

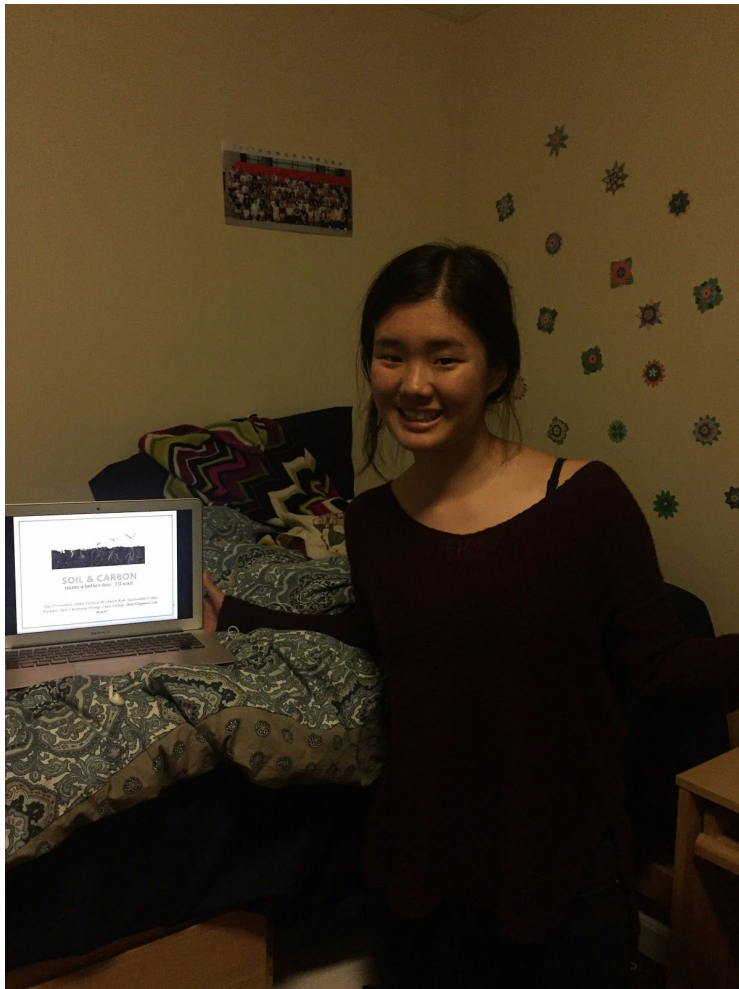
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Since classes were already out by the time I was working on this challenge, I gave my presentation to my 5 suitemates and a couple friends in my room. Here's a picture of me presenting to my friends about the power of soil to sequester carbon.



