



Green Teacher

Post-webinar information

The Joy of Garden-based Education

by Cathy Law – Wednesday, April 8th, 2020

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Feedback survey link: <https://www.surveymonkey.com/r/PTL9FY2>

Resources

Books

- E.O. Wilson, *The Future of Life*, 2002
- Nature Fix, Florence Williams. W.W. Norton and Company, Inc. New York. 2017.
- The Nature Principle. Richard Louv. Algonquin Books of Chapel Hill. North Carolina. 2012
- This is Your Brain on Nature. National Geographic Magazine. By Florence Williams. 2017

Online

- Soil Sam lesson plan:
<http://www.agintheclassroom.org/TeacherResources/InterestApproaches/Soil%20Sam%20Single.pdf>

Podcast

- Rewilding the American Child- by Commonwealth Club of California. Given by Florence Williams

Articles

- Law, C. (2019, November 11). Greening Your Schoolyard with Native Plants. *Green Teacher*.
<https://greenteacher.com/wp-content/uploads/2019/11/Greening-Your-Schoolyard-with-Native-Plants-Law.pdf>
- *New York Times*. Writing Prescriptions to Play Outdoors
https://www.nytimes.com/2018/07/16/well/writing-prescriptions-to-play-outdoors.html?auth=forgot-password&referring_pv_id=rsgbNdWW0-G7_aIZzsFQlrqW
- Collective Evolution
Doctors Explain How Hiking Actually Changes Our Brains, by Alanna Ketler
https://www.collective-evolution.com/2016/04/08/doctors-explain-how-hiking-actually-changes-our-brains/?fbclid=IwAR3crw2Mn3IXyawqAPOJi7m2xeUEX8BU5ygRKXY_XgX2TNFHVrxI1A1LmiA
- CN Health

US Teens Use Screens More Than Seven Hours a Day on Average
<https://www.cnn.com/2019/10/29/health/common-sense-kids-media-use-report-wellness/index.html>

- PMC
Effect of Forest Bathing Trips on Human Immune Function by Qing Li
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2793341/>
- Investigations of human EEG response to viewing fractal patterns Sage Journals. by Caroline Hagerhall et al. 2008 <https://journals.sagepub.com/doi/abs/10.1068/p5918>
- PMC
Urban Green Space and Its Impact on Human Health. by Michelle Kondo et al. PMC. 2018 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5876990/>
- Nature Experience Reduces Rumination and Subgenual Prefrontal Cortex Activation
PNAS by Gregory Bratman et al. 2015
<https://www.pnas.org/content/112/28/8567>
- Why 90% of China's youth Suffer From Near-Sightedness. By Mihai Andrei. 2017. ZME Science <https://www.zmescience.com/other/feature-post/myopia-eye-china/>
- The Epidemic of Anxiety Among Today's Students. by Mary Ellen Flannery. 2018. neaToday <http://neatoday.org/2018/03/28/the-epidemic-of-student-anxiety/>
- Additional Sunlight Benefits. healthline
<https://www.healthline.com/health/depression/benefits-sunlight#benefits>
- Americans Say There's Not Much Appeal to Big-City Living. The Washington Post
<https://www.washingtonpost.com/business/2018/12/18/americans-say-theres-not-much-a-appeal-big-city-living-why-do-so-many-us-live-there/>
- Center for Sustainable Systems University of Michigan
<http://css.umich.edu/factsheets/us-cities-factsheet>
- Singapore: A Nation of Nerds? Asian Scientist
<https://www.asianscientist.com/2015/05/columns/singapore-nation-nerds/>
- Why Fractals Are So Soothing. By Florence Williams and Aeon. The Atlantic. 2017
<https://www.theatlantic.com/science/archive/2017/01/why-fractals-are-so-soothing/514520/>

Cathy's summary:



The Courtyard Gardens at New Paltz High School, New York provides hands on opportunities for outdoor lab for hands on experiences in science, math, history and more. The garden is a place for inspiration in art, music, and writing experiences.

