

# Growing Tomatoes

A Lesson Plan

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Montgomery-Ward Adventist Homeschool

Science

K/2<sup>nd</sup> Grade

## **Description of the project**

Students will each be provided with a grape tomato plant. We will plant and water them while talking about how they grow (first the flower, then the fruit develops, starting green and becoming red before it is ready to eat). We will water them well at the beginning. The teacher will plant a regular sized tomato plant so the students can see the regular sized tomato plant growing, though they will not be responsible for it. This will give them the quicker success of grape tomatoes that do not take as long to develop, and at the same time they are able to see the results of the big tomato plant. Each day the students and teacher will come outside to weed and water the tomato plants and, as time goes on, to harvest the fruit. The second grader will keep a dated journal. Every Monday morning, students will take a digital picture of their own personal tomato plant. Every time a tomato is picked, students will mark a bar graph to tally the progress. After six weeks, each student will create a slide show and give a presentation on "My tomato plant".

**Journal:** The second grader will keep a journal. The first entry will have a couple sentences describing the planting process. Each following day should have a sentence or two describing anything new about the plant (new flowers, new fruit, fruit changing color, etc). If there is nothing noticeably new, it can describe the daily watering/weeding process. Each entry should be dated, neat, and accurate.

**Bar Graph:** Since there are currently two students and one teacher, I will print out a paper with three columns labeled with names. Each time a tomato is harvested, a mark will be colored in the correct column on the bar graph.

**Slide Show:** Each student should make a title page that says, "My Tomato Plant" and then include the six weekly pictures in order.

**Presentation:** Each student will show his/her slide show, explaining things as they go, and show and explain the bar graph.

## **Faith Integration**

This lesson lends itself to a lot of spiritual lessons. First, the obvious, how God created plants to grow fruit, how he created seeds in fruit to produce more fruit, how Satan created weeds to make it hard for the fruit to grow and we need to get rid of the weeds and water the plant, and with the sunshine and soil God created, it will grow. Of course, comparing ourselves to plants, physically, we need sunshine, fresh air, and water to help

us grow. Weedy things (like sickness) can make life harder for us. It makes a good parable too, God gives us lots of nourishment, from the Bible, singing worship songs, telling others about God, learning from church and Sabbath School. The weeds in our lives, like bad habits that we have or TV shows that make us not want to spend time with God, can make it hard for us to grow spiritually. I (as the teacher) plan to talk a little bit about each of these things during the daily times when we go out to weed/water the plants. Giving just a little bit each time makes it not seem long and tiresome, and with careful planning, a lot of ideas can be covered in six weeks by doing just a little bit each day.

This Bible text sums up a lot. Though it can be done best by parents, I think it applies to teachers too:

And you shall teach them to your children, talking of them when you are sitting in your house, and when you are walking by the way, and when you lie down, and when you rise.

Deuteronomy 11:19 RSV

### **Curriculum Benchmarks**

Students will be working on #1 and #3. For #1, Basic Operations, they are becoming proficient with technology, both by using the digital camera and by making the slide show. For #3, Technology Productivity Tools, students will be using technology to produce the cover page and the slide show.

### **Materials Needed**

Tomato plants  
Garden patch to plant them  
Hose and water source to water them  
Shovel to plant them  
Digital camera  
Computer with KidPix 3.0  
Notebook for Journaling

### **Teacher Preparation**

Teacher must have tomato plants ready to plant on the first day, and water source ready and waiting to water the plants each day. The digital cameras must be ready to use each Monday morning. The teacher must have the spiritual thought for the day ready to present quickly and easily each morning at the beginning of the weeding/watering time.

### **Student Preparation**

Students must be told at the beginning of the planting time and reminded frequently of the importance of treating plants carefully and pulling weeds from the bottom and watering plants from the side. They have already had experience doing things in Kidpix and taking pictures with the digital camera, but they need reminders to hold the camera still and such. Much more help and guidance will be given to the Kindergartener to accomplish the tasks.

### Activities/Procedures

Students will be involved in planting, weeding, watering, and harvesting tomatoes from their plants. The second grader will keep a journal, and both will keep a bar graph and take pictures of their plant every Monday. At the end of six weeks, they will each create a slide show and present it.

### Assessment/Evaluation

Students will be evaluated according to age and maturity level, though the basic evaluation standard is the rubric below.

Category	4	3	2	1
<b>Daily Participation</b>	Daily watering/weeding done with pleasant attitude without distraction. Plants treated with care.	Watering/weeding done most of the time without much distraction. Plants treated reasonably.	Watering/weeding done occasionally with many distractions. Reminders needed frequently. Plants treated carelessly.	Watering/weeding done rarely. Distracts other students from their work. Plants treated roughly.
<b>Journal</b>	Neat, accurate, dated journals written every day.	Mostly neat, accurate, dated journals written most of the time.	Dated journals written occasionally, but the accuracy might be questionable.	Journals written rarely, and those that are written are inaccurate and sloppy.
<b>Bar Graph</b>	Graph labeled and filled in neatly and accurately.	Graph labeled and filled in carefully but with small errors.	Graph labeled and filled in carelessly with some errors.	Graph incomplete or very inaccurate and sloppy.
<b>Slide Show</b>	Slide show has a neat title page followed by six ordered pictures of the tomato plant.	Slide show has a title page followed by 5-6 mostly ordered pictures of the tomato plant.	Slide show missing 2-3 parts, but still mostly orderly	Slideshow has been attempted, though 4 or more of the 7 slides are missing.
<b>Presentation</b>	Student speaks clearly and loudly, makes eye contact, and can explain a bit about each picture and the bar graph.	Student speaks mostly clearly and loudly, mostly makes eye contact, and can explain a bit about most of the pictures and the bar graph.	Student sometimes speaks clearly and loudly, makes some eye contact, and can explain a bit about some of the pictures and the bar graph.	Student speaks softly and/or not clearly, makes little eye contact, and explains very little about the slide show and the bar graph.

**Follow-up Activities**

Students will be encouraged to show their slide shows, bar graphs, and tomatoes to others (like grandparents).

We will take time to make some spaghetti sauce and tomato sandwiches with the tomatoes from the big tomato plant.