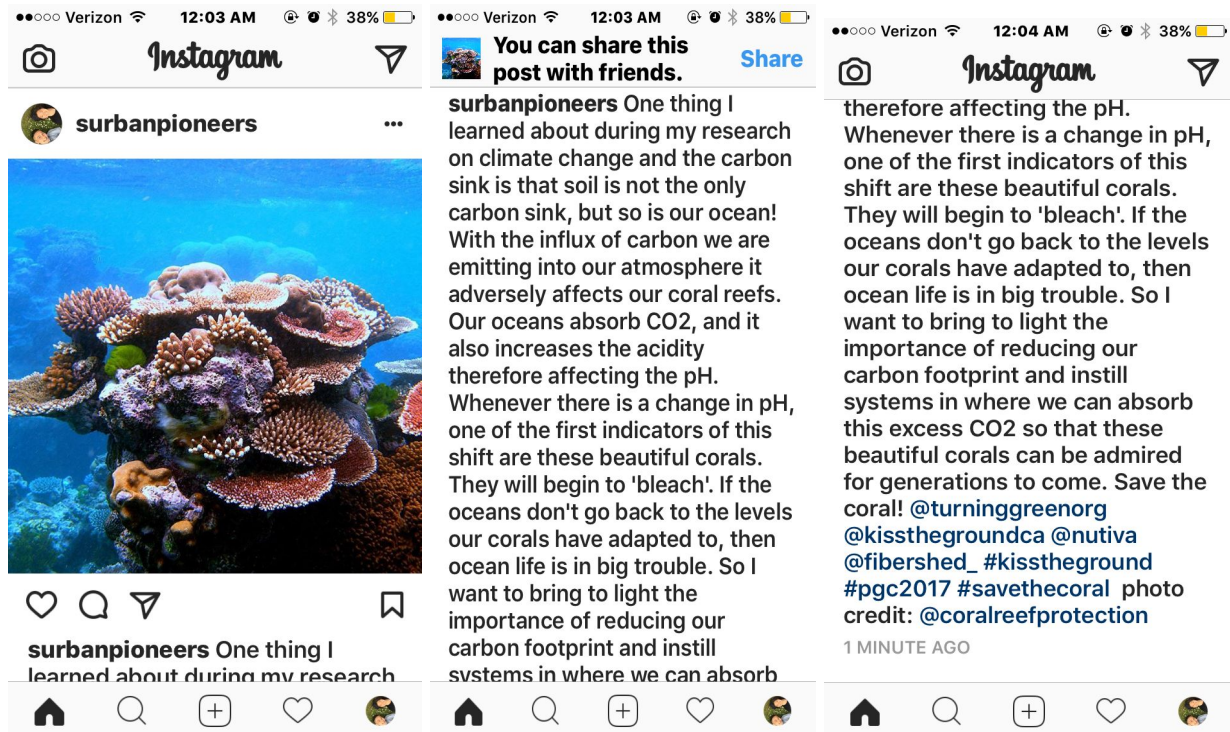
For our lesson, we used both a powerpoint presentation and a “worksheet” that students could follow along with. Our students were very enthusiastic. One of my suitemates actually worked

over the summer at an agency that was working on carbon farming and knew a lot about this topic already. I enjoyed being a teacher. It was a little scary to go up in front of my friends and talk about a topic that I just started to really get familiar with today. I was a little scared that I would not be able to answer my friends' questions, but I think we all agreed that we are all students and this was a mutual learning experience. I think I was well-prepared and my friends learned a lot.

A question my friend asked: If there are no financial incentives to helping to mitigate global warming, why would a farmer take money out of his own profits to switch to more sustainable methods? What is in it for the farmer?

I led them towards an article I read regarding programs that give carbon credits to farms based on the sustainable practices that each farm does (<https://modernfarmer.com/2016/04/carbon-sequestration/>). California, Australia, Kenya, and Alberta have these programs and hopefully, they will spread to more states and countries soon. I also talked about how this enhanced soil can lead to more nutritious and tasty crops and increases the longevity of farms.

Screenshot:





SOIL & CARBON

name a better duo...I'll wait

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WHERE IS OUR CARBON?

Atmosphere

Carbon dioxide is a heat-trapping gas that is produced through human activities like deforestation, land use changes, and burning fossil fuels.



Oceans

Oceans are getting acidified because of an excess of carbon, this affects marine life and climate change has large effects on coral.

THERE IS TOO MUCH CARBON IN OUR ATMOSPHERE AND OUR OCEANS, WE DON'T HAVE ENOUGH STABLE CARBON IN OUR SOIL.

