



# Hydroponics and the Tree of Life

*One parent's interest brings message to California school*

Sara Landon, a student at the Tree of Life School in Ukiah, Calif., takes a close look at the carnivorous plant she was given as part of her class's introduction to hydroponics.

*As owner of the Garden Spout in Wil-lits, Calif., Gaby Bronstein is used to making presentations to any community group that wants to hear about hydroponic gardening – garden clubs, senior groups, scouts.*

*As a father whose children attend the Tree of Life charter school in nearby Ukiah, he likes to be involved in his children's life and education.*

*Last fall, the two came together, as Bronstein became a classroom regular at the Tree of Life, teaching the kids about hydroponics.*

*"My main goal was to contribute something. This is what I was most capable of doing," Bronstein said, "I'm always trying to promote indoor gardening and hydroponics as a viable option ... Starting with kids isn't a bad thing."*

*Bronstein got equipment donated by General Hydroponics and Sunlight Supply and put the kids to work.*

*"We set up some systems, started our*

*own seedlings and did some experiments," he said.*

*Bronstein has returned often to the school as a regular visitor, sending carnivorous plants home with each of the kids to keep them excited about horticulture, and helping them run more tests.*

*He admits he gets as much out of it as the kids, maybe more.*

*"I probably have the most fun. It's kind of like when a parent goes to his kid's baseball game he usually gets more excited than the kids do."*

*Because this was a classroom project in which the students were doing the work –Bronstein made sure they did ALL the work.*

*That's why the story that follows is written by the students, with photographs taken by other students. Because this is their project, and Bronstein wanted them to tell their story.*

*– John Baur, The Growing Edge*

## **By Athena Teschendorf and Rachel Berner**

One day, Gaby Bronstein, owner of the Garden Spout, came to Ukiah to talk to the 7th-9th graders of Tree Of Life Charter School. Now the 7th-9th graders are telling YOU why you should grow indoors.

What's so special about growing indoors? Well, growing outside limits you on when, where, and what you can grow. For example, some plants need plenty of sunlight while others need very little. What if you live in California and it's winter, how are your precious tropical plants going to survive? With indoor gardening we can make this possible!

When Gaby Bronstein came into our classroom he introduced us to hydroponics and indoor gardening. We learned that hydroponics is used in desolate places such as Israel where there's not much water. With hydroponics, you re-use and therefore conserve water. Gaby split the class into groups, with one student in each group taking notes (Rachel Thomas, Emi Landon, and David San

Diego,) one in each acting as photographer (Athena Teschendorf, Rachel Berner, Joey Hoaglin,) and two writers (Athena Teschendorf and Rachel Berner.) The whole class got to take care of the plants. He also told us we were going to get carnivorous plants and we were really excited! We got to take them home.

Over the past month we have been taking care of tomatoes, basil, and sunflower plants indoors hydroponically and it has been quite an experience.

We started an experiment to see if sunflowers will grow better in rockwool or coconut fiber. We observed that the sunflowers that grew in the rockwool did not grow as large as those in coconut fiber; the plants in the coconut fiber actually grew more than twice the size of the sunflowers in the rockwool. Over days we watching them grow and noticed that the roots of the sunflowers in rockwool went straight to the bottom of the medium, as if it is trying to escape. In the coconut fiber, the plants appeared to like their environment. We could tell because the roots were occupying every part of the medium, The coconut fiber plant grew to be seven inches tall, with four sets of leaves. The



Gaby Bronstein, owner of the Garden Spout, teaches hydroponics to a class at the Tree of Life School in Ukiah, Calif.

plants in rockwool grew to be three inches tall with three sets of leaves.

We interpreted this as the sunflower was not as happy in the rockwool compared to coco fiber.

Then we did another experiment, planting two tomato plants in coconut fiber, using a hydroponic system called the Power Grower, which uses air to push the nutrients from the reservoir up to the coco pot. We added nutrients (3 part Gro, 2 part Micro, and 1 part Bloom) in one of the tomato's reservoir and the other had just water. In the end the result was that the one with the nutrients grew

really well, while the other one yellowed and died.

This was a very good experience and it was fun to do. And our experiments continue. Currently we are testing whether sunflowers grow better in coconut fiber, rockwool, or clay pebbles.

We thank General Hydroponics and Sunlight Supply for donating equipment, and Gaby Bronstein for coming into our class and teaching us very fun stuff!!

*Athena Teschendorf and Rachel Berner are students at the Tree of Life charter school in Ukiah, CA.*

**Water Chiller Unit**  
provides a controlled environment for hydroponic & aquatic systems



Water Chiller Units cool, aerate and circulate the water in one operation. They are available in 1 hp units with a capacity to cool up to 1,000 gallons of water.

Also available with heating elements.  
As recommended by columnist Gordon Creaser.

For more information please write or phone for our Brochure and Current Price List, or visit us at [www.frigidunits.com](http://www.frigidunits.com)

**frigid units, inc.**  
5072 Lewis Avenue  
Toledo, Ohio 43612  
419/478-4000

**THE DARKROOM**

- Highly reflective interior
- Thermally protected
- Solid frame - Supports 65 lbs
- 100% light-proof material
- Moveable roof cross-members
- Easy assembly & disassembly
- Adjustable Dual-Sock Ports
- Completely non-toxic

original sizes: (DR150 shown)

DR80:	2'8" x 2'8" x 5'3"
DR120:	3'11" x 3'11" x 6'7"
DR150:	4'11" x 4'11" x 6'7"

NEW SIZES AVAILABLE

DR40:	1'4" x 1'4" x 3'11"
DR300:	9'10" x 9'10" x 6'7"
DR150W:	4'11" x 2'8" x 6'7"
DR240W:	7'10" x 3'11" x 6'7"
DR300W:	9'10" x 4'11" x 6'7"

everest GARDEN SUPPLY  
[everestgardensupply.com](http://everestgardensupply.com) (888) EGS-2007 260 margie drive, willits, ca 95490

TOPAZ SEQUENCE HYDRO SOLUTIONS  
HANNA Instruments GROWLAB HydroLogic HotBox INTERNATIONAL