Today children spend over 50 hours a week in front of entertainment media. They are inside, under 'virtual house arrest' staring at a screen rather than outside investigating the mysteries of the natural world. Even when kids are on a family trip driving through some of our countries most beautiful locations, the kids are in the back seat staring at a movie on a pop down screen rather than taking in their surroundings. And we all know that today's children are heavier now than ever in past history. Our children's lives are out of balance.

Richard Louv maintains that children and adults are genetically wired to NEED nature, it is an instinctual part of being human. Perhaps this is because of some innate biophilia that drives us to see and feel the outdoors. And of course, if a child isn't outside exploring the magic of the outdoors they will not gain a sense of "wonder" and respect for the vast complexity of nature. Richard claims that experiencing the wonder of nature gives kids a sense of place and community. Nature study adds joy and happiness to student's lives interpersonally, intrapersonally, through enhancing memory and increased stewardship.

Scientific data backs up the claim that exposure to nature is essential for healthy child development. It helps with ADHD, creativity, weight loss, depression and stress reduction. It increases Vit D production and helps reduce myopia. Kids that are leaders in nature-based play are often the smart ones, while kids that are leaders in paved playgrounds are often the physically strong ones or as I call them- the bad boys.

Spending time in nature makes you more empathetic, more quickly able to pick up on the positive facial expressions of others and better able to recuperate from illness.



Living near a green space helps people to increase their physical and mental wellness and recuperate major from major surgery faster. Spending time in nature keeps us from negative ruminative thought patterns. It also helps us recover from stress better- it reduces our blood pressure, heart rate and cortisol levels. Opening up to the sound of birds and the smell of plants (esp. phytoncides) is also found to be relaxing and healing. The fractal patterns of nature have been shown to produce more alpha waves in the brain and lower stress.

Louv points out that we have started to see a change in the culture around us for instance more cities have green spaces and school gardens are catching on. And there is nature all around us to explore. I have many fun labs that can be done studying the plants that grow in Courtyard Gardens and the insects and birds that come to visit them. The process of discovery and adventure in nature helps kids to remember the lesson better too. Memory, recall and focus are all enhanced when students are in the calm, alert zone of slowing down to nature's rhythms. Students should be asked experience nature with enthusiasm and joy first and not be educated solely on the damage we are doing to our planet.

The benefits and joy of garden based education makes me much more committed to making the outdoors a part of the school day. Bringing students outdoors to learn can help them gain a healthier state of mind, body and spirit. What a wonderful goal for a teacher who loves nature!

Chatbox text

19:34:47 From Claudia Hewston : Missoula MT, I am trying to get into outdoor education and this seemed like a great webinar to join in on :) looking for ways to engage kiddos with the natural world around them.

19:35:03 From Clare St Pierre : Clare from New Zealand, in the Waikato

19:35:22 From Jean Pelezo : Hi from Fayetteville,NC

19:35:27 From Franziska : Is there any supporting written material for this class?



19:35:33 From Jeanne Salchli : I am in NYC and I am attempting to build a garden-based learning program in Brooklyn, NY.

19:35:37 From Laura Jackman : Rossland, BC, Canada

19:35:37 From sherifitzgerald : Aloha from Hawai'i! Looking forward to learning more about garden education

19:35:54 From Susan Bennett : Hi from Colorado

19:36:27 From chloe : Hello from the Gatineau Hills

19:36:34 From Martina : Hi from Denver, Colorado!

19:36:42 From Whitney : Hello from Minneapolis, Minnesota!

19:37:01 From Elizabeth Overcash : Hi from Raleigh, NC

19:37:18 From Beth Cranford : Hi from Durham, NC

19:37:24 From Sabreena Shaller : Will we be getting a certificate of attendance?

19:39:39 From Green Teacher : Certificates will be provided by tomorrow morning for those who have requested them.

19:40:26 From Michele Wrenn : I would like a certificate for participating please

19:40:36 From hcharles : I would like one please and thank you

19:41:06 From Claudia Hewston : I would like to have one as well, thank you!

19:41:14 From laura thompson : `I would like a certificate please!