INDUSTRIAL AGRICULTURAL COMPLEX

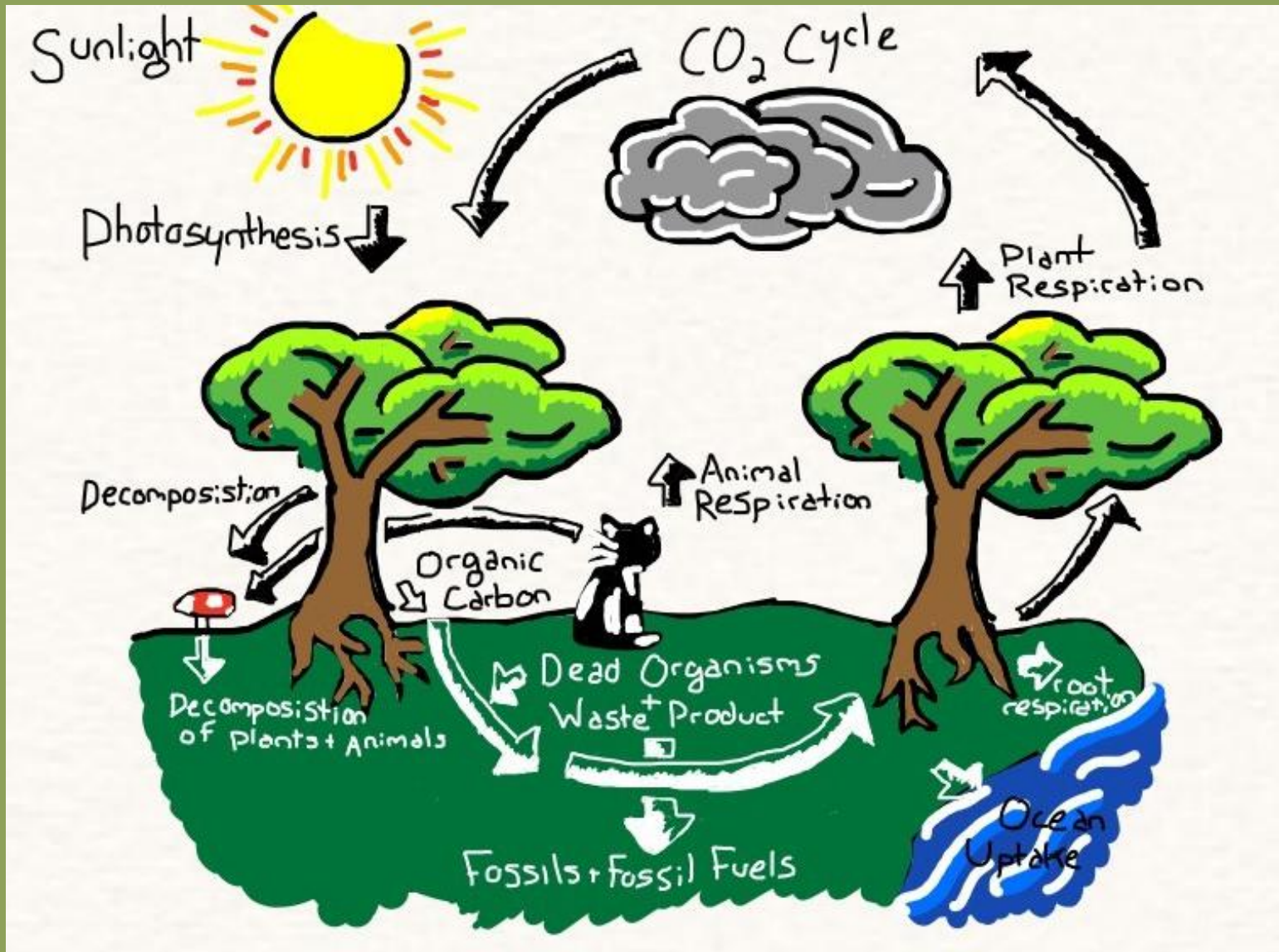
- Agriculture contributes at least 30% of global GHG emissions
- Synthetic nitrogen fertilizers are responsible for 60% of global NO emissions
- Many of the world's soils have already lost 50-70% of their original carbon stocks
- Unsustainable farming practices are hurting our entire planet



THE SOLUTION

What if I told you that there is a solution that can both tackle the industrial agricultural complex and help mitigate climate change? And that this solution is literally right beneath our feet?

