Discovering Hydroponics in the Classroom for Beginners!

By: Cheryl Butterfield, Traci Curry, & Kathleen Tarpo
Welcome:

- Introductions:
  - THAT’S ME!

Yes, New Mexico is actually a part of the United States... and no, you don't have to convert your dollars into pesos....
Why hydroponics?

- It’s in the classroom happening before your eyes!
- Leads to questions and constant discovery
- Conserves water
- Happens quickly all year long
- Is one big science experiment
Why hydroponics?

“The principle goal of education in the schools should be creating men & women who are capable of doing new things, not simply repeating what other generations have done.”

-Jean Piaget
Grow curiosity: 49 day (hands off) trail
Grow big or go home:
Easy set up!

- Thank you to Portland teacher Kathy Tarpo for making it possible to see a set up here!

- Look to recycle
  - Handout of basic supplies
Please do NOT touch... our seeds are working hard!
John Turrietta

- 5th grade teacher
- Martin Luther King Jr. in Rio Rancho, NM
- Attended “Get Wow’d” teacher workshop with Ag in the Classroom
- My family “left the farm” after the Great Depression
1. It’s not hard! On the next slide will be the system that I used.....I was able to put it all together pretty easily.
2. It’s fun! The entire concept is new to the students!
3. You can grow crops during the winter.
4. You can eat fresh vegetables in the class – food they’ve planted themselves.
5. Did I mention that it’s not hard? As someone that plants a garden every year at home, I’ve never had an easier and more beautiful crop of ANYTHING like the hydroponic garden.
Some things that I learned:

1. To change the water, make it easy. A pool noodle works great from the faucet to the tub. How will you get the tub there? I used a small wheeled platform. I kept the tub on the platform so that I could wheel it to the sink.

2. How will you empty the water from the tub? I used a small submersible pump that I bought at Harbor Freight to pump water into the sink.

3. Are you planting a crop that requires pollination? Bees are hard to come by in the classroom setting. After talking with Traci, I came up with a “Bumblebee of the Day” job. They went from flower to flower with a Q-Tip or small paint brush.
1. Seeds go in rockwool grow media.
2. Media goes in net cup
3. Cover media and fill gaps with clay pebbles inside net cup
4. Net cup goes in holes cut in the top of the tub
5. Water must be high enough in the tub to touch about \( \frac{1}{4} \) - \( \frac{1}{2} \) inch of rockwool media
6. Water in tub should have food specifically for hydroponic gardens
7. Place under grow light (with timer).
Lettuce was the best crop for me – ended with tacos using the leaves for the taco shell.

I could never grow these beautiful heads of lettuce outdoors in Rio Rancho. (Amazon sells seeds specifically for hydroponic gardens).
What Now?

Cheryl Butterfield
New Mexico 4-H
Standards

- Common Core
- Language Arts
- Social Studies
- Mathematics
- Science
- Visual Arts
- Career Readiness
- Health Education
Accurate Agriculture Books
Nutrition

What is the nutritional value of this plant?

https://www.choosemyplate.gov
Letter From a Farmer

• What is the history of the plant?
• Where is it grown?
• What part of the plant do we eat?
Adult Helpers

- Invite Parents to Help
- Influencing Comments
Food Safety

• Wash Hands
• Wash Surfaces
• Wash Produce
Tasting Lesson
Tasting Lesson
Tasting Lesson

Kale

Romaine
Tasting Lesson

Romaine

Kale
Tasting Lesson
Tasting Lesson
Tasting Lesson
Tasting Lesson

Basil  Dill  Parsley
Graphing

Number of Students

Vegetable Varieties
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