19:41:19 From Alex : same here!

19:41:29 From Sabreena Shaller : Me as well

19:41:34 From Clare St Pierre : Me as well

19:41:44 From rebecca : I would also like a certificate please!

19:42:02 From Gail Maki : I would like a certificate please!

19:42:12 From Jeanne Salchli : I would like one too

19:42:25 From Green Teacher : Thank you to all who have requested certificates. You will receive them shortly.

19:42:40 From Franziska : Yes please for a certificate. Thank you very much!!!

19:42:49 From Shawn Grose : Me as well!

19:43:25 From Kirsten Springer (she, her, hers) : I am signed up for the credit, paid for it also – Kirsten Springer - thanks!

19:43:37 From Stephanie Southgate : Can I please get a certificate?

19:44:14 From Michele Wrenn : how did you get the funding to start this garden? we are in the process of setting up raised beds for vegetables, but I love this idea.... we have space available to do this.

19:44:14 From Crystal Cavalier : I signed up for a certificate, thank you

19:44:23 From Laura Jackman : that cone flower echinacea

19:45:15 From Kirsten Springer (she, her, hers) : a beautiful garden, we mostly have veggies because we are a farm but do have some edible flowers in the greenhouse

19:45:18 From Gail Maki : I experienced a 5 Senses Garden at the Poudre Learning Center in Greeley, CO

19:45:27 From Kirsten Springer (she, her, hers) : Love the diversity

19:46:31 From breynolds : I actually grow herbs/veggies for Foods I/II Classes.



19:47:29 From Green Teacher : We will post the recording of this webinar on our website tomorrow morning, and we will provide a comprehensive follow-up email, including resources.

19:47:33 From Michele Wrenn : could I get a powerpoint of your main ideas to show back to my administration

19:48:01 From Roxane Hendrie : will there be a slide share sent to participants?

19:53:16 From Roxane Hendrie : It is amazing how nature based learning can capture the attention of students who are less likely to pay attention within a classroom setting.

19:58:09 From Courtenay : I want to attend this school. How amazing!

19:58:50 From Laura Jackman : Who did she quote? Ian Wilson?

19:59:16 From Jean Pelezo : how is this funded?

19:59:16 From Phyllis : E. O. Wilson

19:59:19 From Green Teacher : The quote was from E.O. Wilson.

19:59:33 From Laura Jackman : thanks!

20:00:15 From Green Teacher : Wilson wrote The Future of Life in 2002 — a wonderful read.

20:00:37 From Roxane Hendrie : In regards to the effects of sun, vitamin D, myopia. Does wearing sunglasses lessen the effect of Vitamin D absorption?

20:07:57 From gdupuis : May I have a certificate?

20:08:32 From Sarah Conley : I love the bug hotel!

20:09:35 From Geneviève Landman : Your garden is gorgeous.

20:13:55 From Roxane Hendrie : Is it possible to create a tea garden, plants that can be made into tea, or would you recommend mixing these plants with other plants? I wondered if that would work for a square foot garden?

20:16:40 From Jeanne Suttie : I would love a list of the science articles that were referenced in this wonderful presentation.

20:17:13 From Green Teacher : Most definitely. We'll include that in the resources list that we'll email to everyone tomorrow.

20:22:23 From srikanth : that will be great

20:23:11 From Paula : Lovely. thank you so much!

20:23:13 From laura thompson : thank you cathy this was great!

20:23:16 From Roxane Hendrie : I work in a Forest School Program. I love this way of connecting to nature, as it is an achievable way that everyone can interact with nature. Thanks Cathy

20:23:16 From Susan Bennett : Lovely, Thanks!

20:23:32 From Kirsten Springer (she, her, hers) : Thank you, you have done such a wonderful job!

20:23:33 From hcharles : Excellent presentation, cant wait to view it again in the near future ;) Thanks!

20:23:38 From sherifitzgerald : Mahalo nui, Cathy! You and your students are inspiring.

20:23:39 From Elizabeth Overcash : Very lovely! Thanks so much

20:23:39 From Clare St Pierre : Fantastic presentation!

