education. A set of activities around salsa making for second graders was the idea that

resonated most with the group, and this ultimately became ***Tomato Time***.

Tomato Time lessons 1–5 were field tested with six second grade classes at Pioneer Elementary School in Davis. All second grade teachers at Pioneer were trained in the presentation of all ***Tomato Time*** activities.

Two of the lessons are adapted from the teaching material "Kids Cook Farm-Fresh Food" by Sibella Kraus. This is available through CDE Press.

Karrie Stevens, former Farm to School Coordinator for Community Alliance with Family Farmers, was a strong contributor to the concepts incorporated in ***Tomato Time***. She developed and planned spring season farm visits in Yolo County for DJUSD second grade classes and used this experience to contribute valuable ideas to Lesson 6.

At this time, ***Tomato Time*** is available on a limited basis from Carol Hillhouse at the UC Davis Children's Garden Program. (ichillhouse@ucdavis.edu)





Tomato Time

Directions to Teachers

Tomato Time is a set of seven activities designed to be conducted at intervals over the course of the second grade school year from September through early June. Included in this packet are directions for guiding the activities.

Tomato Time is most effective if presented in its entirety, because certain lessons naturally set the stage for subsequent lessons. For example, fall harvesting and cooking with tomatoes is followed by seed saving from the crop, which prepares students to plant in the spring for the following fall's harvesting and salsa making. However, teachers may choose to present certain lessons and skip others.

Tomato Time is best used after attending a UC Davis Children's Garden Program workshop introducing the concepts and activities. Educators with a general understanding of nutrition, gardening, and agriculture may find this easy to do without attending the workshop.

Each lesson is written for the teacher, but some also refer to materials designed for student use. These are found in the Supplementary Materials section and can be duplicated. Some of these materials, such as recipes and life cycle cards, can be used repeatedly if laminated. Additional resource materials for teachers are also included in the Supplementary Materials. Teachers may choose to use them either for student enrichment or as additional background information.



Tomato Time and the California State Standards



With the adoption of standards for the core subjects in 1998, California joined a nationwide movement toward standards based education. The California Standards define the content students need to learn at each grade level, K-12. They are intended to ensure that a consistent level of rigor is maintained and that the same concepts are being taught in all classrooms at each grade level, be they across the hall or at opposite ends of the state.

While standards determine what and when concepts are to be taught, they do not determine how they will be taught. The “how” is left up to teachers, schools, and districts. This flexibility in selecting instructional materials and strategies opens the door to using school gardens.

The garden experience can be a vital partner for standards based education. On the one hand, gardening brings life to the standards, and on the other, explicitly teaching the standards ensures that the garden experience is as deep as possible. The garden provides a full context in which to explore, connect, and expand concepts in the

standards. Yet rich as it is, the garden experience can only be fully realized if coupled with explicit instruction and clear connections.

Second Grade Standards

Second grade lends itself naturally to garden-based education. The science standards require second graders to study life cycles and plant responses to the environment. For the first time, they look at soil components and learn that soil is a resource. In history-social science, they consider people who make a difference in their lives and learn about those involved in producing and processing their food. They study California land use and learn simple mapping skills.

At the second grade level also, the English language arts and math skills translate easily into activities related to a school garden. Students’ understanding of narrative and informational text as well as their overall proficiency in written and oral communication can be extended using reading, writing or speaking assignments that relate to gardens and/or agriculture.

Tomato Time and other Standards

In *Tomato Time*, English-Language arts are supported most strongly in *Lesson 6. Field trip to a Local Farm*. Students often write thank yous and/or narratives about the event.

Likewise in math, students are adding, subtracting, multiplying, measuring, and collecting and analyzing data—all tasks that can emerge from real life work around a school garden. Here, math skills are supported in *Lesson 3. Making Salsa Fresca*, and through simple extensions in *Lesson 5. Seed Saving with Tomatoes*.

Studying the tomato plant from fall harvest through seed saving and planting in the spring provides a rich experience of plant life cycles. At the same time, these activities support standards in each of the core subject areas.

Tomato Time



An Overview of the Seven Lessons

Below is a brief description of each of the lessons and a suggested order and time of year in which to do them. Simple extensions to a lesson are indicated in italics. Below each lesson description, the core subject area and specific standards that are supported through the lesson are listed. In addition to supporting teaching in the core subject areas, some of the activities also support nutrition education.

Lesson 1.

Tomato Production in California and in our Local Region

Fall

Supports: HISTORY/SOCIAL SCIENCE 2.4, 4.1, 4.2, 4.3

- Discuss where tomatoes grow in this region
- Think about who grows and distributes tomatoes
- Find out how tomatoes are consumed and what products require them
- Understand the role of tomatoes in our regional and state economy
- *Discuss the environmental resources required for tomato production*

Resources in Packet:

- *CA's Major Tomato Production Regions with map;*
- *Tomato Production background Information for Teachers & for Students;*
- *Ag in the Classroom's Processing Tomatoes Commodity Fact Sheet*

Lesson 2.