CARBON CYCLE 101

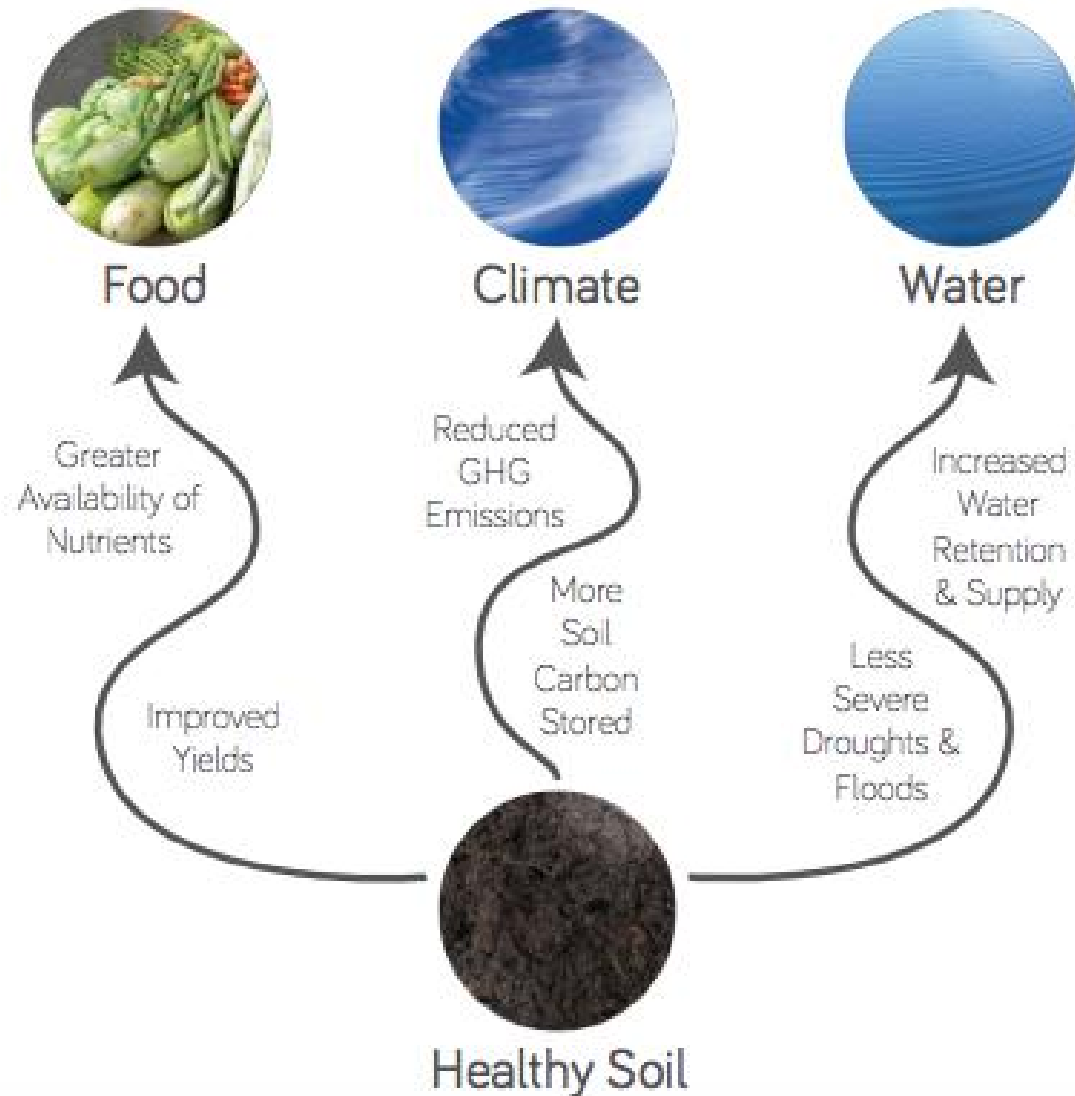


HOW CAN FARMERS SEQUESTER CARBON IN SOIL?

- Decrease the level of soil disturbance/tilling
- Add organic matter to the soil
- Improve soil microbial diversity and abundance
- Maintain continuous living plant cover on soils year-round
- Agroforestry that combines crops, trees, and animal husbandry

**MANY OF THESE TECHNIQUES ARE
ALREADY USED ON ORGANIC
FARMS**

The Soil Connection



The background of the slide is a close-up photograph of dark, rich soil that has cracked into irregular, polygonal shapes. Several small, vibrant green plants are scattered across the surface, some growing in the cracks. The entire image is framed by a thin, light green border.

THANK YOU!

Any questions?