20:23:47 From mindy : Thank you so much! Wonderful presentation.

20:23:51 From Claudia Hewston : wow, wow, wow, Thank you so much!!



20:23:52 From Mi Phone : thanks 😊

20:23:54 From Sunshine Sullivan : Fantastic. Wish I was your student

20:23:54 From srikanth : awesome presentation

20:23:59 From Sarah Conley : Are there any garden based activities are you able to continue with your students during COVID-19 home schooling? And, if so, how do you address equity issues?

20:23:59 From Kirsten Springer (she, her, hers) : Thank you Ian!

20:24:02 From Joe Strouse : Thank you very much

20:24:04 From Adrianna Boersen : Thank you so much, this was fantastic!

20:24:13 From Geneviève Landman : Thank you Cathy and Green Teacher!

20:24:18 From Erin : Thank you!!

20:24:36 From Wendy McLachlan : Oh no, my time conversion did not take daylight saving into account. From NZ.

20:24:39 From Michelle Ducat : Thank you Cathy - really appreciate your enthusiasm.

20:24:40 From srikanth : how to subscribe

20:24:48 From Kirsten Springer (she, her, hers) : Sarah, I use an activity called Soil Sam - I think you can find on internet but Kirsten.springer@boulderjcc.org I have other ideas

20:25:50 From breynolds : How do you inspire African-American students to engage in gardening when they view it as a pathway back to slavery?

20:26:06 From Franziska : Thank you, Cathy, the open and relaxed faces of your students confirm all the positive impacts that you have been talking about!

20:26:23 From Sabreena Shaller : amazing question @breynolds!

20:26:45 From Sarah Conley : Thanks Kirsten! I will reach out to you tomorrow by email :)

20:27:22 From Shawn Grose : Thank you!

20:27:38 From Green Teacher : Click here to subscribe to Green Teacher!
<https://greenteacher.com/subscribe/>

20:27:40 From Jeanne Salchli : What a wonderful rationale, now about the how. Is there a garden committee? If so, how often do you meet? Do you work closely with other teachers in other areas?

20:31:19 From Jeanne Salchli : Do you use the garden in the winter months?

20:33:10 From Jeanne Salchli : Do you do any work on the weekends?

20:34:02 From gdupuis : Do you have any experience working with younger elementary students? I teach first grade.

20:37:22 From Courtenay : Thank you!

20:37:52 From breynolds : How do you explain to an administration that is primarily concerned about end of grade tests, how important this type of hands on activities are good for students, even if it is not on a end of grade test?

20:39:07 From Jeanne Suttie : Thank you, this is my second time hearing Cathy, she is such an inspiration.

20:44:48 From Jeanne Salchli : How much, if at all, do custodians help with maintenance?

20:45:36 From Claudia Hewston : do you happen to have plants in your garden that have a cultural significance?

20:50:01 From Claudia Hewston : great thank you



20:51:10 From Jeanne Salchli : Thank you!
20:51:13 From Sofia (Green Teacher) : Thank you Cathy and Ian for a wonderful session!
20:51:26 From Amy : Thank you! This was wonderful!
20:51:32 From Geneviève Landman : Yes, thank you, Cathy and Ian!
20:51:45 From Sarah Conley : Thank you! This was great!
20:51:45 From Martina : Thank you!
20:51:50 From Jody Ullmann : Thank you for a great webinar.
20:51:54 From Gail Maki : Thank you Cathy and Ian!
20:51:56 From hcharles : Thanks so much!
20:52:34 From Roxane Hendrie : This was an informative and inspiring webinar. Thanks Cathy and Ian:)
20:52:43 From mickeyjosorrell : Inspirational indeed. Thanks for all the info.
20:52:52 From Shawna Balog : Thank you for the webinar and the inspiration!
20:52:59 From Courtenay : Best webinar I have attended during this crazy time.
20:53:07 From Local Food Matters : Lots of ideas here to make work in our own areas
20:53:09 From parreg : Many thanks for sharing your experiences