The Tomato Plant Life Cycle

Fall

Supports: SCIENCE 2.0

- Use tomato picture cards that children can place in sequence
- View real plants/seeds at different stages of growth in school garden

Resources in Packet:

- *Reproducible tomato life cycle cards*
- *Reproducibles of tomato plants for identifying plant parts*

Lesson 3.

Making Salsa Fresca, Adapted from "Kids Cook Farm Fresh Food"

Fall

Supports: SCIENCE 2.0

- Harvest tomatoes, cilantro and onions from school garden if available
- Discuss/practice hand-washing before food preparation

- Make and eat Salsa Fresca in the classroom

Resources in Packet:

- ***Recipe for Salsa Fresca (Adapted from Kids Cook Farm Fresh Food)***

Lesson 4.

Eating from USDA's MyPlate

Fall

Supports: NUTRITION EDUCATION

- Explain the concepts behind MyPlate
- Students place chips and salsa and other food items on a MyPlate graphic
- Discuss other food children eat at school and place them on MyPlate
- Students fill in their own MyPlate with pictures and/or words

Resources in Packet:

- ***MyPlate graphic (also available from <http://www.choosemyplate.gov/images>)***

Lesson 5.

Seed Saving with Tomatoes

Late Fall

Supports: SCIENCE 2; MATH-Number Sense 1, 2

- Harvest tomatoes and save seeds
- Clean seed and set to dry 1 week later
- Inventory and store seeds 3 weeks later
- Discuss planting seeds in spring
- *Show tomatoes of different varieties with different characteristics*
- *Using seed saved, estimate quantities, check estimates, solve simple number problems*

Resources in Packet:

- ***Saving Tomato Seeds card from www.HOMEGROWN.org***

Lesson 6.

Field trip to a Local Farm

Spring

Supports: HISTORY/SOCIAL SCIENCE 2.1, 2.4, 4.1, 4.3,

ENGLISH LANGUAGE ARTS-Writing Applications 2.1, 2.2, NC 10

- Identify farm location and route to the farm on regional map
- Meet the farmer
- Learn about his/her work
- learn how they grow tomatoes on this farm
- Write thank you letters or trip narratives

Resources in Packet:

- ***Farmer Field Visits Resource List***
- ***Cities and Farms (Adapted from Kids Cook Farm Fresh Food)***

Lesson 7.

Growing Tomato Plants at School

Spring

Supports: SCIENCE 2, 4; MATH-Measurement and Geometry 1

- Plant tomatoes in seed flats or pots in the spring
- Transplant into school garden before the end of the school year
- Stake and care for the crop through the summer
- *Measure growth of tomato seedlings*

Resources in Packet:

- ***Preparing Soil for Planting***
- ***Planting the Tomato Plant Instructions***





Tomato Time

Suggested ways to use this year-long set of activities that link school gardening, classroom cooking, and nutrition education while supporting the CA state standards

FALL

- 1. Discussion of tomatoes' importance and their economic role in this region*
 - a. Introduce Tomatoes in Yolo County*
- 2. Becoming familiar with the tomato plant life cycle*
 - a. View drawings of tomato life cycle (reproducibles in packet)*
 - b. Show real plants at different stages and seeds if possible*
 - c. Have students sequence life cycle cards*
- 3. Making Salsa Fresca from tomatoes grown in your school garden (from tomatoes planted in previous spring if possible)*
 - a. Demonstrate hand-washing technique and discuss the importance of sanitation & food safety*
 - b. Lead students in making Salsa Fresca (Kids Cook Farm Fresh Food)*
- 4. Nutrition Connections*
 - a. Explain MyPlate and accompanying concepts*
 - b. Have students place/draw chips and salsa and other food items on MyPlate*
 - c. Discuss nutrition concepts, emphasizing fruits and vegetables in a healthy diet*
- 5. Seed Saving Demonstration*
 - a. Show tomatoes of different varieties with different characteristics*
 - b. Demonstrate or have children do seed saving*
 - c. Discuss planting seeds in spring*

WINTER

- 1. Count and store seeds*
- 2. Make seed packets with labels*

SPRING

- 1. Visit a local farm that grows tomatoes*
- 2. Write thank you letters or narratives about the visit.*
- 3. Plant tomato seedlings from seeds students have saved.*
- 4. Transplant seedlings into the school garden.*

SUMMER

- 1. Discuss requirements for maintaining the garden over the summer.*
- 2. Maintain tomatoes in the school garden.*